

**Tennessee Department of Education  
Spring 2015 Leadership Course  
High School Class 2**

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# **Welcome to Spring 2015 Leadership!**

## **Our Goal in this Course:**

Support collaborative learning among leaders that is focused on increasing student achievement as we transition to new assessments aligned to the Tennessee state standards.

## **How Will We Achieve that Goal:**

- Peer-Led Discussions and Collaboration
- Direct Applications to Our Classrooms and Schools
- A Focus on Identifying Key Leader Actions

## **Course Norms:**

- Keep students at the center of focus and decision-making.
- Balance urgency and patience.
- Be solutions-oriented.
- Speak Up!
- We need collective solutions. Be present and engaged.
- Challenge with respect.
- Risk productive struggle.
- Monitor airtime and share your voice.

Tennessee Department of Education  
 Spring 2015 Leadership Course  
 Class Two (April 8 and April 15)

Agenda and Table of Contents

| Agenda  | Key Reference Materials  |
|---|--|
| <b>Opening Session</b><br>8:30-8:45 a.m.  | Course Goals, Course Norms, Guiding Principles, Update Video, Key Questions  |
| <b>“Forward Focus” Review (Tab 1)</b><br>8:45-9:15 a.m.                               | Bridge to Practice, “Forward Focus” Reflection, Ideas Sharing and Gathering  |
| <b>TNReady Overview Updates and Instructional Planning (Tab 2)</b><br>9:15-10:15 a.m. | <ul style="list-style-type: none"> <li>• Overview video</li> <li>• Instructional Planning Graphic</li> <li>• 2014-15 Assessment Overview</li> <li>• TCAP Item Release Plan</li> <li>• 2015-16 Assessment Overview</li> <li>• TNReady Draft Testing Windows</li> <li>• 2015-16 TCAP Program Calendar</li> <li>• TNReady Administration Guidelines</li> <li>• TNReady Accessibility For All Features</li> <li>• TNReady Practice Tools and <i>assessment implications</i></li> <li>• <b>PLC Guide: Practice Tools</b></li> </ul> |
| <b>Break</b><br>10:15-10:30 a.m.  |  |
| <b>TNReady Math Resources (Tab 3)</b><br>10:30-12:00 p.m.                             | <ul style="list-style-type: none"> <li>• Math item types analysis and <i>instructional implications</i> (removable sheet)</li> <li>• Math Blueprint organization and <i>planning implications</i></li> <li>• TNReady Calculator Policy and <i>instructional implications</i></li> <li>• Leader and Teacher Actions Reflections</li> <li>• <b>PLC Guide:</b> Math Item Types</li> <li>• <b>PLC Guide:</b> Math Blueprints</li> <li>• <b>PLC Guide:</b> Task Usage</li> </ul>  |
| <b>Lunch</b><br>12:00-1:00 p.m.   |  |

|   |  |
|---|--|
| <p><b>TNReady ELA Resources (Tab 4)</b><br/>1:00-2:30 p.m.</p>                | <ul style="list-style-type: none"> <li>• ELA items types and <i>instructional implications</i> (removable sheet)</li> <li>• ELA writing types and <i>instructional implications</i></li> <li>• Review of Writing Rubrics</li> <li>• ELA Blueprint and <i>planning implications</i></li> <li>• Passage Specification Guidelines</li> <li>• Text Complexity Analysis Tool</li> <li>• <b>PLC Guide:</b> ELA item types</li> <li>• <b>PLC Guide:</b> Writing types and rubrics</li> <li>• <b>PLC Guide:</b> ELA Blueprint</li> </ul> |
| <p><b>Break</b><br/>2:30-2:45 p.m.</p>  |  |
| <p><b>Key Teacher and Technology Practices (Tab 5)</b><br/>2:45-3:15 p.m.</p> | <ul style="list-style-type: none"> <li>• Summary of Technical Requirements for MIST/MICA</li> <li>• “Top Teacher and Student Practices”</li> <li>• Idea Gathering Page</li> </ul>  |
| <p><b>Remembering the Why and Next Steps (Tab 6)</b><br/>3:15-4:00 p.m.</p>   | <ul style="list-style-type: none"> <li>• Summer Training Opportunities</li> <li>• Final Reflection on Instructional Graphic</li> <li>• Appendix</li> </ul>   |

# Guiding Principles

- All students are capable of achieving at a high level
- Students rise to the level of expectation when challenged and supported appropriately
- Students learn best when they are authentically engaged in their own learning
- We must continuously improve our effectiveness as teachers and leaders in order to improve student success
- We must make every minute with our students count with purposeful work and effective instruction

# What this Course Is and Is Not

| What it is   | What it is not   |
|--|--|
| Peer led; Leaders learning alongside other leaders                           | TDOE-prescribed course of action                                   |
| Content-specific key actions needed for student success                      | General discussion of instructional practices                      |
| A learning series with bridge to practice exercises                          | Only an isolated PD experience                                     |
| Focused on student learning and teacher support                              | Focused on test preparation  |
| New content on our new assessments in Tennessee as it applies to instruction | In-depth information regarding assessment administration logistics |
| Connected to actionable strategies that can be used in your school/district  | Sit and get content  |



## Alignment of the Spring 2015 Leadership Course to the TEAM Administrator Rubric

The Division of Curriculum and Instruction and the Division of Teachers and Leaders have partnered in ensuring that the activities of the Spring 2015 Leadership Course and the accompanying Bridge to Practice exercises are aligned to practices and outcomes in the TEAM Administrator Evaluation Rubric.

During both **Class One** and **Class Two**, Leadership Course participants will be engaging in collaborative professional learning and evaluating school and district instructional practices for the purpose of implementing a model of continuous improvement. Upon return to their schools and districts, participants will be equipped with several opportunities to engage with their school and district Leadership Teams in facilitating ongoing learning and instructional planning for all teachers.

School and district leaders are strongly encouraged to utilize the learning opportunities provided in the Spring 2015 Leadership course to make connections to the following indicators of the TEAM Administrator Evaluation Rubric:

- **Indicator A1: Capacity Building:** Builds capacity of educators to provide all students a rigorous curriculum, aligned with Tennessee-adopted standards.
- **Indicator A2: Data Analysis and Use:** Collaborates with educators to analyze multiple forms of data throughout the year to establish specific goals and strategies targeting student achievement and growth.
- **Indicator B2: Leveraging Educator Strengths:** Leverages educator strengths to engage all students in meaningful, relevant learning opportunities.
- **Indicator B4: Ownership:** Models and communicates expectations for individual and shared ownership of student, educator, and school success.
- **Indicator C1: Evaluation:** Implements and monitors a rigorous evaluation system using an approved Tennessee evaluation model and uses educator evaluation data to inform, assess, and adjust professional learning goals and plans.
- **Indicator C2: Differentiated Professional Learning:** Engages faculty and self in data-informed, differentiated professional learning opportunities for educators, aligned with the *Tennessee Standards for Professional Learning*.
- **Indicator C4: Teacher Leaders:** Identifies and supports potential teacher-leaders and provides growth opportunities in alignment with the *Tennessee Teacher Leadership Standards*.

More information about the TEAM Administrator Evaluation process can be found at: <http://team-tn.org/evaluation/administrator-evaluation/>.

Questions?

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## Class Two Key Questions

- What have emerged as the priority areas of the “Forward Focus” plan for our school?
- How should TNReady inform our choices in order to set up students for success?
- What are the key planning and practice tools we know about now for preparing for TNReady?
- How could the TNReady and ELA math blueprints guide our curricular planning for 2015-16 and impact instructional support for teachers?
- What key teacher and student technology practices do we need to be encouraging?
- How can we continue building capacity among our teachers to ensure students are prepared?

# **Section 1: "Forward Focus"**

## **Key Question #1:**

**What have emerged as the priority areas of the  
“Forward Focus” plan for our school?**



## Bridge to Practice Reflection

At the conclusion of Class One, you were asked to create a “Forward Focus” action plan for your school in English language arts, math, or social studies. You were to choose a focus area and work with your school leadership team to determine key student behaviors and key leader and teacher actions needed to support your progress in this area. In addition, you were given some suggested activities that could have been used in your “Forward Focus” plan:

1. Convene a group of students and discuss the changes that they have experienced in ELA and math at their school.
2. Complete one of the PLCs from the first class. (TNReady Overview, Deconstruction of a TNReady ELA item, Social Studies Student Expectations Process, High Impact Writing Overview and Comparison of a TNReady Math Items and Math CRA item)
3. Compile “Three Days in the Life of a Social Studies Student” and compare what is and should be.

Use the following chart to reflect on the “Forward Focus” plan that you created:

|  |  |  |
|--|--|--|
| <b>Personal Experience as Leader</b>     |  |  |
| <b>Personal Experience as Leader</b>     |  |  |
| <b>Take Away (you shared with staff)</b> | <b>Take Away (staff shared with you)</b> |  |
| <b>Take Away (you shared with staff)</b> | <b>Take Away (staff shared with you)</b> |  |

# Idea Gathering Sheet

(Please use this sheet to collect great ideas from your peers.)

## **Section 2: Instructional Framing and TNReady Tools**

## **Key Question #2:**

**How should TNReady inform our choices in order to set up students for success?**

As we approach framing our school and district instructional strategies for the 2015-16 school year, what we know about TNReady can be useful in our planning.

Think of our approach to instructional framing from three perspectives:

- **Assessment Planning and Practice**

This area addresses how we could incorporate the item samplers and practice tools from TNReady with our overall approach to assessment and its role in the instructional cycle. Other administrative tools that will assist school administrators and teachers with planning will be shared as well.

- **Instructional Support**

This area addresses how we can support teachers in their instructional planning, including strategies, performance tasks, writing experiences, question planning, and modes of student feedback. TNReady resources that may prove impactful here include item descriptions, scoring of items, writing types, and available rubrics. These elements will provide leaders with valuable “look fors” as they evaluate lessons and provide feedback to teachers in addition to prioritizing areas for professional development.

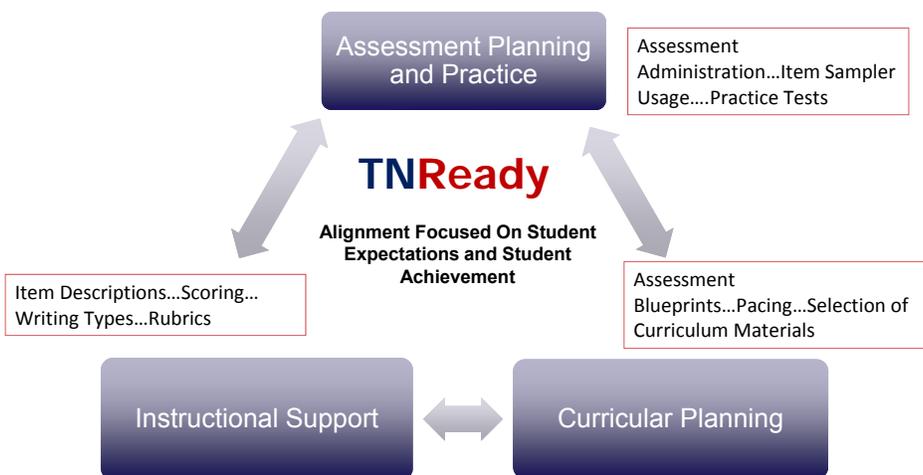
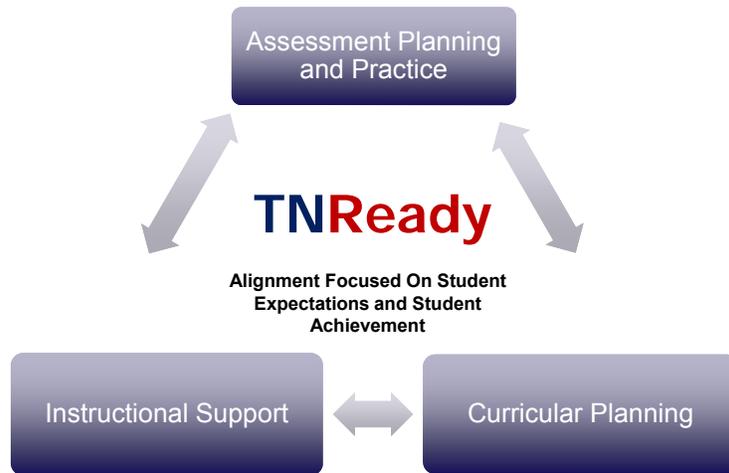
- **Curricular Planning**

This area addresses how we utilize the TNReady assessment blueprints as we design our district and school approach to curriculum planning for the year. Engaging in conversations around the major work of each grade in math can help ensure clarity on pacing, selection and alignment of tasks, and appropriately designed assessments. We may also bring clarity to passage selections and writing tasks, ensuring that we are selecting materials that meet the text complexity and passage specifications expected for our students. In addition, engaging in informed curricular planning will help us to create engaging, text-based writing assignments across disciplines that reflect the different writing types and situations identified in both TNReady’s design and other college and career-focused assessments.

All three of these important pieces fit together to achieve a focus on student expectations and student achievement.

The Key Leader Actions and Key Teacher Actions from our “Forward Focus” plan will support a balanced, aligned approach.

A graphic demonstrating this relationship is found on the next page.



## Instructional Framing Quick Check

1. How do our teachers currently approach assessment planning and use of test-like items/data throughout the year? What resources do they use?

Assessment  
Planning and  
Practice

2. How do teachers currently most often approach instructional planning and selection of activities, tasks, and other materials?

Instructional  
Support

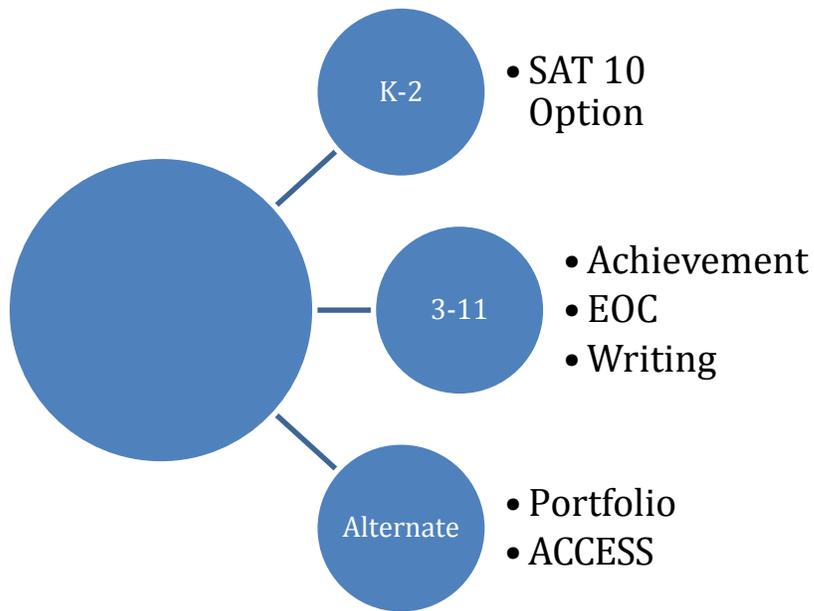
3. What is our current approach to curricular planning (or pacing) for the school year? How is the planning informed? How do we assure that the major work of the grade is emphasized?

Curricular  
Planning

### **Key Question #3:**

**What are the key planning and practice tools we know about now for preparing for TNReady?**

## 2014-2015 Assessment Overview



- K-2
  - K-2 Pearson (SAT10)
- 3-11
  - Achievement (known as TCAP)
    - RLA
    - Math
    - Science
    - (SS Field Test)
  - End of Course
    - English I, II and III
    - Algebra I, II
    - Biology, Chemistry
    - (US History Field Test)
  - Writing
- Alternate Assessments:
  - Portfolio / NCSC (1%)
  - ACCESS

# TCAP Item Release Plan

In December 2014, Gov. Haslam committed to provide educators with more information and feedback on state assessments: including a release of test questions from the 2014 state assessments in English language arts (ELA), math and science, as well as identification of questions that students most frequently answered correctly or incorrectly. We are now pleased to share more information on the details of that release.

The item release for each subject/grade test will cover the following items:

- Item text, answer choices, and answer key.
- Item Analysis Report, which will show the percentage of students who answered each item correctly at the school level, system/district level, and state level.



**School Item Analysis Report**  
TCAP Achievement Test – Spring 2015

School: School Name  
System: System Name



**Reading/Language Arts – Grade 7**

Purpose: This report shows the operational items for the given grade and subject.

| Item Number | Reporting Category         | School Average Percent Correct | System Average Percent Correct | State Average Percent Correct |
|-------------|----------------------------|--------------------------------|--------------------------------|-------------------------------|
| 1           | 3: Writing and Research    | 99%                            | 99%                            | 99%                           |
| 2           | 4: Communication and Media | 99%                            | 99%                            | 99%                           |
| 3           | 1: Language                | 99%                            | 99%                            | 99%                           |
| 4           | 2: Vocabulary              | 99%                            | 99%                            | 99%                           |
| 5           | 6: Informational Text      | 99%                            | 99%                            | 99%                           |
| 6           | 1: Language                | 99%                            | 99%                            | 99%                           |

*Fall 2013 EOC Response Analysis  
Fall 2013 EOC Algebra II*

| Frequency<br>Row Pct | Table of ItemNo by Algebra 2 |            |             |            |          |          |       |
|----------------------|------------------------------|------------|-------------|------------|----------|----------|-------|
|                      | Algebra 2                    |            |             |            |          |          |       |
| ItemNo               | 1                            | 2          | 3           | 4          | Multi    | Omit     | Total |
| 1                    | 9999<br>###                  | 999<br>### | 9999<br>### | 999<br>### | 9<br>### | 9<br>### | 99999 |

- Student Response Reports, which will provide the percentage of students who selected each of the possible answers for the released items (please note that these Excel files will only be available at the state level and will *not* include district- or school-level data).

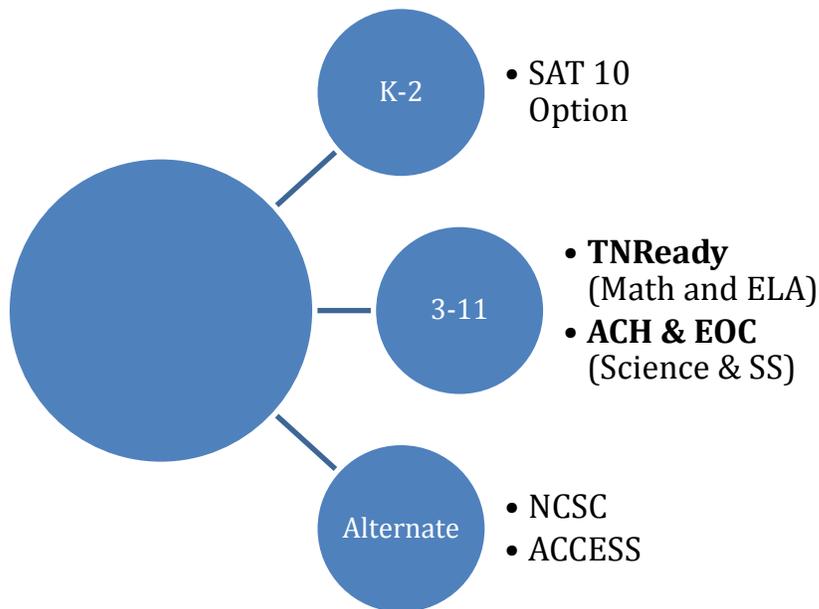
The item text, answer choices, answer keys, and item analysis reports will all be loaded into Pearson Access in mid-March. Simultaneously, the student response reports will be loaded into EdTools under the Resources tab, where we will also post answer guides as a back-up location. We will notify you when all of the item release documents are available on these two sites.

The released items are operational test items only and will not include items that were field tested or used in linking to the 2014-2015 assessments. Additionally, in some cases we were unable to secure copyright for some passages for public release, therefore these passages with their affiliated items will not be included. We will be releasing this information for each of the following subjects/grades and time frames:

- Reading/Language Arts 3-8 Achievement - Spring 2014
- Math 3-8 Achievement - Spring 2014
- Science 3-8 Achievement - Spring 2014
- English I, English II, and English III EOCs - Fall 2013 and Spring 2014
- Algebra I and Algebra II EOCs - Fall 2013 and Spring 2014
- Biology EOC - Fall 2013 and Spring 2014
- Chemistry EOC - Spring 2014

If you have any questions regarding this TCAP item release plan, please send them to [Tned.assessment@tn.gov](mailto:Tned.assessment@tn.gov).

## 2015-2016 Assessment Overview



- K-2
  - K-2 Pearson (SAT10)
- 3-11
  - Math (TNReady, MI)
    - 3-8
    - Algebra I, Geometry, Algebra II
    - Core Math I, II, III
  - ELA (TNReady, MI)
    - 3-8
    - English I, II and III
    - Writing incorporated in TNReady
  - Science (Achievement and EOC, Vendor TBD)
    - 3-8
    - Biology, Chemistry
  - Social Studies (New Achievement and EOC, Vendor TBD)
    - 3-8
    - US History
- Alternate Assessments:
  - NCSC (1%)
  - ACCESS

## 2015-16 Tennessee Comprehensive Assessment Program Calendar

| Assessment Name   | Administration          | 2015-16 Administration Window  |                           |
|---|-------------------------|--|---------------------------|
| <u>Traditional Schedules</u><br>TNReady RLA & Math<br>Grades 3-8 and<br>High School | Winter – Part I         | February 8 – March 4   |                           |
|   | Spring – Part II        | April 18 – May 13  |                           |
|   |                         | <b>PAPER</b>   | April 25 – May 6          |
| <u>Block Schedules</u><br>TNReady RLA & Math<br>High School                         | Fall                    | Part I   | November 2 – November 20  |
|   |                         | Part II  | November 30 – December 18 |
|   | Spring                  | <b>PAPER</b>   | November 30 – December 18 |
|   |                         | Part I   | April 11 – April 29       |
|   |                         | Part II  | April 25 – May 13         |
|   |                         | <b>PAPER</b>   | April 25 – May 6          |
| Social Studies<br>grades 3-8 and<br>U.S. History                                    | Fall                    | Part I   | November 2 – November 20  |
|   |                         | Part II  | November 30 – December 18 |
|   | Spring /<br>Traditional | Part I   | February 8 – March 4      |
|   |                         | Part II  | April 18 – May 13         |
| Science<br>Grades 3-8 and<br>High School  | Fall                    | November 30 – December 18  |                           |
|   | Spring/Traditional      | April 25 – May 10 (TUE)  |                           |
| K-2* (SAT10)  | Spring                  | April 25 – May 6   |                           |
| TCAP-Alt** (NCSC)   | Spring                  | TBD  |                           |
| ACT   | Spring                  | April 19<br>(Make-ups May 3, 2016)   |                           |
| ACT Explore, PLAN   | Fall                    | September 14 – November 6  |                           |
| ACCESS for English<br>learners (EL)   | Spring                  | March 7 – April 8<br>Additional information is posted to<br><a href="http://wida.us/membership/states/Tennessee.aspx">wida.us/membership/states/Tennessee.aspx</a> |                           |
| NAEP  | Winter/Spring           | January 25 – March 11<br>(Tentative)   |                           |
| PISA  | Fall                    | October 5 – November 13  |                           |
| EOC/ACH/TNReady<br>All Subjects   | Summer                  | TBD  |                           |

\* Participation in K-2 is a district choice.

\*\* TCAP includes alternative assessments available to students with disabilities for whom participation in the regular state assessment is inappropriate, even with the use of extensive accommodations.

## TNReady Draft Proposed Testing Windows

The department is committed to sharing information about TNReady as soon as it is finalized. The purpose of this document is to provide information regarding the proposed testing windows for 2015-16. It also contains additional information on testing schedules.

The testing window for TNReady will be slightly longer than testing windows in the past to allow schools and districts flexibility to administer the assessments in the best way for the local district. In the past, all TCAP testing (including achievement, end of course, and writing) lasted 4-6 weeks. As is the case with TCAP, the length of the testing window during TNReady does not indicate individual students will be testing over the entire testing window, but rather that schools are permitted to test throughout the window.

TNReady will be designed to allow schools to continue instruction even while testing. In the past, students have taken the parts of the Achievement and End of Course tests back to back in a short window of time while schools have focused exclusively on testing. Students will take the parts of the assessments over a longer period of time. School and instruction will need to continue as normal during the testing window to allow students to cycle through the test parts of TNReady at different points in time throughout the window. All tests will be timed and each subtest is expected to take approximately 60-90 minutes for administration and testing. Extended time will be an option for students with documented needs.

The table below outlines the proposed TCAP Administration Windows for 2015-16.

| <b>TNReady for Traditional Schedules</b> |  |  |
|--|--|--|
| Part I                                   | Feb. 8, 2016 to Mar. 4, 2016   | ELA 2 subtests<br>Math 1 subtest           |
| Part II                                  | Apr. 18, 2016 to May 13, 2016  | ELA 2 subtests<br>Math 2 subtests          |
| <b>TNReady for Block Schedules</b>       |  |  |
| <b>Fall</b>                              |  |  |
| Part I                                   | Nov. 2, 2015 to Nov. 20, 2015  | ELA 2 subtests<br>Math 1 subtest           |
| Part II                                  | Nov. 30, 2015 to Dec. 18, 2015   | ELA 2 subtests<br>Math 2 subtests          |
| <b>Spring</b>                            |  |  |
| Part I                                   | Apr. 11, 2016 to Apr 29, 2016  | ELA 2 subtests<br>Math 1 subtest           |
| Part II                                  | Apr. 25, 2016 to May 13, 2016  | ELA 2 subtests<br>Math 2 subtests          |
| <b>Science &amp; Social Studies</b>      |  |  |
| 3-11 Social Studies                      | Social Studies will follow the TNReady schedule above.   | Part I – 1 Subtest<br>Part II – 2 Subtests |
| 3-11 Science                             | Science will be administered during TNReady Part II window for fall block and traditional schedules. | Paper only<br>1 Test                       |

All questions about TNReady administration should be directed to [tned.assessment@tn.gov](mailto:tned.assessment@tn.gov).

## TNReady Administration Guidelines

### **Scheduling – Part I and Part II**

- Part I will **only** be offered online.
- Districts will establish a district wide testing schedule to fit the needs of their staffing and facilities.
- Each grade or content area may complete testing sessions for up to five consecutive school days.
- Subtests may be taken either on the same day or on consecutive school days.
- Breaks between Subtests may be established by the school.
- It is not necessary to test all students of a grade at the same time or on the same day.
- Schools within a district may have unique schedules as long as they fit within the district wide testing window for the grade.
- EL and SPED students may not be tested outside the district/state testing window.
- Notify Office of Assessment Logistics if you need to change your testing window.
- Office of Assessment Logistics **MUST** approve new window.
- Maintain current test calendar in EdTools.

### **Schedule Requirements for Schools Testing on Paper – Part II only**

- All students will test each content area on the same day.
  - Day 1: Reading Language Arts (Subtest A and B)
  - Day 2: Mathematics (Subtest A and B)
  - Exceptions: Special Education, EL and makeup testing
- Testing must be completed within four consecutive school days.

### **Administration Procedures**

- Create a secure, positive environment for testing.
  - Turn off all communication devices.
  - Ensure students are seated so that they may not see computer screens for the student directly in front of or next to them.
  - It is **NOT NECESSARY** to conceal or remove instructional or reference materials in the testing area, the classrooms, or hallways. An instructional environment should be maintained during testing windows.
    - **EXCEPTION: Math tables: addition, subtraction, multiplication and division should be concealed or removed from the testing area during non-calculator Subtest of math assessments for Part II.**
- Confirm each student has their own online testing ticket or pre-id response document.
- Students may have clean, blank scratch and/or graph paper during all Subtests of the assessments. Scratch paper should be collected and securely destroyed.
- Whenever possible there should be a test administrator and a proctor available in the testing environment. Best practice is to schedule students with administrators and proctors who are *not* their regular classroom teacher.
- If a student finishes online testing prior to the scheduled time, they may read or do other quiet activities that are not related to the content area being tested.

## TNReady Practice Tools

The TDOE will make two optional tools available to educators and districts.

|                               | <b>TNReady Item Sampler</b>  |   | <b>TNReady Practice Test</b>   |
|-------------------------------|--|---|--|
|                               | <b>Phase 1</b>   | <b>Phase 2</b>  |  |
| <b>Purpose</b>                | <ul style="list-style-type: none"> <li>In Phase 1, to give educators access to questions that are reflective of the rigor and the format of questions that will be on TNReady.</li> <li>In Phase 2, to give educators access to additional items and provide students a chance to practice with the same tools they will have on TNReady in an instructional setting.</li> </ul>   |   | <ul style="list-style-type: none"> <li>To simulate a short-form of each part of the TNReady test (Part I and Part II).</li> <li>To allow students to experience a practice test with the same features as the operational assessment.</li> <li>To allow teachers and systems to practice set up and administration.</li> </ul> |
| <b>Limitations</b>            | <ul style="list-style-type: none"> <li>The TNReady Item Sampler will not serve as a full set of interim or formative assessments.</li> <li>The items will not be secure. (All teachers will have access at the same time.)</li> <li>The items will be comparable to the items on TNReady but the test forms will not be comparable, as they are teacher-created.</li> <li>The results will not necessarily be comparable to results in other classrooms because the user experience cannot be controlled.</li> <li>The ability to add customized items specific to teacher, school, or district will not be available at this time.</li> </ul> |   | <ul style="list-style-type: none"> <li>Results on the TNReady Practice Test will not necessarily be predictive of student performance on TNReady.</li> <li>The Practice test will not reflect a full form, but it will include all major item types for each part.</li> </ul>  |
| <b>Timeline</b>               | <ul style="list-style-type: none"> <li>Launch May 2015</li> <li>Continuously available</li> <li>8-12 items per grade per subject</li> <li>Full range of item types</li> <li>Access for teachers only</li> </ul>  | <ul style="list-style-type: none"> <li>Launch September 2015</li> <li>Continuously available</li> <li>25-40 additional items per grade per subject</li> <li>Full range of standards</li> <li>Access for teachers and students</li> </ul>  | <ul style="list-style-type: none"> <li><u>Window 1</u>: September 28 – October 30, 2015 (All grades Part I &amp; II)</li> <li><u>Window 2</u>: January 4 – February 6, 2016 (All grades Part I &amp; II)</li> <li><u>Window 3</u>: March 7 – April 8, 2016 (All grades Part II)</li> </ul>                                     |
| <b>User Set-Up</b>            | <ul style="list-style-type: none"> <li>All teachers will be set up to get access on May 1, 2015.</li> <li>More info about set up will be shared with testing coordinators by April 15, 2015.</li> </ul>  | <ul style="list-style-type: none"> <li>Students will be set up based on August 14 EIS pull, provided scheduling data is available. Regular EIS updates thereafter.</li> <li>More info will be shared with testing coordinators by August 1, 2015.</li> </ul>                          | <ul style="list-style-type: none"> <li>Same upload process as MIST practice test has been in the past.</li> </ul>  |
| <b>Training</b>               | <ul style="list-style-type: none"> <li>Training on MICA will be incorporated in summer training for teachers and principals.</li> <li>Web-based video training will be available.</li> <li>Additional support from CORE analysts.</li> </ul>   |   | <ul style="list-style-type: none"> <li>Web-based video training will be available.</li> </ul>  |
| <b>Reporting</b>              | <ul style="list-style-type: none"> <li>Teacher Reports                             <ul style="list-style-type: none"> <li>Student, Assessment, Class</li> <li>Content strand summary</li> </ul> </li> </ul>  | <ul style="list-style-type: none"> <li>Teacher Reports (same as Phase I)</li> <li>Administrator Reports                             <ul style="list-style-type: none"> <li>Utilization by teacher and content strand</li> <li>“Impersonation” at teacher level</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>Student Report and Roster Report for schools and districts including:                             <ul style="list-style-type: none"> <li>Overall Score and By Standard</li> <li>Raw Score (number correct)</li> <li>% correct</li> </ul> </li> </ul>                                    |
| <b>Platform</b>               | <ul style="list-style-type: none"> <li>MICA (Measurement Inc. Classroom Assessments) which is built to reflect MIST.</li> </ul>  |   | <ul style="list-style-type: none"> <li>MIST (the same platform as the operational assessment).</li> </ul>  |
| <b>Accessibility Features</b> | <ul style="list-style-type: none"> <li>Supports common web-browser text reader tools. Not integrated in MICA.</li> </ul>   |   | <ul style="list-style-type: none"> <li>Text reader availability by Windows 2 and 3.</li> </ul>   |
| <b>Scoring</b>                | <ul style="list-style-type: none"> <li>All <i>machine scorable</i> items will be automatically scored within platform.</li> <li>Teachers will be able to go into the MICA system to score student answers to open-response items using the same tools and scoring guides that will be used to score TNReady.</li> </ul>  |   |  |
| <b>Cost</b>                   | <ul style="list-style-type: none"> <li>Provided to all Tennessee districts at no additional charge.</li> </ul>   |   |  |

# Item Sampler – Create Assessment

1 Choose Items

2 Order Items

3 Assign Assessment

Accessibility

Notifications 2

Account

ASSESSMENTS

REPORTS

PRACTICE

**Subjects:** Mathematics

**Grades/Courses:** Select a grade/course

**Difficulty:** Easy  Medium  Hard

**DOK:**

- Level 1: Recall
- Level 2: Skill/Concept
- Level 3: Strategic Thinking
- Level 4: Extended Thinking

**RBT:**

- 1: Remembering
- 2: Understanding
- 3: Applying
- 4: Analyzing
- 5: Evaluating
- 6: Creating

**Item Type:**  Multiple Choice

Add More Items

Assessment Name

↓ Order by Difficulty    ↓ Order by Standards

|   |   |        |                                |   |
|---|---|--------|--------------------------------|---|
| 1 | Q | 3.RI.1 | - A Brave Woman: Wilma Rudolph | ✕ |
| 2 | Q | 4.RL.4 | - Acrobats and Baseball        | ✕ |
| 3 | Q | 4.RL.4 | - Sun and Moon                 | ✕ |
| 4 | Q | 4.RI.4 | - Great Danes                  | ✕ |
| 5 | Q | 5.RL.2 | - The Dragonfly                | ✕ |

Cancel

Save and Exit

Save and Assign >

**Difficulty**

**Standards**

|        |   |
|--------|---|
| 3.RI.1 | 1 |
| 4.RL.4 | 2 |
| 4.RI.4 | 1 |
| 5.RL.2 | 1 |

RBT

19

## Item Sampler – Take Assessment & View Results

The screenshot displays a student's portfolio page for Nevada Taylor, a Grade 11 English Language Arts student. The interface includes a navigation bar with 'CLASSES', 'PRACTICE', and 'PORTFOLIO' options. The main content area shows a bar chart comparing 'Pre Assessment' and 'Post Assessment' scores for English Language Arts and Mathematics. The Y-axis represents the 'Percent Score' from 0 to 100. The X-axis lists the subjects. A 'Standard Mastery' line is indicated at approximately 85%.

| Subject               | Pre Assessment | Post Assessment |
|-----------------------|----------------|-----------------|
| English Language Arts | 14% (8)        | 40% (5)         |
| Mathematics           | 50% (6)        | 100% (10)       |

Additional interface elements include a 'Print All' button, a 'mic' logo, and a top navigation bar with 'Accessibility', 'Notifications', and 'Account' links.

# Item Sampler – Practice & Accessibility

# TNCore



CLASSES

ASSESSMENTS

REPORTS

PRACTICE

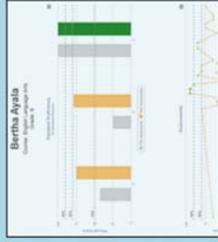
Accessibility

Notifications

Account

## Students

The **Students** report provides a comprehensive analysis of student portfolios and average proficiency through a pre- and post-assessment report.



## Assessments

The **Assessments** report offers a comprehensive analysis of class performance on a specific assessment including the high, low, and average score, a breakdown of standards measured in the assessment, scores for each student, and an item analysis.



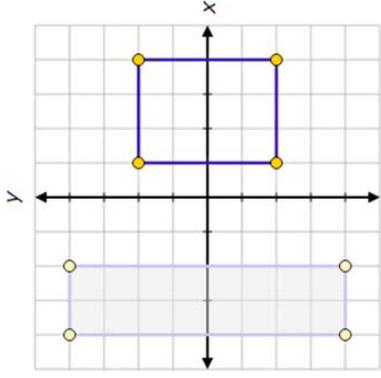
## Classes

The **Classes** report shows a broad view of progress for each class and student including a comparison of pre- and post-assessment content area and standard mastery, a monthly progress chart to show growth over time, and student performance on a specified standard.



### Vertex Based Quadrilateral Instruction

**DIRECTIONS:** To create a shape, select an area on the grid, click to create a point, then click to create a line segment. Repeat this process until you have created your enclosed shape.



Reset

Undo

21

**PLC Guide:** The following is a sample protocol that school-wide or teacher PLC teams might use to begin to explore familiarize themselves with TNReady Practice and Planning Tools. This should take approximately 45 minutes.

**Topic for Discussion: TNReady Practice Tools (Focus: Assessment Planning)**

|                |   |
|----------------|---|
| <b>Step 1:</b> | Download the “TNReady Practice and Planning Tools” PowerPoint presentation from the “For Leaders” section of the TNCORE website at <a href="http://www.tncore.org">www.tncore.org</a> . You will also want to download the document “TNReady Practice Tools”. (You may also make copies of this document from this manual.)                                       |
| <b>Step 2:</b> | <ol style="list-style-type: none"> <li>1. Show staff the Measurement Incorporated video found at “For Leaders” section of the TNCORE website at <a href="http://www.tncore.org">www.tncore.org</a> or show them the “TNReady Practice and Planning Tools” PowerPoint.</li> <li>2. Give teachers time to discuss any immediate reactions and share out.</li> </ol> |
| <b>Step 3:</b> | Discuss the “TNReady Practice Tools” document regarding the Item Sampler and the Practice Test. Use the PowerPoint slides to guide discussion.  |
| <b>Step 4:</b> | <p>After review of the Practice Tools document, allow discussion time at each table around the following questions:</p> <ul style="list-style-type: none"> <li>• What implications do you see for your students with the use of these two tools?</li> <li>• How do you plan to implement these tools with instruction and assessment?</li> </ul>                  |
| <b>Step 5:</b> | <p>After table discussion, provide whole-group discussion.</p> <p>Use the "Assessment Planning and Practice Checkpoint" on the next page as a reflection and discussion tool.</p> <p>If available, demonstrate the capability and use of the site (if Phase I has started).</p>   |

## Assessment Planning and Practice Checkpoint

| Area of Information  | Exciting Take-away | Leader Implications/Actions | Teacher Implications/Actions |
|--|--------------------|-----------------------------|------------------------------|
| TNReady Administration Guidelines (Calendars, Windows, Technology) |                    |                             |                              |
| TNReady Item Samplers (MICA)                                       |                    |                             |                              |
| TNReady Practice Tools (MIST)                                      |                    |                             |                              |
| PLC Guide  |                    |                             |                              |

1      2      3      4      5      6      7      8      9      10  


On a scale of 1 to 10, how would you rate your school's/district's readiness to administer TNReady ELA, Math, and Social Studies (Parts I and II) online in 2015-16?



# **Section 3: TNReady Math Resources**

## **Key Question #4:**

**How could the math blueprints and resources guide our curricular planning for 2015-16 and impact instructional support for teachers?**

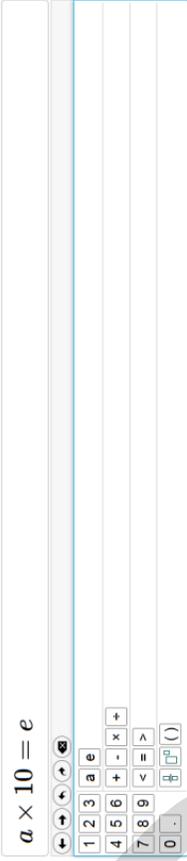
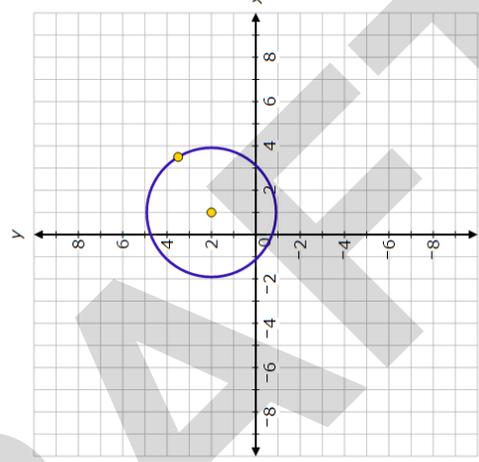
# **TNReady Math**

## **Item Types Overview**

There are 6 types of items in Mathematics:

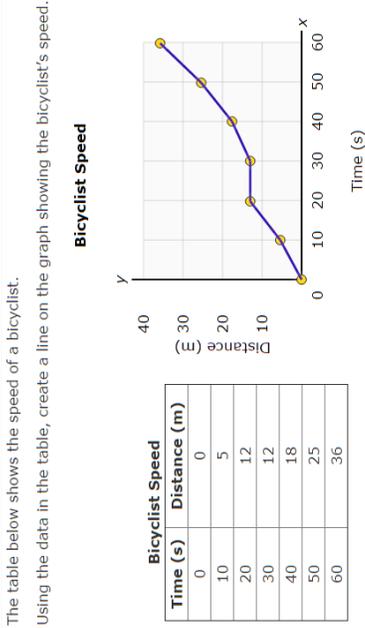
1. Equation
2. Graphic
3. Multiple Choice
4. Multiple Select
5. Performance Tasks
6. Technology Enhanced Items

**Math Item Type**

| Item Type  | Examples   | Illustration  |
|--|--|---|
| <p><b>Equation: Students generate response.</b></p> <p>On both part I and part II.</p> <p>Typically worth one point (one right answer).</p> <p>10-15% of questions.</p>                    | <p><b>Equation Editor:</b> Students type in numeric answers from a palette of options.</p>             | <p><b>5</b></p> <p>The manager of a youth soccer team bought 50 packages of socks for \$10 each. He estimated the total cost to be \$5,000.</p> <p>Create an equation that shows how many times more the manager's estimate, <math>e</math>, was than the actual cost, <math>a</math>.</p> <p><math>a \times 10 = e</math></p>  |
| <p><b>Graphic: Students depict graphically.</b></p> <p>On both part I and part II but more often on part I.</p> <p>Usually one point.</p> <p>10-25% of questions, more in high school.</p> | <p><b>Circles:</b> Students graph a circle by plotting the center point first and then the radius.</p> | <p>Graph the equation <math>(x - 1)^2 + (y - 2)^2 = 3^2</math>.</p>    |

**Graphic (continued)**

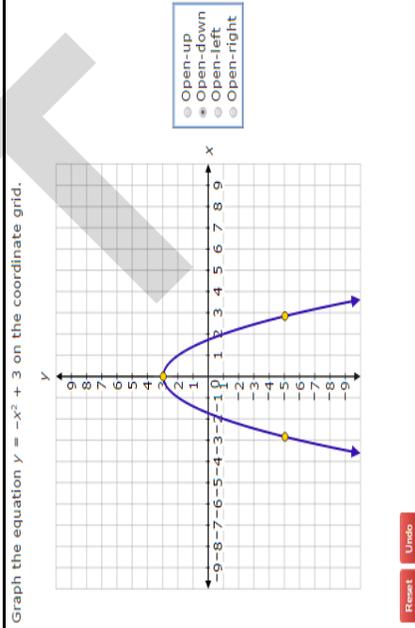
**Line Graph:** Students click to add a point. Adding another point will automatically connect the points to form a line graph.



**Placing Points:** Students click to add a point.



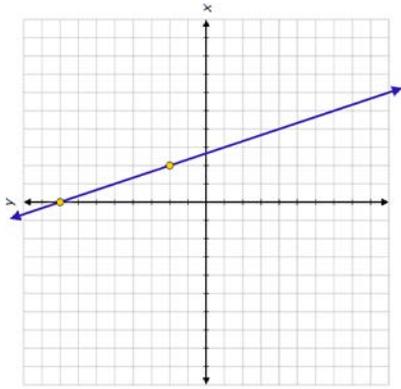
**Single Parabola:** Students select open-up, open-down, open-left, open-right to place a parabola on the grid. The points or the entire line can then be moved.



**Graphic (continued)**

**Straight Lines:** Students click to place the first point then click again to place the second point, which creates the line. It can be either a line segment or a line.

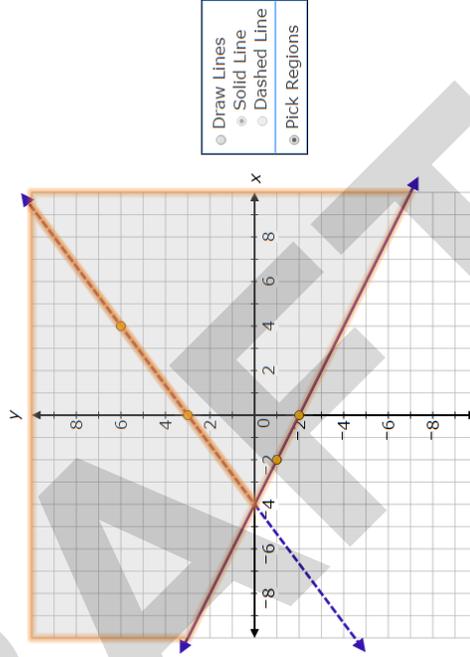
Graph the line  $y = -3x + 8$ .

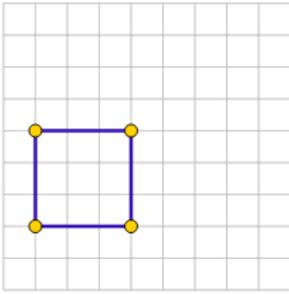


Reset Draw

Graph the solution to the inequalities.

$$\begin{aligned} -3x + 4y &> 12 \\ x + 2y &\geq -4 \end{aligned}$$



|   |   |  |
|---|---|--|
|   | <p><b>Vertex based Quadrilaterals:</b><br/>Students plot points to form different polygons. The option can be set to close the shape after four points are plotted.</p> | <p>Create a shape on the grid with the following:</p> <ul style="list-style-type: none"> <li>• 4 sides of equal length</li> <li>• 2 pairs of parallel sides</li> <li>• 4 right angles</li> </ul>   |
| <p><b>Multiple Choice:</b> Students select one answer, only one answer is correct.</p> <p>On both part I and part II.</p> <p>Worth one point.</p> <p>60-75% of questions.</p>                     | <p><b>Dropdowns:</b> Students choose from a dropdown list.</p>  | <p>Use this number to create a true sentence.<br/>684.425</p> <p>The value of the 4 in the tenths place is <input type="text" value="one-tenth of"/> the value of the 4 in the ones place.</p> <p><b>1</b></p> <p>What is 78 rounded to the nearest ten?</p> <p><input type="radio"/> (A) 70</p> <p><input type="radio"/> (B) 75</p> <p><input checked="" type="radio"/> (C) 80</p> <p><input type="radio"/> (D) 100</p>   |
| <p><b>Multiple select:</b> Students select multiple options, multiple correct.</p> <p>On both part I and part II but more on part II.</p> <p>Can be worth one to two points, depending on the</p> | <p><b>Check Box:</b> Students select multiple correct answer choices.</p>   | <p><b>3</b></p> <p>Consider the family of quadrilaterals that includes parallelograms, rectangles, squares, and rhombuses.</p> <p>Select all the statements about these quadrilaterals that are true.</p> <p><input checked="" type="checkbox"/> Squares are always rectangles.</p> <p><input type="checkbox"/> Rectangles are always squares.</p> <p><input type="checkbox"/> Rhombuses are always squares.</p> <p><input checked="" type="checkbox"/> Squares are always rhombuses.</p> <p><input checked="" type="checkbox"/> Rhombuses are always parallelograms.</p> <p><input checked="" type="checkbox"/> Rhombuses are sometimes rectangles.</p> |

wording of the question.  
Up to 10% of questions.

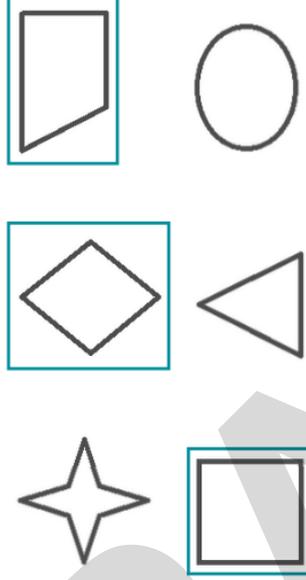
**Matching Table:** Students select multiple correct answer choices.

Select one phrase that describes the value of each expression.

|                          | Greater than 3                      | Equal to 3                          | Less than 3                         |
|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| $3 \times \frac{1}{2}$   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| $3 \times 1 \frac{1}{4}$ | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| $3 \times \frac{6}{6}$   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| $3 \times \frac{3}{2}$   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |

**Select Objects:** Students click on objects to select. A select border color appears around the objects when selected.

Click on the shapes that are quadrilaterals.



Reset

**Performance Tasks: Solve multistep problems and demonstrate how solution is achieved.**

These will not mimic the previous CRA tasks but will require multistep problem solving and will require students to explain the problem solving approach.

We are waiting on copyright clearance to release an example performance task. A depiction of a similar type of problem will be shared in the power point.

1 task on part I only in grades 3-8 only.  
Worth 10-15 points with partial credit.

Partial credit will be available.

**TEI:** Students perform an interaction to respond to the question.

Usually worth one point. Occasionally involves two parts. With two parts, the scoring can either be worth one point or two points (with partial credit) depending on the wording of the question.

On both Part I and Part II.

5-15%

**Angles:** Students plot 3 points to form an angle. The first point plotted is the vertex.

**Bar Graph:** Students drag bars up or down to place.

The table shows the favorite foods of students in a class.

| Food      | Number of Students |
|-----------|--------------------|
| hamburger | 5                  |
| pizza     | 10                 |
| taco      | 4                  |
| hot dog   | 6                  |

Complete the bar graph to show the same information.

TEI (continued)

**Classification:** Students drag and drop objects to different regions.

**2**

The numbers 8 and 6 are added, and the sum is then multiplied by 3.

A. Drag numbers to the boxes and symbols to the circles to represent the expression described.

B. Drag numbers to the boxes and symbols to the circles to create an equivalent expression to the one you created in part A.

3
6
8
x
+

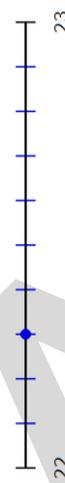
A.  $(8 + 6) \times 3$

---

B.  $(8 \times 3) + (6 \times 3)$

**Partition Number Lines then Place Points:** Students click a button to partition a line into equal parts. They can then select "Place Points" to be able to click on the line to place a point. With Student Label, the student will add partitions to the line instead of using a button to partition equally.

Divide the number line so that a point can be plotted on a tick mark at 22.3. Place a point at the location of 22.3



22

23

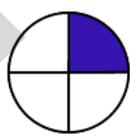
Partition Line

Place Points

Reset
Clear
Undo

**Partition Object then Select:** Students click a button to partition an object into equal parts. They can then select "Shade Regions" to shade a student will not be partitioning.

Shade one-fourth of the circle.



Reset

**TEI (continued)**

**Pictograph:** Students click a plus or minus to add shapes to the pictograph.

This table shows daily movie sales at the Video Store.

| Video Store Movie Sales |                               |
|-------------------------|-------------------------------|
| Type of Movie           | Number of Movies Sold Per Day |
| Action                  | 35                            |
| Cartoon                 | 10                            |
| Comedy                  | 40                            |
| Drama                   | 65                            |

Complete the pictograph to show the same information.

Video Store Movie Sales

| Type of Movie | Number of Movies Sold Per Day |
|---------------|-------------------------------|
| Action        | +                             |
| Cartoon       | +                             |
| Comedy        | +                             |
| Drama         | +                             |

Key  
○ = 10 Movies

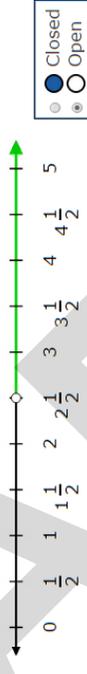
Reset

**Rays:** Students plot 2 points to form a ray. The first point is the end point. The second point has the arrow at the end.

**Select Points And Ranges on Number Lines:** Students click on a point on the line to place an open/closed marker. After markers are placed, students can click in between points to select a region. Regions extend between two points or one point and the end of the number line.

Graph the solution to the inequality on the number line.

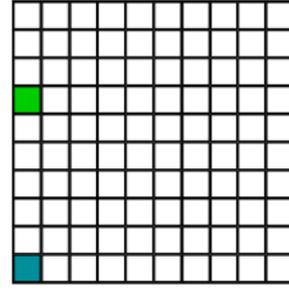
$$x > 2\frac{1}{2}$$



Reset Clear Undo

The figure shown is made up of same-size squares. Click the image to shade 0.35 of this figure.

Each square = 0.01



Reset Undo

**Shade Regions:** Students click to shade regions of a rectangle. Selected regions are either outlined or filled with a solid color, symbol, or custom graphic.

**PLC Guide:** The following is a sample protocol that school-wide or teacher PLC teams might use to begin to explore familiarize themselves with TNReady assessment item types in mathematics. This should take approximately 60 minutes.

**Topic for Discussion: TNReady Math Item Types (Focus: Instructional Planning)**

|                |  |
|----------------|--|
| <b>Step 1:</b> | <p>Prior to this PLC:</p> <ol style="list-style-type: none"> <li>1. Have the PLC Math team complete the PLC entitled, “Moving to TNReady in Math” before this PLC. This PLC Guide can be found at the TNCore site (<a href="http://www.tncore.org">www.tncore.org</a>) by clicking on the “For Leaders” link.</li> <li>2. Ask teachers to bring in a current assessment they are using in their classroom.</li> </ol>  |
| <b>Step 2:</b> | <p>Provide teachers with the following resource:<br/>“TNReady Math Item Types” found on the TNCore site by clicking on the “For Leaders” page or in this manual.</p> <p>Ask teachers to look through the item types with a partner. Have teachers discuss any immediate thoughts they have about the different item types described.</p>   |
| <b>Step 3:</b> | <p>Begin by leading teachers through the document, emphasizing the headings: Item Type, Examples, and Illustration.</p> <ol style="list-style-type: none"> <li>1. Explain to the group that the “Item Type” describes the item type and includes information about which TNReady component (Part I or Part II) that item type will appear. Then, show the group how this chart breaks down the number of score points assigned to each item and also defines what percentage of this item type will appear on Part I and/or Part II.</li> <li>2. The “Examples” column gives an example action and addresses how the item will appear in the online environment of TNReady.</li> <li>3. The “Illustration” column shows what the item will look like in the online environment. Remind the group that the Item Sampler and Sample Tests will also help students become more familiar with each item type described.</li> </ol> |

|                       |  |
|-----------------------|--|
| <p><b>Step 4:</b></p> | <p>In approaching the discussion around <b>instructional planning</b>, ask teachers to get out the assessment they are currently using.</p> <ol style="list-style-type: none"> <li>1. Have the group identify any items on their assessment that match the item types from the chart above.<br/>Then ask:</li> <li>2. What other item types are students experiencing on other assessments?</li> <li>3. How can we be sure we expose students to items similar to what we have seen today?</li> <li>4. How could we use our existing assessments to help students become comfortable with each item type?</li> </ol> <p>In the next PLC, we will discuss “TNReady Item Samplers and Practice Tools” that will be available. This discussion will help us find additional ways to provide more <u>student practice with online testing</u>.</p> |
| <p><b>Step 5:</b></p> | <p>Reflection Questions</p> <p>Based on what we have done today, how do you feel about our students readiness for each item type we reviewed today?</p> <p>What can we do as a school to ensure our students are ready for the types of items that they will see on TNReady?</p> <p>What technology implications have you identified? How do we support these needs?</p>   |

# Algebra I

## Algebra I Blueprint

| Clusters on Part I  | # of items in Part I | % of Part I | Additional Clusters on Part II (All Part I Clusters will also be assessed on Part II)   | # of items in Part II | % of Part II | % of test |
|---|----------------------|-------------|---|-----------------------|--------------|-----------|
| <b>Structure and operations with expressions and quantities</b> <ul style="list-style-type: none"> <li>• Properties of rational and irrational numbers</li> <li>• Use units to solve problems</li> <li>• Interpret the structure of expressions</li> <li>• Write expressions in equivalent forms</li> <li>• Perform arithmetic operations on polynomials</li> <li>• Relationships between zeros and polynomial factors</li> </ul> | 7-9                  | 29-31%      | <b>No additional clusters</b>   | 7-9                   | 19-21%       | 23-25%    |
| <b>Create equations that describe numbers or relationships</b>  | 4-6                  | 17-19%      | <b>No additional clusters</b>   | 2-4                   | 7-9%         | 11-13%    |
| <b>Reason with equations and inequalities</b> <ul style="list-style-type: none"> <li>• Understand solving equations</li> <li>• Solve equations and inequalities</li> </ul>  | 3-5                  | 14-16%      | <b>Reason with equations and inequalities</b> <ul style="list-style-type: none"> <li>• Solve systems of equations</li> <li>• Represent and solve equations and inequalities graphically</li> </ul>  | 8-10                  | 22-24%       | 18-20%    |
| <b>Interpreting and building functions</b> <ul style="list-style-type: none"> <li>• Understand the concept of a function and use function notation</li> <li>• Interpret functions that arise in applications in terms of the context</li> <li>• Analyze functions using different representations</li> <li>• Build a function that models a relationship between two quantities</li> </ul>  | 7-9                  | 27-29%      | <b>Interpreting and building functions</b> <ul style="list-style-type: none"> <li>• Build new functions from existing functions</li> </ul>  | 8-10                  | 22-24%       | 24-26%    |
| <b>Construct and compare linear, quadratic and exponential functions</b> <ul style="list-style-type: none"> <li>• Construct and compare linear, quadratic, and exponential models and solve problems</li> </ul>   | 3-5                  | 12-14%      | <b>Construct and compare linear, quadratic and exponential functions</b> <ul style="list-style-type: none"> <li>• Interpret expressions for functions in terms of the situation they model</li> </ul>   | 2-4                   | 7-9%         | 9-11%     |
| <b>No content from these clusters will be assessed on Part I</b>  | 0                    | 0%          | <b>Interpreting categorical and quantitative data</b> <ul style="list-style-type: none"> <li>• Summarize, represent, and interpret data on a single count or measurement variable</li> <li>• Summarize, represent, and interpret data on two categorical and quantitative variables</li> <li>• Interpret linear models</li> </ul> | 6-8                   | 17-19%       | 10-12%    |
| <b>Total</b>  | 24-34                | 100%        | <b>Total</b>  | 33-45                 | 100%         | 100%      |

## Part I – Calculator Allowed

| Cluster  | Standards  |   | # of Items |
|--|--|---|------------|
| <b>Structure and operations with expressions and quantities</b>                | N-RN – Use properties of rational and irrational numbers   | Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational. | 7-9        |
|  | N-Q – Reason quantitatively and use units to solve problems  | Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.             |            |
|  |  | Define appropriate quantities for the purpose of descriptive modeling.  |            |
|  |  | Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.   |            |
|  | A-SSE.A – Interpret the structure of expressions   | Interpret expressions that represent a quantity in terms of its context.  |            |
|  |  | Use the structure of an expression to identify ways to rewrite it.  |            |
|  | A-SSE.B – Write expressions in equivalent forms to solve problems  | Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.  |            |
| A-APR.A – Perform arithmetic operations on polynomials                         | Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. |   |            |
| A-APR.B – Understand the relationship between zeros and factors of polynomials | Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.  |   |            |
| <b>Create equations that describe numbers or relationships</b>                 | A-CED – Create equations that describe numbers or relationships  | Create equations and inequalities in one variable and use them to solve problems.   | 4-6        |
|  |  | Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.   |            |
|  |  | Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.  |            |
|  |  | Rearrange formulas to highlight a quantity of interest, using the same reasoning  |            |

|  |  |   |     |
|--|--|---|-----|
|  |  | as in solving equations.  |     |
| Reason with equations and inequalities | A-REI.A – Understand solving equations as a process of reasoning and explain the reasoning | Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.   | 3-5 |
|  | A-REI.B – Solve equations and inequalities in one variable                                 | Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.  |     |
|  |  | Solve quadratic equations in one variable.  |     |
| Interpreting and building functions    | F-IF.A – Understand the concept of a function and use function notation                    | Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$ . The graph of $f$ is the graph of the equation $y = f(x)$ . | 7-9 |
|  |  | Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.   |     |
|  |  | Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers   |     |
|  | F-IF.B – Interpret functions that arise in applications in terms of context                | For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.  |     |
|  |  | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.  |     |
|  |  | Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.  |     |
|  | F-IF.C – Analyze functions using different representations                                 | Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.   |     |
|  |  | Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.   |     |
|  |  | Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).   |     |
|  | F-BF.A – Build a function that models a relationship                                       | Write a function that describes a relationship between two quantities.  |     |

|  |  |   |     |
|--|--|---|-----|
|  | between two quantities   |   |     |
| <b>Construct and compare linear, quadratic and exponential functions</b> | F-LE.A –<br>Construct and compare linear, quadratic, and exponential models and solve problems | Distinguish between situations that can be modeled with linear functions and with exponential functions.  | 3-5 |
|  |  | Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). |     |
|  |  | Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.                  |     |

## Part II – Calculator and Non-Calculator Portions

| Cluster  | Standards   |   | # of Items |
|--|---|---|------------|
| <b>Structure and operations with expressions and quantities</b>                | N-RN – Use properties of rational and irrational numbers  | Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational. | 7-9        |
|  | N-Q – Reason quantitatively and use units to solve problems   | Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.             |            |
|  |   | Define appropriate quantities for the purpose of descriptive modeling.  |            |
|  |   | Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.   |            |
|  | A-SSE.A – Interpret the structure of expressions  | Interpret expressions that represent a quantity in terms of its context.  |            |
|  |   | Use the structure of an expression to identify ways to rewrite it.  |            |
|  | A-SSE.B – Write expressions in equivalent forms to solve problems   | Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.  |            |
|  | A-APR.A – Perform arithmetic operations on polynomials  | Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.                                |            |
| A-APR.B – Understand the relationship between zeros and factors of polynomials | Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial. |   |            |
| <b>Create equations that describe numbers or relationships</b>                 | A-CED – Create equations that describe numbers or relationships   | Create equations and inequalities in one variable and use them to solve problems.   | 2-4        |
|  |   | Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.   |            |
|  |   | Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.  |            |
|  |   | Rearrange formulas to highlight a quantity of interest, using the same reasoning  |            |

|  |  |   |      |
|--|--|---|------|
|  |  | as in solving equations.  |      |
| Reason with equations and inequalities   | A-REI.A – Understand solving equations as a process of reasoning and explain the reasoning | Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.   | 8-10 |
|  | A-REI.B – Solve equations and inequalities in one variable                                 | Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.  |      |
|  |  | Solve quadratic equations in one variable.  |      |
|  | A-REI.C – Solve systems of equations   | Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.   |      |
|  |  | Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.  |      |
|  | A-REI.D – Represent and solve equations and inequalities graphically                       | Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).   |      |
| Explain why the $x$ -coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$ ; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. |  |   |      |
| Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.  |  |   |      |
| Interpreting and building functions  | F-IF.A – Understand the concept of a function and use function notation                    | Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$ . The graph of $f$ is the graph of the equation $y = f(x)$ . | 8-10 |
|  |  | Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.   |      |
|  |  | Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers   |      |
|  | F-IF.B – Interpret   | For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs   |      |

|   |   |   |     |
|---|---|---|-----|
|   | functions that arise in applications in terms of context  | showing key features given a verbal description of the relationship.  |     |
|   |   | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.  |     |
|   |   | Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.                              |     |
|   | F-IF.C – Analyze functions using different representations  | Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.   |     |
|   |   | Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.   |     |
|   |   | Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).   |     |
|   | F-BF.A – Build a function that models a relationship between two quantities   | Write a function that describes a relationship between two quantities.  |     |
| F-BF.B – Build new functions from existing functions              | Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$ , $k f(x)$ , $f(kx)$ , and $f(x + k)$ for specific values of $k$ (both positive and negative); find the value of $k$ given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. |   |     |
| Construct and compare linear, quadratic and exponential functions | F-LE.A – Construct and compare linear, quadratic, and exponential models and solve problems   | Distinguish between situations that can be modeled with linear functions and with exponential functions.  | 2-4 |
|   |   | Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). |     |
|   |   | Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.                  |     |
|   | F-LE.B – Interpret expressions for functions in terms of the situation they model   | Interpret the parameters in a linear or exponential function in terms of a context.   |     |
| Interpreting categorical and quantitative data                    | S-ID.A – Summarize, represent, and interpret data   | Represent data with plots on the real number line (dot plots, histograms, and box plots).   | 6-8 |
|   |   | Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of   |     |

|  |   |   |
|--|---|---|
|  | on a single count or measurement variable   | two or more different data sets.  |
|  |   | Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).  |
|  | S-ID.B – Summarize, represent, and interpret data on two categorical and quantitative variables | Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. |
|  |   | Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.   |
|  | S-ID.C – Interpret linear models  | Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.  |
|  |   | Compute (using technology) and interpret the correlation coefficient of a linear fit.   |
|  |   | Distinguish between correlation and causation.  |

## Overall Blueprint (Includes Part I and Part II)

| Cluster  | Standards   |   | # of Items |
|--|---|---|------------|
| <b>Structure and operations with expressions and quantities</b>                | N-RN – Use properties of rational and irrational numbers  | Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational. | 14-18      |
|  | N-Q – Reason quantitatively and use units to solve problems   | Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.             |            |
|  |   | Define appropriate quantities for the purpose of descriptive modeling.  |            |
|  |   | Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.   |            |
|  | A-SSE.A – Interpret the structure of expressions  | Interpret expressions that represent a quantity in terms of its context.  |            |
|  |   | Use the structure of an expression to identify ways to rewrite it.  |            |
|  | A-SSE.B – Write expressions in equivalent forms to solve problems   | Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.  |            |
|  | A-APR.A – Perform arithmetic operations on polynomials  | Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.                                |            |
| A-APR.B – Understand the relationship between zeros and factors of polynomials | Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial. |   |            |
| <b>Create equations that describe numbers or relationships</b>                 | A-CED – Create equations that describe numbers or relationships   | Create equations and inequalities in one variable and use them to solve problems.   | 6-10       |
|  |   | Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.   |            |
|  |   | Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.  |            |
|  |   | Rearrange formulas to highlight a quantity of interest, using the same reasoning  |            |

|  |  |   |       |
|--|--|---|-------|
|  |  | as in solving equations.  |       |
| Reason with equations and inequalities   | A-REI.A – Understand solving equations as a process of reasoning and explain the reasoning | Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.   | 11-15 |
|  | A-REI.B – Solve equations and inequalities in one variable                                 | Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.  |       |
|  |  | Solve quadratic equations in one variable.  |       |
|  | A-REI.C – Solve systems of equations   | Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.   |       |
|  |  | Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.  |       |
|  | A-REI.D – Represent and solve equations and inequalities graphically                       | Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).   |       |
| Explain why the $x$ -coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$ ; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. |  |   |       |
| Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.  |  |   |       |
| Interpreting and building functions  | F-IF.A – Understand the concept of a function and use function notation                    | Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$ . The graph of $f$ is the graph of the equation $y = f(x)$ . | 15-19 |
|  |  | Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.   |       |
|  |  | Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers   |       |
|  | F-IF.B – Interpret   | For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs   |       |

|  |   |   |     |
|--|---|---|-----|
|  | functions that arise in applications in terms of context  | showing key features given a verbal description of the relationship.  |     |
|  |   | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.  |     |
|  |   | Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.                              |     |
|  | F-IF.C – Analyze functions using different representations  | Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.   |     |
|  |   | Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.   |     |
|  |   | Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).   |     |
|  | F-BF.A – Build a function that models a relationship between two quantities   | Write a function that describes a relationship between two quantities.  |     |
| F-BF.B – Build new functions from existing functions                     | Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$ , $k f(x)$ , $f(kx)$ , and $f(x + k)$ for specific values of $k$ (both positive and negative); find the value of $k$ given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. |   |     |
| <b>Construct and compare linear, quadratic and exponential functions</b> | F-LE.A – Construct and compare linear, quadratic, and exponential models and solve problems   | Distinguish between situations that can be modeled with linear functions and with exponential functions.  | 5-9 |
|  |   | Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). |     |
|  |   | Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.                  |     |
|  | F-LE.B – Interpret expressions for functions in terms of the situation they model   | Interpret the parameters in a linear or exponential function in terms of a context.   |     |
| <b>Interpreting categorical and quantitative data</b>                    | S-ID.A – Summarize, represent, and interpret data   | Represent data with plots on the real number line (dot plots, histograms, and box plots).   | 6-8 |
|  |   | Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of   |     |

|  |   |   |
|--|---|---|
|  | on a single count or measurement variable   | two or more different data sets.  |
|  |   | Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).  |
|  | S-ID.B – Summarize, represent, and interpret data on two categorical and quantitative variables | Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. |
|  |   | Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.   |
|  | S-ID.C – Interpret linear models  | Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.  |
|  |   | Compute (using technology) and interpret the correlation coefficient of a linear fit.   |
|  |   | Distinguish between correlation and causation.  |

## Core Math I

### Core Math I Blueprint

| Clusters on Part I  | # of items in Part I | % of Part I | Additional Clusters on Part II (All Part I Clusters will also be assessed on Part II)   | # of items in Part II | % of Part II | % of test |
|---|----------------------|-------------|---|-----------------------|--------------|-----------|
| <b>Structure and interpretation of expressions and quantities</b> <ul style="list-style-type: none"> <li>• Use units to solve problems</li> <li>• Interpret the structure of expressions</li> <li>• Write expressions in equivalent forms</li> </ul>  | 5-7                  | 21-23%      | <b>No additional clusters</b>   | 4-6                   | 12-14%       | 15-17%    |
| <b>Create equations that describe numbers or relationships</b>  | 4-6                  | 18-20%      | <b>No additional clusters</b>   | 2-4                   | 7-9%         | 11-13%    |
| <b>Reason with equations and inequalities</b> <ul style="list-style-type: none"> <li>• Solve equations and inequalities</li> </ul>  | 1-3                  | 3-5%        | <b>Reason with equations and inequalities</b> <ul style="list-style-type: none"> <li>• Solve systems of equations</li> <li>• Represent and solve equations and inequalities graphically</li> </ul>  | 6-8                   | 17-19%       | 11-13%    |
| <b>Interpreting and building functions</b> <ul style="list-style-type: none"> <li>• Understand the concept of a function and use function notation</li> <li>• Interpret functions that arise in applications in terms of the context</li> <li>• Build a function that models a relationship between two quantities</li> </ul> | 4-6                  | 18-20%      | <b>Interpreting and building functions</b> <ul style="list-style-type: none"> <li>• Analyze functions using different representations</li> </ul>  | 8-10                  | 22-24%       | 20-22%    |
| <b>Construct and compare linear, quadratic and exponential functions</b> <ul style="list-style-type: none"> <li>• Construct and compare linear, quadratic, and exponential models and solve problems</li> </ul>   | 3-5                  | 14-16%      | <b>Construct and compare linear, quadratic and exponential functions</b> <ul style="list-style-type: none"> <li>• Interpret expressions for functions in terms of the situation they model</li> </ul>   | 2-4                   | 7-9%         | 9-11%     |
| <b>Geometry: Congruence</b> <ul style="list-style-type: none"> <li>• Experiment with transformations in the plane</li> <li>• Understand congruence in terms of rigid motions</li> <li>• Prove geometric theorems</li> </ul>   | 5-7                  | 21-23%      | <b>No additional clusters</b>   | 4-6                   | 12-14%       | 15-17%    |
| <b>No content from these clusters will be assessed on Part I</b>  | 0                    | 0%          | <b>Interpreting categorical and quantitative data</b> <ul style="list-style-type: none"> <li>• Summarize, represent, and interpret data on a single count or measurement variable</li> <li>• Summarize, represent, and interpret data on two categorical and quantitative variables</li> <li>• Interpret linear models</li> </ul> | 6-8                   | 17-19%       | 9-11%     |
| <b>Total</b>  | 22-34                | 100%        | <b>Total</b>  | 32-46                 | 100%         | 100%      |

## Part I – Calculator Allowed

| Cluster   | Standards   |   | # of Items |
|---|---|---|------------|
| <b>Structure and interpretation of expressions and quantities</b> | N-Q – Reason quantitatively and use units to solve problems             | Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.   | 5-7        |
|   |   | Define appropriate quantities for the purpose of descriptive modeling.  |            |
|   |   | Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.   |            |
|   | A-SSE.A – Interpret the structure of expressions                        | Interpret expressions that represent a quantity in terms of its context.  |            |
|   | A-SSE.B – Write expressions in equivalent forms to solve problems       | Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.  |            |
| <b>Create equations that describe numbers or relationships</b>    | A-CED – Create equations that describe numbers or relationships         | Create equations and inequalities in one variable and use them to solve problems.   | 4-6        |
|   |   | Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.   |            |
|   |   | Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.  |            |
|   |   | Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.   |            |
| <b>Reason with equations and inequalities</b>                     | A.REI.B – Solve equations and inequalities in one variable              | Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.  | 1-3        |
| <b>Interpreting and building functions</b>                        | F-IF.A – Understand the concept of a function and use function notation | Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$ . The graph of $f$ is the graph of the equation $y = f(x)$ . | 4-6        |
|   |   | Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.   |            |
|   |   | Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers   |            |
|   | F-IF.B – Interpret functions that arise                                 | For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch  |            |

|  |   |  |     |
|--|---|--|-----|
|  | in applications in terms of context   | graphs showing key features given a verbal description of the relationship.  |     |
|  |   | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.   |     |
|  |   | Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.   |     |
|  | F-BF.A – Build a function that models a relationship between two quantities   | Write a function that describes a relationship between two quantities.   |     |
|  |   | Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.   |     |
| <b>Construct and compare linear, quadratic and exponential functions</b> | F-LE.A – Construct and compare linear, quadratic, and exponential models and solve problems   | Distinguish between situations that can be modeled with linear functions and with exponential functions.   | 3-5 |
|  |   | Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).  |     |
|  |   | Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.   |     |
| <b>Geometry: Congruence</b>  | G-CO.A – Experiment with transformations in the plane   | Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.  | 5-7 |
|  |   | Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch). |     |
|  |   | Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.   |     |
|  |   | Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.   |     |
|  |   | Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.   |     |
|  | G.CO.B – Understand congruence in terms of rigid motions  | Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.   |     |
|  | Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and |  |     |

|  |                                   |  |  |
|--|-----------------------------------|--|--|
|  |                                   | corresponding pairs of angles are congruent.   |  |
|  |                                   | Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions. |  |
|  | G.CO.C – Prove geometric theorems | Prove theorems about lines and angles.   |  |
|  |                                   | Prove theorems about triangles.  |  |
|  |                                   | Prove theorems about parallelograms.   |  |

## Part II – Calculator and Non-Calculator Portions

| Cluster   | Standards   |   | # of Items |
|---|---|---|------------|
| <b>Structure and operations with expressions and quantities</b> | N-Q – Reason quantitatively and use units to solve problems       | Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. | 4-6        |
|   |   | Define appropriate quantities for the purpose of descriptive modeling.  |            |
|   |   | Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.   |            |
|   | A-SSE.A – Interpret the structure of expressions                  | Interpret expressions that represent a quantity in terms of its context.  |            |
|   | A-SSE.B – Write expressions in equivalent forms to solve problems | Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.  |            |
| <b>Create equations that describe numbers or relationships</b>  | A-CED – Create equations that describe numbers or relationships   | Create equations and inequalities in one variable and use them to solve problems.   | 2-4        |
|   |   | Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.   |            |
|   |   | Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.  |            |
|   |   | Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.   |            |
| <b>Reason with equations and inequalities</b>                   | A-REI.B – Solve equations and inequalities in one variable        | Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.  | 6-8        |
|   | A-REI.C – Solve systems of equations                              | Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.                                     |            |
|   |   | Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.  |            |
|   | A-REI.D – Represent and solve equations and inequalities          | Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).   |            |

|  |   |  |      |
|--|---|--|------|
|  | graphically   | <p>Explain why the <math>x</math>-coordinates of the points where the graphs of the equations <math>y = f(x)</math> and <math>y = g(x)</math> intersect are the solutions of the equation <math>f(x) = g(x)</math>; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where <math>f(x)</math> and/or <math>g(x)</math> are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.</p> <p>Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.</p> |      |
| <b>Interpreting and building functions</b> | F-IF.A – Understand the concept of a function and use function notation     | Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$ . The graph of $f$ is the graph of the equation $y = f(x)$ .  | 8-10 |
|  |   | Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.  |      |
|  |   | Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers  |      |
|  | F-IF.B – Interpret functions that arise in applications in terms of context | For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.   |      |
|  |   | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.   |      |
|  |   | Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.   |      |
|  | F-IF.C – Analyze functions using different representations                  | Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.  |      |
|  |   | Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).  |      |
|  | F-BF.A – Build a function that models a relationship between two quantities | Write a function that describes a relationship between two quantities.   |      |
|  |   | Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.   |      |
| <b>Construct and compare linear,</b>       | F-LE.A – Construct and compare linear,                                      | Distinguish between situations that can be modeled with linear functions and with exponential functions.   | 2-4  |

|  |   |  |     |
|--|---|--|-----|
| <b>quadratic and exponential functions</b> | quadratic, and exponential models and solve problems                              | Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).  |     |
|  |   | Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.   |     |
|  | F-LE.B – Interpret expressions for functions in terms of the situation they model | Interpret the parameters in a linear or exponential function in terms of a context.  |     |
| <b>Geometry: Congruence</b>                | G-CO.A – Experiment with transformations in the plane                             | Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.  | 4-6 |
|  |   | Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch). |     |
|  |   | Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.   |     |
|  |   | Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.   |     |
|  |   | Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.   |     |
|  | G.CO.B – Understand congruence in terms of rigid motions                          | Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.   |     |
|  |   | Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.   |     |
|  |   | Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.   |     |
|  | G.CO.C – Prove geometric theorems   | Prove theorems about lines and angles.   |     |
|  |   | Prove theorems about triangles.  |     |
| Prove theorems about parallelograms.       |   |  |     |
| <b>Interpreting categorical and</b>        | S-ID.A – Summarize, represent, and  | Represent data with plots on the real number line (dot plots, histograms, and box plots).  | 6-8 |

|                          |   |   |
|--------------------------|---|---|
| <b>quantitative data</b> | interpret data on a single count or measurement variable  | Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.  |
|                          |   | Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).  |
|                          | S-ID.B – Summarize, represent, and interpret data on two categorical and quantitative variables | Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. |
|                          |   | Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.   |
|                          | S-ID.C – Interpret linear models  | Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.  |
|                          |   | Compute (using technology) and interpret the correlation coefficient of a linear fit.   |
|                          |   | Distinguish between correlation and causation.  |

## Overall Blueprint (Includes Part I and Part II)

| Cluster   | Standards   |   | # of Items |
|---|---|---|------------|
| <b>Structure and operations with expressions and quantities</b>   | N-Q – Reason quantitatively and use units to solve problems   | Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. | 9-13       |
|   |   | Define appropriate quantities for the purpose of descriptive modeling.  |            |
|   |   | Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.   |            |
|   | A-SSE.A – Interpret the structure of expressions  | Interpret expressions that represent a quantity in terms of its context.  |            |
| A-SSE.B – Write expressions in equivalent forms to solve problems | Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.                                    |   |            |
| <b>Create equations that describe numbers or relationships</b>    | A-CED – Create equations that describe numbers or relationships   | Create equations and inequalities in one variable and use them to solve problems.   | 6-10       |
|   |   | Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.   |            |
|   |   | Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.  |            |
|   |   | Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.   |            |
| <b>Reason with equations and inequalities</b>                     | A-REI.B – Solve equations and inequalities in one variable  | Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.  | 7-11       |
|   | A-REI.C – Solve systems of equations  | Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.                                     |            |
|   |   | Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.  |            |
| A-REI.D – Represent and solve equations and inequalities          | Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). |   |            |

|  |   |  |       |
|--|---|--|-------|
|  | graphically   | <p>Explain why the <math>x</math>-coordinates of the points where the graphs of the equations <math>y = f(x)</math> and <math>y = g(x)</math> intersect are the solutions of the equation <math>f(x) = g(x)</math>; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where <math>f(x)</math> and/or <math>g(x)</math> are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.</p> <p>Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.</p> |       |
| <b>Interpreting and building functions</b> | F-IF.A – Understand the concept of a function and use function notation     | Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$ . The graph of $f$ is the graph of the equation $y = f(x)$ .  | 12-16 |
|  |   | Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.  |       |
|  |   | Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers  |       |
|  | F-IF.B – Interpret functions that arise in applications in terms of context | For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.   |       |
|  |   | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.   |       |
|  |   | Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.   |       |
|  | F-IF.C – Analyze functions using different representations                  | Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.  |       |
|  |   | Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).  |       |
|  | F-BF.A – Build a function that models a relationship between two quantities | Write a function that describes a relationship between two quantities.   |       |
|  |   | Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.   |       |
| <b>Construct and compare linear,</b>       | F-LE.A – Construct and compare linear,                                      | Distinguish between situations that can be modeled with linear functions and with exponential functions.   | 5-9   |

|  |   |  |      |
|--|---|--|------|
| <b>quadratic and exponential functions</b> | quadratic, and exponential models and solve problems                              | Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).  |      |
|  |   | Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.   |      |
|  | F-LE.B – Interpret expressions for functions in terms of the situation they model | Interpret the parameters in a linear or exponential function in terms of a context.  |      |
| <b>Geometry: Congruence</b>                | G-CO.A – Experiment with transformations in the plane                             | Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.  | 9-13 |
|  |   | Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch). |      |
|  |   | Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.   |      |
|  |   | Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.   |      |
|  |   | Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.   |      |
|  | G.CO.B – Understand congruence in terms of rigid motions                          | Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.   |      |
|  |   | Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.   |      |
|  |   | Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.   |      |
|  | G.CO.C – Prove geometric theorems   | Prove theorems about lines and angles.   |      |
|  |   | Prove theorems about triangles.  |      |
| Prove theorems about parallelograms.       |   |  |      |
| <b>Interpreting categorical and</b>        | S-ID.A – Summarize, represent, and  | Represent data with plots on the real number line (dot plots, histograms, and box plots).  | 6-8  |

|                          |   |   |
|--------------------------|---|---|
| <b>quantitative data</b> | interpret data on a single count or measurement variable  | Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.  |
|                          |   | Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).  |
|                          | S-ID.B – Summarize, represent, and interpret data on two categorical and quantitative variables | Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. |
|                          |   | Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.   |
|                          | S-ID.C – Interpret linear models  | Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.  |
|                          |   | Compute (using technology) and interpret the correlation coefficient of a linear fit.   |
|                          |   | Distinguish between correlation and causation.  |

## **TNReady Calculator Policy for Mathematics**

The TNReady Calculator Policy is based on two central beliefs:

- 1) Calculators are important tools and, in order to be ready for career and college, students need to understand how to use calculators effectively, and
- 2) In order to demonstrate mastery of the mathematics standards, students must demonstrate many skills without reliance on calculators.

We recognize that the TCAP calculator policy in the past (allowing calculators at all grade levels) contributed to overreliance on calculators and believe it is critically important students develop fluency with traditional procedures without reliance on the calculator moving forward.

**Therefore, at all grade levels and in all courses, TNReady will include both calculator permitted sections and calculator prohibited sections.**

- Part I will allow calculator use at all grade levels.
- Part II will include a calculator permitted section and a calculator prohibited section at all grade levels.

The following considerations will shape how items are assigned to each section:

- Questions based on standards that require students to perform calculations to arrive at an answer will appear on the non-calculator-permitted section of the assessment. For example, 5.NF.A.1 expects students to add/subtract fractions with unlike denominators.
- Other questions may be based on standards where a calculation is a means to demonstrating other understanding. In this case, a student's error could be based on a misconception or a miscalculation, which would color the evidence of what is intended by the assessment. For example, 6.G.A.1 expects students to find area of composite figures and the calculations performed should not be a barrier for students demonstrating understanding of how to determine the area.

### **Calculator Specifics**

- For calculator-permitted sections of TNReady, students may use the online calculator or calculators provided by the school/district or one owned personally.
- It is the responsibility of the Test Administrator to ensure the regulations outlined in this policy pertaining to calculator use are followed.
- All calculators must be set to default factory settings, including clearing the memory of any programs. (If necessary, students may elect to backup any programs or applications before removing them for TNReady.)
- A student may use any permitted calculator at any grade level.
- Students will have access to practice with the same functionalities that will be available on the operational assessment on the item sampler and the practice tests.
- Students should have access to no more than one calculator device for calculator-permitted sections of TNReady.

### **Calculator Types**

Below are examples of calculator functionalities that are permitted. (Note: this is not an exhaustive list and students should be familiar with particular functions at the appropriate grade level.)

**Examples of Permitted Functionalities:**

- Square root ( $\sqrt{\quad}$ )/Square key ( $x^2$  and/or  $x^y$ )
- Pi( $\pi$ )
- Graphing capability
- Data entry
- Matrices
- Regression
- Trigonometric functions (sine, cosine, tangent)
- Logarithm (  $\log$  and/or  $\ln$  ) and exponential functions (  $a^x$  and/or  $e^x$  )

**Examples of permitted calculators:**

- TI-30 Casio
- FX260 Sharp
- EL344RB
- TI-84
- TI-NSpire (non-CAS)

Below are calculator functionalities that are not allowed on TNReady. (Students may use any four-function, scientific, or graphing calculator, which does not include any of the prohibited functionalities.)

**Calculator functionalities that are prohibited:**

- Any calculator with CAS (computer algebra system) capabilities
- Communication capability
- QWERTY keyboard
- Cell phones, tablets, iPods, etc.

**Examples of prohibited calculators:**

- TI-89
- TI-NSpire (CAS version) [TI-NSpire calculators with CAS may be used in Press-to-Test mode]
- HP-40G
- Casio CFX-9970G

**PLC Guide:** The following is a sample protocol that school-wide or teacher PLC teams might use to begin to explore familiarize themselves with TNReady assessment in mathematics. This should take approximately 45- 60 minutes.

**Topic for Discussion: TNReady Math Blueprints/Calculator Use (Curricular Planning)**

|                |  |
|----------------|--|
| <b>Step 1:</b> | <p>Download the following documents from the “For Leaders” section of the TNCore website at <a href="http://www.tncore.org">www.tncore.org</a>:</p> <ol style="list-style-type: none"> <li>1. Grade Level Summary Blueprint</li> <li>2. Overall Blueprint (Includes Part I and Part II)</li> <li>3. Part I Blueprint</li> <li>4. Part II Blueprint</li> <li>5. TNReady Calculator Policy</li> </ol>  |
| <b>Step 2:</b> | <p>Distribute the appropriate “Grade Level Blueprint” to teachers and give them time to look over and review the document.</p> <p>Review the TNReady test specifications for Part I and Part II from the “Moving to TNReady Math” PLC Guide on the TNCore website.</p>   |
| <b>Step 3:</b> | <p>Use the following questions to guide discussion around the math blueprints:</p> <ol style="list-style-type: none"> <li>1. Do you spend the majority of your class time teaching the major work of the grade?</li> <li>2. What percentage of the major work of the grade is included in Part I vs Part II of the TNReady test in your grade level?</li> <li>3. How will this percentage breakdown affect the sequence of standards taught in your class?</li> <li>4. What role do the additional and supporting standards have in your grade level blueprint?</li> </ol> |
| <b>Step 4:</b> | <p>Distribute the document “Overall Blueprint” (Includes Part I and Part II) to teachers for their grade level and discuss the following questions:</p> <ol style="list-style-type: none"> <li>1. How does this document differ from the “Grade Level Blueprint?”</li> <li>2. How does this document assist you in planning for your instructional units?</li> <li>3. After looking at the “Grade Level Blueprint” and the “Overall Blueprint” how do you see these documents guiding <b>curricular planning</b> in your classroom?</li> </ol>                             |
| <b>Step 5:</b> | <p>Distribute the following documents: “Part I (Calculators)”, “Part II (Calculators)”, and “TNReady Calculator Policy.”</p> <ol style="list-style-type: none"> <li>1. What can you infer about calculator usage on “Part I” and “Part II” after looking at these documents?</li> <li>2. Which standards will you use a calculator as a tool to teach with? Which standards will you not use a calculator? Which standards will you teach both with and without a calculator?</li> </ol>   |
| <b>Step 6:</b> | <p>Have teachers reflect and share 3 things they have learned from these documents, 2 immediate areas of action for their planning, and 1 thing they would like more time to work on.</p> <p>Consider the <b>curricular planning</b> implication of this information as you approach pacing and planning for the 2015-16 school year.</p>  |

**TNReady – Major Work of the Grade  
Scavenger Hunt Activity (Focused on Curricular Planning)**

1. Find the mathematical standards document for your grade level or course included in this manual or at <http://www.tn.gov/education/standards/math.shtml> or under the “For Leaders” section at [www.tncore.org](http://www.tncore.org). You will also need the grade level Math Blueprint (available under “For Leaders” at [www.tncore.org](http://www.tncore.org)).
2. How many clusters are considered to be the major content (or major work of the grade)? How many clusters are considered supporting content? Additional content?

Major Content: \_\_\_\_\_ Supporting Content: \_\_\_\_\_ Additional Content: \_\_\_\_\_

What evidence do you have that your current **curricular planning** is emphasizing the major content of the grade?

Please find the Math Blueprint for your grade level. What percentage of Part I will assess the major work of the grade? What percentage of Part II will assess the major work of the grade?

Percentage of Part I: \_\_\_\_\_ Percentage of Part II: \_\_\_\_\_

Considering the major work of the grade for each grade level and the expectations of TNReady Math, what are some leader/teacher actions that you need to ensure in regards to **curricular planning** for the 2015-16 school year?

| Leader | Teacher |
|--------|---------|
|        |         |

What role does the additional and supporting work of the grade need to play in your **curricular planning**?

Since Part I of TNReady math will include Performance Tasks (not mimicking CRA tasks but requiring multistep problem solving and some explanation), how should your **curricular planning** incorporate the instructional tasks that are chosen throughout the school year?

**PLC Guide:** The following is a sample protocol that teacher PLC math teams might use that would support the frequent use of math tasks with instruction. This should take approximately 45 - 60 minutes.

**Topic for Discussion: TNReady Math Tasks (Focus: Instructional Planning)**

|                       |   |
|-----------------------|---|
| <p><b>Step 1:</b></p> | <p>Before the Math team attends, they should: (1) Complete the “Moving to TNReady in Math PLC”, this can be found at the TNCore site by clicking on the “For Leaders” link, (2) Teachers should bring with them to the PLC a sample task taught in their classroom recently.</p> <p>Provide teachers with the following resources:</p> <ol style="list-style-type: none"> <li>1. Major Work of the Grade for their math class: <a href="http://tn.gov/education/standards/math.shtml">http://tn.gov/education/standards/math.shtml</a></li> <li>2. Copy of the Standards for Mathematical Practices (also found on the standards page).</li> <li>3. Task Analysis Guide: <a href="http://tncore.org/sites/www/Uploads/summer2013/Summer_2012/Task_Analysis_Guide.pdf">http://tncore.org/sites/www/Uploads/summer2013/Summer_2012/Task_Analysis_Guide.pdf</a> (Found at the bottom of the Instructional Resources page under the Math link)</li> </ol> |
| <p><b>Step 2:</b></p> | <ol style="list-style-type: none"> <li>1. Give teachers time to look over and review the major work of their grade.</li> <li>2. Go over the “Task Analysis Guide” noting the differences between tasks that require only “memorization” compared to tasks that would be considered “doing mathematics”.</li> </ol>  |
| <p><b>Step 3:</b></p> | <p>Questions for discussion:</p> <ol style="list-style-type: none"> <li>1. How often do you use math tasks in class?</li> <li>2. Find two places that your task has direct connection to the major work of the grade.</li> <li>3. Considering the “Task Analysis Guide” where would the task you brought fall?</li> </ol>   |
| <p><b>Step 4:</b></p> | <p>Ask math teachers to trade tasks with a partner and provide feedback on the following to their colleague:</p> <ol style="list-style-type: none"> <li>1. Where does this task fall on the “Task Analysis Guide”?</li> <li>2. What could you change about the task to make it more resemble “doing mathematics”?</li> <li>3. Does this task reflect the major work of the grade?</li> <li>4. Which Standards for Mathematical Practices are taught with this task?</li> </ol>  |
| <p><b>Step 5:</b></p> | <p>Teaching high-level tasks on a regular basis significantly improves conceptual math understanding for students. Therefore, discussions need to occur to support school-wide expectations for teaching math tasks. Use one of the following facilitation techniques:</p> <ul style="list-style-type: none"> <li>• Decide to teach at least one task a month as a math department.</li> <li>• At a monthly PLC have teachers bring those tasks (including student examples) with them, replicating the questions in <b>Step 4</b>.</li> <li>• As the school leader, you collect the tasks providing feedback in regards to the “Task Analysis Guide.”</li> <li>• As the leader pay close attention and comment on the importance of the teacher providing written feedback to the students.</li> </ul>   |
| <p><b>Step 6:</b></p> | <p>Steps for further reflection (to be turned in each month with their task):</p> <ul style="list-style-type: none"> <li>• Ask teachers to bring with them a written summary of their experience teaching this task. What went well? What would they change? Did the students enjoy the task? What were some surprises?</li> <li>• Ask teachers to incorporate Standards for Mathematical Practices.</li> </ul>   |

# The Mathematical Task Analysis Guide

## Lower-Level Demands Memorization Tasks

- Involves either producing previously learned facts, rules, formulae, or definitions OR committing facts, rules, formulae, or definitions to memory.
- Cannot be solved using procedures because a procedure does not exist or because the time frame in which the task is being completed is too short to use a procedure.
- Are not ambiguous – such tasks involve exact reproduction of previously seen material and what is to be reproduced is clearly and directly stated.
- Have no connection to the concepts or meaning that underlie the facts, rules, formulae, or definitions being learned or reproduced.

## Procedures Without Connections Tasks

- Are algorithmic. Use of the procedure is either specifically called for or its use is evident based on prior instruction, experience, or placement of the task.
- Require limited cognitive demand for successful completion. There is little ambiguity about what needs to be done and how to do it.
- Have no connection to the concepts or meaning that underlie the procedure being used.
- Are focused on producing correct answers rather than developing mathematical understanding.
- Require no explanations, or explanations that focus solely on describing the procedure that was used.

## Higher-Level Demands Procedures With Connections Tasks

- Focus students' attention on the use of procedures for the purpose of developing deeper levels of understanding of mathematical concepts and ideas.
- Suggest pathways to follow (explicitly or implicitly) that are broad general procedures that have close connections to underlying conceptual ideas as opposed to narrow algorithms that are opaque with respect to underlying concepts.
- Usually are represented in multiple ways (e.g., visual diagrams, manipulatives, symbols, problem situations). Making connections among multiple representations helps to develop meaning.
- Require some degree of cognitive effort. Although general procedures may be followed, they cannot be followed mindlessly. Students need to engage with the conceptual ideas that underlie the procedures in order to successfully complete the task and develop understanding.

## Doing Mathematics Tasks

- Requires complex and non-algorithmic thinking (i.e., there is not a predictable, well-rehearsed approach or pathway explicitly suggested by the task, task instructions, or a worked-out example).
- Requires students to explore and to understand the nature of mathematical concepts, processes, or relationships.
- Demands self-monitoring or self-regulation of one's own cognitive processes.
- Requires students to access relevant knowledge and experiences and make appropriate use of them in working through the task.
- Requires students to analyze the task and actively examine task constraints that may limit possible solution strategies and solutions.
- Requires considerable cognitive effort and may involve some level of anxiety for the student due to the unpredictable nature of the solution process required.

Mathematics Teaching in the Middle School. Also in: Stein, Smith, Henningsen, & Silver (2000). Implementing standards-based mathematics instruction: A casebook for professional development, p. 16. New York: Teachers College Press.

## TNReady Blueprint Resources Quick Check

|                                  |   |
|----------------------------------|---|
| Math Item Types Major Take-Aways | Key Actions for You (Instructional or Curricular) |
| Math Blueprint Major Take-Aways  | Key Actions for You (Instructional or Curricular) |
| Math Scoring Major Take-Aways    | Key Actions for You (Instructional or Curricular) |

Take a few moments to share at your table. Jot any additional questions down here.



# **Section 4: TNReady ELA Resources**

## **Key Question #5:**

**How could the ELA blueprints and resources guide our curricular planning for 2015-16 and impact instructional support for teachers?**

# TNReady ELA

## Item Types Overview

- There are 5 types of **ELA item types**:
  1. Writing tasks
  2. Technology-enhanced (TEI)
  3. Multiple choice
  4. Multiple select
  5. Evidence-based selected response
- Each item type includes a:
  1. Description
  2. Example
  3. Scoring information
  4. Approximate percentage of total score points
- **Writing types** that will be included in Part I of TNReady include:
  1. Opinion (grades 3-5)
  2. Argument (grades 6-11)
  3. Informational/Explanatory (grades 3-11)
  4. Narrative (Fiction, grades 3-11; nonfiction, grades 9-11)
- Each writing type includes:
  1. Types of passages used
  2. Description
  3. Example

## Descriptions of TN Ready Item Types for ELA

| Item Type   | Description  | Example  | Scoring   | Approximate Percentage of Total Score Points |
|---|--|--|---|--|
| <p style="text-align: center;"><b>Writing Tasks</b></p>       | <p>A writing task is based on one or more passages provided to students. The task is a question to which students respond by writing an essay, report, explanation, letter, etc., using evidence from the passages. Students type their response into the space provided.</p> <p>Please see “Draft Descriptions of TN Ready Writing Types” following this document for more details.</p> | <p>Write a 1 – 3 paragraph explanation of how animals use their bodies to sense the world around them. Your explanation must be based on ideas and information that can be found in the “Animals Senses” set.</p> <p>Manage your time carefully so you can</p> <ul style="list-style-type: none"> <li>• Plan</li> <li>• Write</li> <li>• Revise</li> <li>• Edit</li> </ul> <p>Type your answer in the space provided.</p>        | <p>Responses to writing tasks are hand scored by trained readers using grade appropriate scoring rubrics. It is worth 24 points.</p>                        | <p style="text-align: center;">25-30%</p>    |
| <p style="text-align: center;"><b>Technology Enhanced</b></p> | <p>A Technology Enhanced item requires the student to perform an interaction to respond to the question.</p> <p>This interaction may include, but may not be limited to:</p> <ul style="list-style-type: none"> <li>• moving blocks of text</li> <li>• selecting text</li> </ul>   | <p>Select three sentences to create an objective summary of this passage. Order the sentences so the summary reflects the arrangement of ideas in the passage. Place only one sentence next to each number.</p> <p>Jim Bridger’s family moved from Virginia to Missouri when he was a child.</p> <ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol> <p>Bridger retired and moved back to Missouri.</p> | <p>These items are machine scored. They have 1-3 correct answers and are worth 1-2 points each, depending on the complexity of the item. Partial credit</p> | <p style="text-align: center;">20-30%</p>    |

|   |  |  |  |  |  |  |                      |  |
|---|--|--|--|--|--|--|----------------------|--|
| <p><b>Technology Enhanced</b><br/>(continued)</p>   | <ul style="list-style-type: none"> <li>• using a drop down menu</li> <li>• matching text in two columns</li> <li>• ordering blocks of text</li> </ul> <p>Note that items assessing conventions are technology-enhanced. Students either choose the correct response from a drop-down menu or type the correct response into a box</p>      | <table border="1"> <tr> <td data-bbox="207 699 297 1318"> <p>As a young man, Bridger helped explore parts of what is now the western United States.</p> </td> </tr> <tr> <td data-bbox="297 699 386 1318"> <p>People disagree about whether Bridger discovered the Great Salt Lake.</p> </td> </tr> <tr> <td data-bbox="386 699 459 1318"> <p>Beaver fur was fashionable during Bridger's lifetime.</p> </td> </tr> <tr> <td data-bbox="459 699 540 1318"> <p>Bridger became a successful beaver trapper famous for his tall tales.</p> </td> </tr> </table> | <p>As a young man, Bridger helped explore parts of what is now the western United States.</p>  | <p>People disagree about whether Bridger discovered the Great Salt Lake.</p> | <p>Beaver fur was fashionable during Bridger's lifetime.</p> | <p>Bridger became a successful beaver trapper famous for his tall tales.</p> | <p>may be given.</p> |  |
| <p>As a young man, Bridger helped explore parts of what is now the western United States.</p> |  |  |  |  |  |  |                      |  |
| <p>People disagree about whether Bridger discovered the Great Salt Lake.</p>                  |  |  |  |  |  |  |                      |  |
| <p>Beaver fur was fashionable during Bridger's lifetime.</p>                                  |  |  |  |  |  |  |                      |  |
| <p>Bridger became a successful beaver trapper famous for his tall tales.</p>                  |  |  |  |  |  |  |                      |  |
| <p><b>Multiple Choice</b></p>   | <p>A Multiple Choice item includes these components:</p> <ul style="list-style-type: none"> <li>• Stem – the statement or question to which the student responds</li> <li>• Graphic (in some items) – e.g., illustration, diagram, table, map</li> <li>• Options – the answer choices, including correct answer and distractors</li> </ul> | <p>What is the central idea of the passage?</p> <ul style="list-style-type: none"> <li><input type="radio"/> A Jim Bridger had several careers throughout his life.</li> <li><input type="radio"/> B Jim Bridger was an adventurous and interesting person.</li> <li><input type="radio"/> C A daring life can make a person into a great storyteller.</li> <li><input type="radio"/> D The Oregon Trail would have been more difficult without Jim Bridger.</li> </ul>  | <p>These items are machine-scored. They have only one correct answer and are worth 1 point each. No partial credit is given.</p>   | <p>25-25%</p>  |  |  |                      |  |
| <p><b>Multiple Select</b></p>   | <p>A Multiple Select item includes the components listed above.</p>  | <p>What three details can the reader get from both the map and the passage?</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> the state where Bridger died</li> <li><input type="checkbox"/> the route of Bridger's travels</li> <li><input type="checkbox"/> the location of Bridger's Pass</li> <li><input type="checkbox"/> the state where Bridger was born</li> <li><input type="checkbox"/> a place that was named after Bridger</li> </ul>  | <p>These items are machine-scored. They have more than one correct answer and are worth 1-2 points each, depending on the complexity of the item. Partial credit may be given.</p> | <p>5-10%</p>   |  |  |                      |  |

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| <p><b>Evidence-Based Selected-Response</b></p> | <p>This is a two part multiple-choice question:<br/>Typically students are asked to select a correct statement about the text in Part A. Then, in Part B, students choose one or more pieces of textual evidence to support the correct answer to Part A.</p> | <p><b>Part A</b><br/>Which is a central idea of the passage?</p> <p>A) The sea is a place of danger.<br/>B) Adolescence is a difficult transition into a new life.<br/>C) Parents usually know what is best for their children.<br/>D) It is better to trust your own feeling than to trust friends.</p> <p><b>Part B</b><br/>Select the detail from the passage that supports the central idea.</p> <p>16 At one point during that snorkeling expedition, as I was paddling around through the murk, it suddenly seemed as if the bottom fell out of the ocean floor. I could feel a corresponding drop in the pit of my stomach as the water around me turned colder, and deepened to where I could no longer see the bottom at all. The fact that both my parents were only yards away didn't help: I was certain that I had passed some boundary and entered a world where I did not belong.</p> | <p>These items are machine-scored. They have one correct answer in each part and are worth 1-2 points each, depending on the complexity of the item.</p> | <p>10-20%</p> |
|--|---|--|--|---------------|

**PLC Guide:** The following is a sample protocol that school-wide or teacher PLC teams might use to begin to analyze item types of TNReady ELA Item Types. This should take approximately 45-60 minutes. **Focus: Instructional Planning**

**Topic for Discussion: TNReady ELA Item Type Analysis** (Could be used in concert with the TNReady Writing Types Analysis PLC or separately.)

|                |   |
|----------------|---|
| <b>Step 1:</b> | <p>Download the “TNReady Item Types” from the “For Leaders” section of the TNCore website at <a href="http://www.tncore.org">www.tncore.org</a>. (You may also make copies of them from this manual) Please print a copy of the “TNReady ELA Blueprint” for the appropriate grades. Links to these are found under the “For Leaders” section as well.</p> <p><b>PRIOR:</b> Ask teachers to bring in any samples of any text dependent questioning assignments that they currently use to assess their student’s ability to explain or summarize a central idea.</p>   |
| <b>Step 2:</b> | <ol style="list-style-type: none"> <li>1. Review the “TNReady Item Types” document.</li> <li>2. Give teachers 5 minutes time to mark or highlight any item descriptions that peak their interests and discuss at their tables. Have one teacher share reactions for their prospective groups.</li> </ol>  |
| <b>Step 3:</b> | <ol style="list-style-type: none"> <li>1. Walk through each Item Type, Description and Example with teachers.</li> <li>2. Place special emphasis on the Item Type and the Description columns.</li> <li>3. Have teachers list observations about the item types that excite them the most and that cause them the most concern.</li> </ol>  |
| <b>Step 4:</b> | <p>Use the following guiding questions for discussing scoring:</p> <ol style="list-style-type: none"> <li>1. Review now the “Scoring” column and the “Approximate Percentage of Total Score Points” columns.</li> <li>2. What items will be hand-scored and what will be machine scored?</li> <li>3. Where do opportunities for partial credit exist and where are there only right/wrong answers?</li> <li>4. What observations do you make about the total percentage of the test?</li> </ol>   |
| <b>Step 5:</b> | <p>Now let’s talk about what these types mean for daily <b>instructional planning</b>. (Use the following guiding discussion questions):</p> <ol style="list-style-type: none"> <li>1. How often are we encouraging students to write using some format similar to the “Plan, Write, Revise, and Edit” process?</li> <li>2. How often are we incorporating a range of items/tasks into daily instruction that look like these items?</li> <li>3. After seeing these sample items, how can we expose our students to the various components of multiple select items that include stems, graphics, or multiple answer choices?</li> <li>4. How often are students pushed to select a text from a passage to provide evidence as to why they chose a specific answer? Do we need to spend more time allowing our students to share pathways and reasoning?</li> <li>5. What further technology skills do you see as needs for refinement for our students?</li> </ol> |

|                |   |
|----------------|---|
| <b>Step 6:</b> | Have teachers get out the assessments they currently give to their students. Have them discuss the following questions: <ol style="list-style-type: none"><li data-bbox="332 174 1291 237">1. What are the similarities and differences of our current assignments and the TNReady item descriptions?</li><li data-bbox="332 243 1253 306">2. How can we make our assessments look more like these TNReady sample items?</li><li data-bbox="332 312 1271 375">3. What actions do we need to take to ensure that our <b>instructional planning</b> includes more experiences similar to what we see in the item types?</li></ol> |
| <b>Step 7:</b> | Have teachers identify ELA <b>instructional planning priorities</b> for the 2015-2016 school year. Conduct a "START-STOP-KEEP" reflection with teachers that allwos them to reflect on current writing practices at your school.  |

## Descriptions of TN Ready Writing Types

| Writing Type  | Passages Used   | Description of Tasks   | Example  |
|---|---|--|--|
| <p><b>Opinion</b> (grades 3-5)</p> <p><b>Argument</b> (grades 6-11)</p> | <p><b>Literary:</b><br/>Stories, dramas, or poems called for by the grade-level reading standards</p>   | <ul style="list-style-type: none"> <li>• Students read two (grades 3-8) or two or three (grades 9-11) literary passages that are related in a meaningful way (e.g., theme, plot).</li> <li>• For <u>opinion</u>, the task asks students to state a point of view about the passages and support that point of view with reasons.</li> <li>• For <u>argument</u>, the task asks students to develop one or more claims about the passages and organize reasons and evidence in support of the claim(s).</li> <li>• The reasons and evidence should be drawn from evidence within the passages.</li> </ul>   | <p>You have read excerpts from two novels:</p> <ul style="list-style-type: none"> <li>• Counting on Grace by Elizabeth Winthrop</li> <li>• Iqbal by Fransesco D’Adamo</li> </ul> <p>In these excerpts, both of the main characters are willing to take serious personal risks to stop the use of child labor. As you reread the texts, think about which character is taking greater risks, Miss Lesley or Iqbal?</p> <p>Write an argument in which you make a claim that one character, either Miss Lesley or Iqbal, is taking greater risks than the other. Support your claim with evidence from the two excerpts.</p> <p>Be sure to</p> <ul style="list-style-type: none"> <li>• include a claim</li> <li>• address counterclaims</li> <li>• use evidence from both passages</li> </ul> <p>Follow the conventions of standard written English. Type your argument in the space provided.</p> |
|   | <p><b>Informational:</b><br/>History, science or literary nonfiction texts called for by the grade-level reading standards<br/>One text may be an audio/visual presentation</p> | <ul style="list-style-type: none"> <li>• Students read two (grades 3-5) or three or four (grades 6-11) informational passages that are related in a meaningful way (e.g., point of view, use of evidence).</li> <li>• For <u>opinion</u>, the task asks students to state a point of view about the passages and support that point of view with reasons and information.</li> <li>• For <u>argument</u>, the task asks students to analyze the passages to develop one or more claims and provide reasons and evidence in support of the claim(s).</li> <li>• The reasons, information, and/or evidence should be drawn from evidence within the passages.</li> </ul> | <p>It’s no secret that sometimes great discoveries come as a result of really big mistakes. But are they always worth the problems they cause? Sometimes the mistakes lead to greatness, and sometimes they lead to disaster. Are mistakes key to making discoveries?</p> <p>Write an essay for your science class web site arguing whether or not mistakes are a key part of discoveries. Your essay must be based on ideas, concepts, and information from the “Goofs and Great Inventions” passage set.</p> <p>Manage your time carefully so you can</p> <ul style="list-style-type: none"> <li>• Plan your essay</li> <li>• Write your essay</li> <li>• Revise and edit your essay</li> </ul>  |

|  |   |  |  |
|--|---|--|--|
|  |   |  | <p>Be sure to</p> <ul style="list-style-type: none"> <li>include a claim</li> <li>address counter claims</li> <li>use evidence from multiple sources</li> </ul> <p>Do not over rely on one source. Type your answer in the space provided.</p>   |
| <p><b>Informative/ Explanatory</b><br/>(grades 3-11)</p>                         | <p><b>Literary:</b><br/>Stories, dramas, or poems called for by the grade-level reading standards</p>   | <ul style="list-style-type: none"> <li>Students read two (grades 3-8) or three (grades 9-11) literary passages that are related in a meaningful way (e.g., theme, plot).</li> <li>The task asks students to examine a topic in the passages and clearly organize and convey ideas about the passages. The task may ask for comparison or integration of a topic or ideas.</li> <li>The ideas should be drawn from evidence within the passages.</li> </ul>   | <p>You have read two poems:<br/>“Dulce et Decorum Est” by Wilfred Owen<br/>“Who’s for the Game?” by Jessie Pope</p> <p>Each poet presents a strong point of view about war.</p> <p>Write an essay comparing how each poet develops the point of view and what effect each poem is intended to have on the reader. Support your response with textual evidence from both poems.</p> <p>Follow the conventions of standard written English.<br/>Type your essay in the space provided.</p> |
| <p><b>Informative/ Explanatory</b><br/>(grades 3-11)</p>                         | <p><b>Informational:</b><br/>History, science or literary nonfiction texts called for by the grade-level reading standards<br/>One text may be an audio/visual presentation</p> | <ul style="list-style-type: none"> <li>Students read two (grades 3-5) or three or four (grades 6-11) informational passages that are related in a meaningful way (e.g., point of view, use of evidence).</li> <li>The task asks students to examine a topic in the passages and clearly organize and convey information from the passages. The task may ask for comparison or integration of information and will often simulate a short research task.</li> <li>The ideas and information should be drawn from evidence within the passages.</li> </ul> | <p>Write a 1 – 3 paragraph explanation of how animals use their bodies to sense the world around them.<br/>Your explanation must be based on ideas and information that can be found in the “Animals Senses” set.</p> <p>Manage your time carefully so you can</p> <ul style="list-style-type: none"> <li>Plan</li> <li>Write</li> <li>Revise</li> <li>Edit</li> </ul> <p>Type your answer in the space provided.</p>  |
| <p><b>Narrative</b><br/>(Fiction, grades 3-11)<br/>(Nonfiction, grades 9-11)</p> | <p><b>Literary:</b><br/>Story, drama, or poem called for by the grade-level reading standards</p>   | <ul style="list-style-type: none"> <li>Students read one literary passage.</li> <li>The task asks students to develop an imagined experience or event using effective technique, descriptive details, and clear event sequences.</li> <li>The student’s narrative should be based on characters and events in the passage.</li> </ul>  | <p>You have read an excerpt from Tom Sawyer, by Mark Twain, in which Tom fools his friends to whitewash a fence for him. At the end of the excerpt, Tom has learned that in order to make a person want something, “it is only necessary to make the thing difficult to attain.”</p> <p>Write a narrative, set in modern times, that teaches</p>   |

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|  |  |  | <p>the same lesson that Tom has learned. Be sure to use both the voice of a narrator, as well as dialogue, in your story.</p> <p>Follow the conventions of standard written English. Write your narrative in the space provided.</p> |
| <p><b>Informational</b><br/>(grades 9-11 only):<br/>History, science or literary nonfiction texts called for by the grade-level reading standards<br/>One text may be an audio/visual presentation</p> | <ul style="list-style-type: none"> <li>• Students read four or five informational passages that provide information about an event.</li> <li>• The task asks students to develop a nonfiction chronological account from the experiences or events in the given passages, using effective technique, well-chosen details, and well-structured event sequences.</li> <li>• The student's account should be drawn from the details and information in the passages.</li> </ul> | <p>You have read two texts and watched a video about the Potsdam Conference on July 24, 1945, when President Truman told Stalin that the United States was developing a powerful bomb:</p> <ul style="list-style-type: none"> <li>• "Manhattan Project," from nuclearfiles.com</li> <li>• "Manhattan-Project" (video)</li> <li>• Truman Tells Stalin, July 24, 1945</li> </ul> <p>Write a narrative describing in detail what happened at the conference on that day, integrating and including as much information from the texts as possible. Conclude your narrative with an explanation of why this event was important. Support your conclusion with evidence from the texts.</p> <p>Follow the conventions of standard written English. Type your narrative in the space provided.</p> |  |

| Score | Development  | Focus & Organization  | Language   | Conventions  |
|-------|--|---|--|--|
| 4     | In response to the task and the stimuli, the writing: <ul style="list-style-type: none"> <li>utilizes well-chosen, relevant, and sufficient evidence<sup>1</sup> from the stimuli to thoroughly and insightfully develop the topic.</li> <li>thoroughly and accurately explains and elaborates on the evidence provided, demonstrating a clear, insightful understanding of the topic and the stimuli.</li> </ul>  | In response to the task and the stimuli, the writing: <ul style="list-style-type: none"> <li>contains an effective and relevant introduction.</li> <li>utilizes effective organizational strategies to create a unified whole and to aid in comprehension.</li> <li>effectively clarifies relationships among ideas and concepts to create cohesion.</li> <li>contains an effective and relevant concluding statement or section.</li> </ul>            | The writing: <ul style="list-style-type: none"> <li>illustrates consistent and sophisticated command of precise language, domain-specific vocabulary, and literary techniques<sup>2</sup> appropriate to the task.</li> <li>illustrates sophisticated command of syntactic variety for meaning and reader interest.</li> <li>utilizes sophisticated and varied transitional words and phrases.</li> <li>effectively establishes and maintains a formal style and an objective tone.</li> </ul> | The writing: <ul style="list-style-type: none"> <li>demonstrates consistent and sophisticated command of grade-level conventions of standard written English.<sup>3</sup></li> <li>may contain a few minor errors that do not interfere with meaning.</li> </ul>                 |
| 3     | In response to the task and the stimuli, the writing: <ul style="list-style-type: none"> <li>utilizes relevant and sufficient evidence<sup>1</sup> from the stimuli to adequately develop the topic.</li> <li>adequately and accurately explains and elaborates on the evidence provided, demonstrating a sufficient understanding of the topic and the stimuli.</li> </ul>  | In response to the task and the stimuli, the writing: <ul style="list-style-type: none"> <li>contains a relevant introduction.</li> <li>utilizes adequate organizational strategies to create a mostly unified whole and to aid in comprehension.</li> <li>clarifies most relationships among ideas and concepts, but there may be some gaps in cohesion.</li> <li>contains a relevant concluding statement or section.</li> </ul>                      | The writing: <ul style="list-style-type: none"> <li>illustrates consistent command of precise language, domain-specific vocabulary, and literary techniques<sup>2</sup> appropriate to the task.</li> <li>illustrates consistent command of syntactic variety for meaning and reader interest.</li> <li>utilizes appropriate and varied transitional words and phrases.</li> <li>establishes and maintains a formal style and an objective tone.</li> </ul>                                    | The writing: <ul style="list-style-type: none"> <li>demonstrates consistent command of grade-level conventions of standard written English.<sup>3</sup></li> <li>contains some minor and/or major errors, but the errors do not significantly interfere with meaning.</li> </ul> |
| 2     | In response to the task and the stimuli, the writing: <ul style="list-style-type: none"> <li>utilizes mostly relevant but insufficient evidence<sup>1</sup> from the stimuli to partially develop the topic. Some evidence may be inaccurate or repetitive.</li> <li>explains some of the evidence provided, demonstrating only a partial understanding of the topic and the stimuli. There may be some level of inaccuracy in the explanation.</li> </ul> | In response to the task and the stimuli, the writing: <ul style="list-style-type: none"> <li>contains a limited introduction.</li> <li>demonstrates an attempt to use organizational strategies to create some unification, but ideas may be hard to follow at times.</li> <li>clarifies some relationships among ideas and concepts, but there are lapses in focus.</li> <li>contains a limited concluding statement or section.</li> </ul>            | The writing: <ul style="list-style-type: none"> <li>illustrates inconsistent command of precise language, domain-specific vocabulary, and literary techniques.<sup>2</sup></li> <li>illustrates inconsistent command of syntactic variety.</li> <li>utilizes basic or repetitive transitional words and phrases.</li> <li>establishes but inconsistently maintains a formal style and an objective tone.</li> </ul>  | The writing: <ul style="list-style-type: none"> <li>demonstrates inconsistent command of grade-level conventions of standard written English.<sup>3</sup></li> <li>contains many errors that may significantly interfere with meaning.</li> </ul>                                |
| 1     | In response to the task and the stimuli, the writing: <ul style="list-style-type: none"> <li>utilizes mostly irrelevant or no evidence<sup>1</sup> from the stimuli, or mostly/only personal knowledge, to inadequately develop the topic. Evidence is inaccurate or repetitive.</li> <li>inadequately or inaccurately explains the evidence provided, demonstrating little understanding of the topic and the stimuli.</li> </ul>                         | In response to the task and the stimuli, the writing: <ul style="list-style-type: none"> <li>contains no or an irrelevant introduction.</li> <li>demonstrates an unclear organizational structure; ideas are hard to follow most of the time.</li> <li>fails to clarify relationships among ideas and concepts; concepts are unclear and/or there is a lack of focus.</li> <li>contains no or an irrelevant concluding statement or section.</li> </ul> | The writing: <ul style="list-style-type: none"> <li>illustrates little to no use of precise language, domain-specific vocabulary, and literary techniques.<sup>2</sup></li> <li>illustrates little to no syntactic variety.</li> <li>utilizes no or few transitional words and phrases.</li> <li>does not establish or maintain a formal style and an objective tone.</li> </ul>   | The writing: <ul style="list-style-type: none"> <li>demonstrates limited command of grade-level conventions of standard written English.<sup>3</sup></li> <li>contains numerous and repeated errors that seriously impede meaning.</li> </ul>                                    |

<sup>1</sup> Evidence includes facts, extended definitions, concrete details, quotations, or other information and examples as appropriate to the task and the stimuli.

<sup>2</sup> Literary techniques are only expected at grades 11-12.

<sup>3</sup> Conventions of standard written English include sentence structure, grammar, usage, spelling, capitalization, and punctuation.



| Score | Development  | Focus & Organization   | Language  | Conventions   |
|-------|--|--|---|---|
| 4     | <p>In response to the task and the stimuli, the writing:</p> <ul style="list-style-type: none"> <li>utilizes well-chosen, relevant, and sufficient evidence<sup>1</sup> from the stimuli to thoroughly and insightfully support claim(s) and counterclaim(s).</li> <li>thoroughly and accurately explains and elaborates on the evidence provided, connecting the evidence to claim(s) and counterclaim(s) and demonstrating a clear, insightful understanding of the topic and the stimuli.</li> </ul>  | <p>In response to the task and the stimuli, the writing:</p> <ul style="list-style-type: none"> <li>contains an effective and relevant introduction.</li> <li>states and maintains a clear and sophisticated argument.</li> <li>utilizes effective organizational strategies to logically sequence claim(s), counterclaim(s), reasons, and evidence to create a unified whole.</li> <li>effectively clarifies relationships among claim(s), reasons, evidence, and counterclaim(s) to create cohesion.</li> <li>contains an effective and relevant concluding statement or section.</li> </ul> | <p>The writing:</p> <ul style="list-style-type: none"> <li>illustrates consistent and sophisticated command of precise language and domain-specific vocabulary appropriate to the task.</li> <li>illustrates sophisticated command of syntactic variety for meaning and reader interest.</li> <li>utilizes sophisticated and varied transitional words and phrases.</li> <li>effectively establishes and maintains a formal style and an objective tone.</li> </ul> | <p>The writing:</p> <ul style="list-style-type: none"> <li>demonstrates consistent and sophisticated command of grade-level conventions of standard written English.<sup>2</sup></li> <li>may contain a few minor errors that do not interfere with meaning.</li> </ul>                 |
| 3     | <p>In response to the task and the stimuli, the writing:</p> <ul style="list-style-type: none"> <li>utilizes relevant and sufficient evidence<sup>1</sup> from the stimuli to adequately support claim(s) and counterclaim(s).</li> <li>adequately and accurately explains and elaborates on the evidence provided, connecting the evidence to claim(s) and counterclaim(s) and demonstrating a sufficient understanding of the topic and the stimuli.</li> </ul>  | <p>In response to the task and the stimuli, the writing:</p> <ul style="list-style-type: none"> <li>contains a relevant introduction.</li> <li>states and maintains a clear argument.</li> <li>utilizes adequate organizational strategies to logically sequence claim(s), counterclaim(s), reasons, and evidence to create a mostly unified whole.</li> <li>clarifies most relationships among claim(s), reasons, evidence, and counterclaim(s), but there may be some gaps in cohesion.</li> <li>contains a relevant concluding statement or section.</li> </ul>                             | <p>The writing:</p> <ul style="list-style-type: none"> <li>illustrates consistent command of precise language and domain-specific vocabulary appropriate to the task.</li> <li>illustrates consistent command of syntactic variety for meaning and reader interest.</li> <li>utilizes appropriate and varied transitional words and phrases.</li> <li>establishes and maintains a formal style and an objective tone.</li> </ul>                                    | <p>The writing:</p> <ul style="list-style-type: none"> <li>demonstrates consistent command of grade-level conventions of standard written English.<sup>2</sup></li> <li>contains some minor and/or major errors, but the errors do not significantly interfere with meaning.</li> </ul> |
| 2     | <p>In response to the task and the stimuli, the writing:</p> <ul style="list-style-type: none"> <li>utilizes mostly relevant but insufficient evidence<sup>1</sup> from the stimuli to partially support claim(s) and counterclaim(s). Some evidence may be inaccurate or repetitive.</li> <li>explains some of the evidence provided, connecting some of the evidence to claim(s) and counterclaim(s) and demonstrating only a partial understanding of the topic and the stimuli. There may be some level of inaccuracy in the explanation.</li> </ul> | <p>In response to the task and the stimuli, the writing:</p> <ul style="list-style-type: none"> <li>contains a limited introduction.</li> <li>states a weak argument.</li> <li>demonstrates an attempt to use organizational strategies to sequence claim(s), counterclaim(s), reasons, and evidence, but ideas may be hard to follow at times.</li> <li>clarifies some relationships among claim(s), reasons, evidence, and counterclaim(s), but there are lapses in focus.</li> <li>contains a limited concluding statement or section.</li> </ul>   | <p>The writing:</p> <ul style="list-style-type: none"> <li>illustrates inconsistent command of precise language and domain-specific vocabulary.</li> <li>illustrates inconsistent command of syntactic variety.</li> <li>utilizes basic or repetitive transitional words and phrases.</li> <li>establishes but inconsistently maintains a formal style and an objective tone.</li> </ul>  | <p>The writing:</p> <ul style="list-style-type: none"> <li>demonstrates inconsistent command of grade-level conventions of standard written English.<sup>2</sup></li> <li>contains many errors that may significantly interfere with meaning.</li> </ul>                                |
| 1     | <p>In response to the task and the stimuli, the writing:</p> <ul style="list-style-type: none"> <li>utilizes mostly irrelevant or no evidence<sup>1</sup> from the stimuli, or mostly/only personal knowledge to inadequately support claim(s) and counterclaim(s). Evidence is inaccurate or repetitive.</li> <li>inadequately or inaccurately explains the evidence provided; evidence, claim(s), and counterclaim(s) appear disconnected, demonstrating little understanding of the topic and the stimuli.</li> </ul>                                 | <p>In response to the task and the stimuli, the writing:</p> <ul style="list-style-type: none"> <li>contains no or an irrelevant introduction.</li> <li>states an unclear argument.</li> <li>demonstrates an unclear organizational structure; ideas are hard to follow most of the time.</li> <li>fails to clarify relationships among claim(s), reasons, evidence, and counterclaim(s); concepts are unclear and/or there is a lack of focus.</li> <li>contains no or an irrelevant concluding statement or section.</li> </ul>  | <p>The writing:</p> <ul style="list-style-type: none"> <li>illustrates little to no use of precise language and domain-specific vocabulary.</li> <li>illustrates little to no syntactic variety.</li> <li>utilizes no or few transitional words and phrases.</li> <li>does not establish or maintain a formal style and an objective tone.</li> </ul>   | <p>The writing:</p> <ul style="list-style-type: none"> <li>demonstrates limited command of grade-level conventions of standard written English.<sup>2</sup></li> <li>contains numerous and repeated errors that seriously impede meaning.</li> </ul>                                    |

<sup>1</sup> Evidence includes facts, definitions, concrete details, quotations, or other information, using accurate and credible sources as appropriate to the task and stimuli.

<sup>2</sup> Conventions of standard written English include sentence structure, grammar, usage, spelling, capitalization, and punctuation.



**PLC Guide:** The following is a sample protocol that school-wide or teacher PLC teams might use to begin to analyze Writing Item Types within our TNReady assessment. This should take approximately 30-45 minutes.

**Topic for Discussion: TNReady Writing Type Review (Focus: Instructional and Curricular Planning)**

|                |   |
|----------------|---|
| <b>Step 1:</b> | <p>Download the “Descriptions of TNReady Writing Types” including the rubrics from the “For Leaders” section of the TNCore website at <a href="http://www.tncore.org">www.tncore.org</a>. (You may also make copies of them from this manual.)</p> <p>Have teachers bring a sample of an opinion, argument, explanatory/ Informative/explanatory, and narrative writing sample from their class.</p>  |
| <b>Step 2:</b> | <ol style="list-style-type: none"> <li>1. Review the “Descriptions of TNReady Writing types ” document.</li> <li>2. Give teachers 5 minutes to refresh themselves with the “Descriptions of TNReady Writing Types”.</li> <li>3. Our purpose today is to help shape and impact our <b>instructional planning</b> for writing experiences across disciplines.</li> </ol>  |
| <b>Step 3:</b> | <ol style="list-style-type: none"> <li>1. Walk through each Item Writing Type, Passage Used, Description of Task, and Example with teachers.</li> <li>2. Remind them that the writing abilities of our students will factor into their ability to be successful on TNReady.</li> </ol>  |
| <b>Step 4:</b> | <ol style="list-style-type: none"> <li>1. Focusing on the “Writing Type” column and the “Passages Used” columns, remind teachers that the three types of writing assessed on TNReady reflect: <ul style="list-style-type: none"> <li>• Opinion (grades 3-5) Drawn from <b>literary</b> or <b>informational</b> texts</li> <li>• Argument (grades 6-11) Drawn from <b>literary</b> or <b>informational</b> texts</li> <li>• Informative/Explanatory (grades 3-11) Drawn from <b>literary</b> or <b>informational</b> texts</li> <li>• Narrative (fiction, grades 3-11; non-fiction, grades 9-11) Drawn from <b>literary</b> texts</li> </ul> </li> <li>2. Give teachers a few moments at each table to discuss what they remember from previous training regarding writing and reading within their classes/courses and what they feel they have been doing well.</li> </ol> |
|                | <p>Move now to the “Description of Task” and “Example” columns to draw teachers’ thinking to what writing assignments and experiences should look like.</p> <ol style="list-style-type: none"> <li>1. Using our discussion of the writing types and sources of passages, let’s look at what similar items should look like in our classes.</li> <li>2. Review the description of each type of task along with examples.</li> <li>3. After each description, have teachers chart specific examples of assignments or experiences they are already using.</li> <li>4. Repeat this for each row.</li> </ol> <p><b>Guiding Questions for Discussion:</b></p> <ol style="list-style-type: none"> <li>5. After seeing these sample items, how can we expose our students to</li> </ol>  |

|                             |   |
|-----------------------------|---|
| <b>Step 5:<br/>(cont'd)</b> | <p>more informational and literary passages that ask them to argue, explain, inform or narrate?</p> <ol style="list-style-type: none"> <li>6. How do we build student's stamina to read informational texts and then require them to state a point of view, make a claim, and give supporting details?</li> <li>7. What are some of the obvious areas for us to work on as a school when it comes to adding richer writing experiences across writing types?</li> </ol> |
| <b>Step 6:</b>              | <p>Have teachers get out the writing prompts they currently give to their students. Have them discuss the following questions:</p> <ol style="list-style-type: none"> <li>1. How can we make our writing types mirror these TNReady sample items?</li> <li>2. How can we better use the Tennessee writing rubric in our instruction?</li> <li>3. How do we strengthen our feedback to students to improve their writing?</li> </ol>                                     |
| <b>Step 7</b>               | <p>Complete a 3-2-1 with teachers:</p> <p>3 – Big takeaways from the discussion around writing types and the rubrics</p> <p>2 – Changes I need to make to my own writing instruction (including selection of tasks and feedback)</p> <p>1 – Area I would like for us to concentrate more on as a school in regards to the writing rubric</p>  |

## 9<sup>th</sup> Grade ELA Summary Blueprint

|                           | Part I   |                   | Part II      |                   | Total # of items | Total # of score points | % of Test   |
|---------------------------|--|-------------------|--------------|-------------------|------------------|-------------------------|-------------|
|                           | # of items   | # of score points | # of items   | # of score points |                  |                         |             |
| <b>Writing</b>            |  |                   |              |                   |                  | 31                      | 34%         |
| • Focus and Organization  | 1<br>Operational,<br>1 Field Test<br>Item<br><br><i>Writing task<br/>is based on<br/>reading</i> | 8                 | 0            | 0                 | 1                | 8                       | 9%          |
| • Support and Elaboration |  | 8                 |              |                   |                  | 8                       | 9%          |
| • Language and Style      |  | 4                 |              |                   |                  | 4                       | 4%          |
| • Conventions             |  | 4                 | 7            | 7                 | 7                | 11                      | 12%         |
| <b>Reading</b>            |  |                   |              |                   |                  | 59                      | 66%         |
| • Reading Literature      |  | 0                 | 12-15        | 16-20             | 12-15            | 16-20                   | 18-22%      |
| • Reading Informational   |  | 0                 | 22-25        | 29-33             | 22-25            | 29-33                   | 32-37%      |
| • Vocabulary              |  | 0                 | 4-8          | 9-12              | 4-8              | 9-12                    | 10-13%      |
| <b>Total</b>              | <b>1</b>   | <b>24</b>         | <b>45-55</b> | <b>66</b>         | <b>46-56</b>     | <b>90</b>               | <b>100%</b> |

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## 9<sup>th</sup> Grade Blueprint for Part I

| Category   | Standards |  | # of Items | # of Score Points                       |
|--|-----------|--|------------|---|
| <b>Writing:</b><br>Written Expression<br><br>(Task will align to primarily one writing standard and also one or more reading standards.) | W.9-10.1  | Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.   | 1          | 20                                      |
|  | W.9-10.2  | Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.  |            |   |
|  | W.9-10.3  | Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.  |            |   |
|  | W.9-10.7  | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. |            |   |
| <b>Writing:</b><br>Conventions   | L.9-10.1  | Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (Includes a-b.)   | 0          | 4<br>(score points from writing rubric) |
|  | L.9-10.2  | Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. (Includes a-c.)   |            |   |
|  | L.9-10.3  | Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening. (Includes a.)  |            |   |
| <b>TOTALS</b>  |           |  | <b>1</b>   | <b>24</b>                               |

## 9<sup>th</sup> Grade Blueprint for Part II

| Category                                      | Standards |  | # of Items | # of Score Points |
|---|-----------|--|------------|-------------------|
| <b>Reading:</b><br>Reading Literature         | RL.9-10.1 | Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.  | 12-15      | 16-20             |
|   | RL.9-10.2 | Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.   |            |                   |
|   | RL.9-10.3 | Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.  |            |                   |
|   | RL.9-10.5 | Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.  |            |                   |
|   | RL.9-10.6 | Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.   |            |                   |
|   | RL.9-10.9 | Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare).  |            |                   |
| <b>Reading:</b><br>Reading Informational Text | RI.9-10.1 | Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.  | 22-25      | 29-33             |
|   | RI.9-10.2 | Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.  |            |                   |
|   | RI.9-10.3 | Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.   |            |                   |
|   | RI.9-10.5 | Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).  |            |                   |
|   | RI.9-10.6 | Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.   |            |                   |
|   | RI.9-10.8 | Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.   |            |                   |
|   | RI.9-10.9 | Analyze seminal U.S. documents of historical and literary significance (e.g., Washington's Farewell Address, the Gettysburg Address, Roosevelt's Four Freedoms speech, King's "Letter from Birmingham Jail"), including how they address related themes and concepts.                                |            |                   |
| <b>Reading:</b><br>Vocabulary                 | RL.9-10.4 | Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone). | 4-8        | 9-12              |
|   | RI.9-10.4 | Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).           |            |                   |
|   | L.9-10.4  | Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies. (Includes a-d.)   |            |                   |
|   | L.9-10.5  | Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. (Includes a-b.)  |            |                   |
| <b>Writing:</b>                               | L.9-10.1  | Demonstrate command of the conventions of standard English   | 7          | 7                 |

|   |          |   |              |           |
|---|----------|---|--------------|-----------|
| Conventions                               |          | grammar and usage when writing or speaking. (Includes a-b.)   |              |           |
|   | L.9-10.2 | Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. (Includes a-c.)  |              |           |
|   | L.9-10.3 | Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening. (Includes a.) |              |           |
| <b>TOTALS</b>                             |          |   | <b>45-55</b> | <b>66</b> |
| <b>Totals for Session 1 and Session 2</b> |          |   | <b>45-55</b> | <b>66</b> |

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**9<sup>th</sup> Grade Blueprint**  
**Includes Part I and Part II**

| Category   | Standards |  | # of Items                        | % of Score Points |
|--|-----------|--|-----------------------------------|-------------------|
| <b>Writing:</b><br>Written Expression<br><br>(Prompt will align to primarily one writing standard and also one or more reading standards.) | W.9-10.1  | Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.   | <b>1</b>                          | <b>22%</b>        |
|  | W.9-10.2  | Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.  |                                   |                   |
|  | W.9-10.3  | Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.  |                                   |                   |
|  | W.9-10.7  | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. |                                   |                   |
| <b>Writing:</b><br>Conventions   | L.9-10.1  | Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (Includes a-b.)   | <b>7</b><br>(+ 4 pts from rubric) | <b>12%</b>        |
|  | L.9-10.2  | Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. (Includes a-c.)   |                                   |                   |
|  | L.9-10.3  | Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening. (Includes a.)  |                                   |                   |
| <b>Reading:</b><br>Reading Literature  | RL.9-10.1 | Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.  | <b>12-15</b>                      | <b>18-22%</b>     |
|  | RL.9-10.2 | Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.   |                                   |                   |
|  | RL.9-10.3 | Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.  |                                   |                   |
|  | RL.9-10.5 | Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.  |                                   |                   |
|  | RL.9-10.6 | Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.   |                                   |                   |
|  | RL.9-10.9 | Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare).  |                                   |                   |
| <b>Reading:</b><br>Reading Informational Text  | RI.9-10.1 | Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.  | <b>22-25</b>                      | <b>32-37%</b>     |
|  | RI.9-10.2 | Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.  |                                   |                   |
|  | RI.9-10.3 | Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.   |                                   |                   |
|  | RI.9-10.5 | Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).  |                                   |                   |
|  | RI.9-10.6 | Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.   |                                   |                   |
|  | RI.9-10.8 | Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.   |                                   |                   |
|  | RI.9-10.9 | Analyze seminal U.S. documents of historical and literary significance (e.g., Washington's Farewell Address, the Gettysburg Address, Roosevelt's Four Freedoms   |                                   |                   |

|                               |           |  |              |               |
|-------------------------------|-----------|--|--------------|---------------|
|                               |           | speech, King's "Letter from Birmingham Jail"), including how they address related themes and concepts.   |              |               |
| <b>Reading:</b><br>Vocabulary | RL.9-10.4 | Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone). | <b>4-8</b>   | <b>10-13%</b> |
|                               | RI.9-10.4 | Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).           |              |               |
|                               | L.9-10.4  | Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies. (Includes a-d.)   |              |               |
|                               | L.9-10.5  | Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. (Includes a-b.)  |              |               |
| <b>TOTAL</b>                  |           |  | <b>46-56</b> | <b>100%</b>   |

DRAFT

**PLC Guide:** The following is a sample protocol that school-wide or teacher PLC teams might use to begin to explore familiarize themselves with TNReady assessment in English language arts. This should take approximately 45 minutes.

**Topic for Discussion: TNReady ELA Blueprint (Summary and Parts I and II) Focus: Curricular Planning**

|                |   |
|----------------|---|
| <b>Step 1:</b> | <p>Download the “TNReady ELA Summary Blueprint and ELA Blueprint ” by appropriate grade level from the “For Leaders” section of the TNCore website at <a href="http://www.tncore.org">www.tncore.org</a>. (You may also make copies of them from this manual)</p> <p><b>PRIOR:</b> You will also want teachers to bring in an assessment they currently use in class as well as a copy of the Tennessee Standards for the grade and/or course(s) they teach.</p>  |
| <b>Step 2:</b> | <ol style="list-style-type: none"> <li>1. If you have not shown your staff the TNReady overview video or the accompanying PowerPoint presentation, review the presentation you downloaded from the “For Leaders” section of TNCore website.</li> <li>2. Give teachers time to discuss any immediate reactions and share out.</li> </ol>   |
| <b>Step 3:</b> | <p>Hand out the “ELA Summary Blueprint” for your appropriate grade level to your teachers.</p> <p>Use the following guiding discussion questions:</p> <ol style="list-style-type: none"> <li>1. Note that items are divided across Writing and Reading. The summary blueprint also contains both number of items and score points.</li> <li>2. What areas will be scored in writing on the total test (parts I and II)?</li> <li>3. What areas will be scored in reading on the total test?</li> <li>4. Looking at the ELA Summary Blueprint, how many questions are going to be used on the writing assessment? How many will count? (<b>NOTE:</b> There will be one operational item and one field test item.)</li> <li>5. Look at score points for writing? How are the points weighted across the item in regards to score points?</li> <li>6. What percent of a student’s score will come from the reading portion of the overall test?</li> </ol> |
| <b>Step 4</b>  | <p>As you can see from the Summary Blueprint, we have a clear roadmap to our planning. Lets now look at the more detailed breakdown of Parts I and II.</p> <p>Hand out the ELA Blueprint for ELA Part I and Part II for the appropriate grade level to your teachers. You may also want to give them the appropriate writing rubric for their grade band.</p> <p>Use the following guiding discussion questions:</p> <ol style="list-style-type: none"> <li>1. Looking at Part I, how are the score points awarded for the Writing category? Which standards are covered?</li> <li>2. How could the weighting of the standards and score points impact our <b>curricular planning</b> for the year/semester?</li> </ol> <p><b>(continued on next page)</b></p>  |

|                            |  |
|----------------------------|--|
| <b>Step 4<br/>(cont'd)</b> | <p>On Part II of the TNReady ELA assessment:</p> <ol style="list-style-type: none"> <li>3. What areas of reading will be assessed?</li> <li>4. Based on the number of questions asked in Part II, how many points will be awarded to the student?</li> <li>5. After looking at the number of questions and score points, are there standards that need to receive more attention? Which ones?</li> </ol>   |
| <b>Step 5</b>              | <p>After reviewing Part I and Part II of the ELA Blueprint, use the following questions to drive <b>curricular planning</b> at your school or in your district:</p> <ol style="list-style-type: none"> <li>1. Does our current approach to <b>curricular planning</b> and pacing emphasize the key standards and performance expectations for students?</li> <li>2. Are <u>all</u> teachers in your school trained in the components of the writing rubric that will receive the most focus?</li> <li>3. Does our current approach to <b>curricular planning</b> allow ample opportunities for students to engage in rigorous activities reflective of how TNReady will assess them?</li> <li>4. What percentage of the reading score will come from reading informational text? How do you ensure that this type of reading is happening in your school?</li> <li>5. What types of reading strategies have non-ELA teachers in your school been given? How do you ensure their use?</li> <li>6. Brainstorm the: <ul style="list-style-type: none"> <li>• 3 areas of our <b>curricular planning</b> that need to be modified</li> <li>• 2 areas of our <b>curricular planning</b> that appear to be on target</li> <li>• 1 process we need to initiate to ensure our <b>curricular planning</b> aligns with the expectations of TNReady</li> </ul> </li> </ol> |

# Text Complexity Analysis of

\_\_\_\_\_ (title)  
by \_\_\_\_\_ (author)

Recommended Complexity Band:



## Qualitative Measures

**Meaning/Purpose:** (Briefly explain the levels of meaning [Literary Text] or purpose [Informational Text].)

**Text Structure:** (Briefly describe the structure, organization, and other features of the text.)

**Language Features:** (Briefly describe the conventions and clarity of the language used in the text, including the complexity of the vocabulary and sentence structures.)

**Knowledge Demands:** (Briefly describe the knowledge demands the text requires of students.)

## Recommended Placement

Briefly explain the recommended placement of the text in a particular grade band.

## Text Description:

Briefly describe the text:

## Quantitative Description:

**Complexity Band Level** (provide range):

**Lexile or Other Quantitative Measure of the Text:**

## Considerations for Reader and Task

Below are factors to consider with respect to the reader and task (See attached guiding questions to assist each teacher in filling out this section for his or her own class):

**Potential Challenges this Text Poses:**

**Major Instructional Areas of Focus (3-4 curriculum standards) for this Text:**

**Differentiation/Supports for Students:**

## TNReady Blueprint Resources Quick Check

|                                    |   |
|------------------------------------|---|
| ELA Item Types Major Take-Aways    | Key Actions for You (Instructional or Curricular) |
|                                    |   |
| ELA Writing Types Major Take-Aways | Key Actions for You (Instructional or Curricular) |
|                                    |   |
| ELA Blueprint Major Take-Aways     | Key Actions for You (Instructional or Curricular) |
|                                    |   |
| ELA Scoring Major Take-Aways       | Key Actions for You (Instructional or Curricular) |
|                                    |   |

Take a few moments to share at your table. Jot any additional questions down here.

# **Section 5: Technology Practices**

## **Key Question #6:**

**What key teacher and student technology practices do we need to be encouraging?**

# Summary of Technical Requirements for MIST/MICA Platform

## Introduction

Comprehensive information concerning the technology requirements for the MIST platform can be found in a number of places:

- [tn.misttest.com](http://tn.misttest.com) (click on the Documents tab)
- [tdoe.randasolutions.com](http://tdoe.randasolutions.com) (click on the Resources tab)
- [tdoe.randasolutions.com](http://tdoe.randasolutions.com) (click on the Reporting tab and then Online Readiness)

## General Readiness Metrics

As outlined in the [tdoe.randasolutions.com](http://tdoe.randasolutions.com) online readiness landing page, device count minimums and network bandwidth will remain the same as last year. For a K-4, 5-8, 9-12 school, the minimum device count will be one device for every two students in the largest grade. For a K-8 school, the minimum device count will be one device for every student in the largest grade. Network bandwidth will continue to be 50 kps/testing student for a green designation. 20 kps/testing student will be the minimum bandwidth level considered acceptable for online assessment.

The Green/Yellow/Red traffic light system will be used to track district and school progress toward online readiness goals. The Online Readiness Tool is located at <http://tdoe.randasolutions.com> -> Reporting -> Online Readiness. Keeping contact, testing area, and general bandwidth availability information current must continue to be a high priority. Information in this tool will be used by TDOE to make decisions regarding guidance and policy.

## General System Information

- Desktop/Laptop/Hybrid Tablet minimums (Windows)
  - 1 GB RAM (2 GB or greater recommended)
  - 1024 x 768 display resolution
  - Keyboard and mouse required
  - Windows XP is no longer a supported operating system! Windows Vista or greater is required.
- Desktop/Laptop (OS X)
  - 2 GB RAM
  - 1024 x 768 display resolution
  - Keyboard and mouse required
  - Must be an Intel-based processor
  - OS X 10.6 or greater required
- Chromebooks (2013 generation or later)
  - Must support kiosk mode

- Tablets
  - 9.5 inch screen minimum
  - External keyboard required
  - iOS 6 or greater (iOS 7 or greater is preferred)
  - Android will be supported in a future release.

## Browser and Operating System Information

As outlined on page A-2 of the MIST Technical Guide for TCAP

(<https://tn.misttest.com/Proctor/Documents/MIST%20Technical%20Guide%20for%20TCAP-OP.pdf>) the following browsers will be supported:

- Internet Explorer 9 and greater (Windows Vista and greater)
- Mozilla Firefox 31 or greater (Windows, OS X 10.6 or greater, Ubuntu Linux 12.04/kernel 3.2 or greater)
- Safari (matches to corresponding OS X 10.6 or greater version)
- Google Chrome 32 or later

## Best Practices

Consider the following technological best practices:

- Make sure that the testing environment has appropriate wired and/or wireless support for the number of students testing. Bandwidth guidance is discussed above. Regular school activities will continue during testing. Some of these activities may use part of the overall bandwidth allocated to the facility.
- Make sure that the testing environment has appropriate electrical power for the assessment session. Make sure that laptops, mice, keyboards and any other battery-reliant devices have enough battery capacity for a complete assessment session.
- Install multiple browsers on the assessment systems. This will provide a backup plan should a particular browser have an issue that cannot be quickly resolved.
- The MIST assessment client may require out of cycle updates due to near-term assessment issues. It is imperative that districts have some type of device management and image deployment software installed to assist with these updates. Touching every system every time that an update is issued will become overwhelming and lead to a difficult assessment rollout.

“If we are serious about pursuing a college and career readiness agenda for all students, it will be vital to leverage the power of technology to improve instruction, assessment and professional development...” - State Educational Technology Directors Association [www.sedta.org](http://www.sedta.org)

“If the American education system is to prepare its students to meet the demands of an increasingly technological world, indeed if it is to be effective at all, must integrate technology into the academic curriculum.” – Dr. Bill Daggett

## Key Technology Features of TNReady - Math

- Student Generated Response: Open-ended response using an equation editor (Part 1 and Part 2)

5

The manager of a youth soccer team bought 50 packages of socks for \$10 each. He estimated the total cost to be \$5,000.

Create an equation that shows how many times more the manager's estimate,  $e$ , was than the actual cost,  $a$ .

The screenshot shows a digital equation editor. The top part of the editor displays the equation  $a \times 10 = e$ . Below the equation is a calculator keypad with the following buttons: a left arrow, a right arrow, a plus sign, a minus sign, a multiplication sign, a division sign, a clear button, and a trash can icon. The keypad also includes a numeric keypad (1-9, 0, .), a decimal point, a fraction button, a square root button, a power button, a pi button, and a constant button labeled 'e'.

## Key Technology Features of TNReady - Math

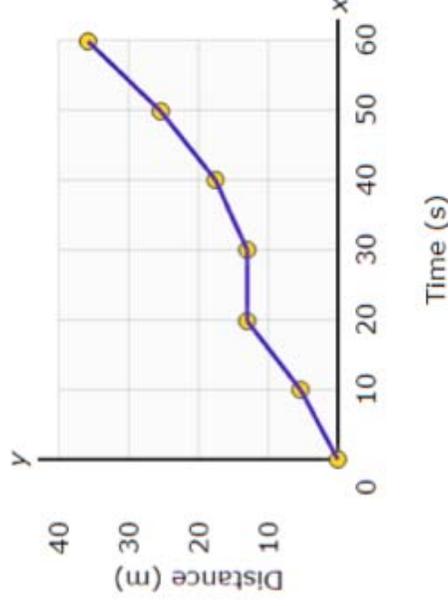
- Graphic: Students depict graphically. Students may graph circles, lines, add points to form a line graph, or shade regions of a graph. (Part 1 and Part 2)

The table below shows the speed of a bicyclist.

Using the data in the table, create a line on the graph showing the bicyclist's speed.

| Bicyclist Speed |              |
|-----------------|--------------|
| Time (s)        | Distance (m) |
| 0               | 0            |
| 10              | 5            |
| 20              | 12           |
| 30              | 12           |
| 40              | 18           |
| 50              | 25           |
| 60              | 36           |

**Bicyclist Speed**



Reset Clear Undo

## Key Technology Features of TNReady - Math

- Technology Enhanced Items: Students perform an interaction to respond to the question. (Part 1 and Part 2).

**2**



The numbers 8 and 6 are added, and the sum is then multiplied by 3.

- A. Drag numbers to the boxes and symbols to the circles to represent the expression described.
- B. Drag numbers to the boxes and symbols to the circles to create an equivalent expression to the one you created in part A.

3
6
8
x
+

**A.**

$$(8 + 6) \times 3$$

**B.**

$$(8 \times 3) + (6 \times 3)$$

## Key Technology Features of TNReady - Math

- Traditional Multiple Choice: Choose one answer (Part 1 and Part 2)
- Multiple Select: Choose multiple answers or objects. (Part 1 and Part 2)
- Performance Tasks: Solve multi-step problems and demonstrate how the solution is achieved. (CRA Type Tasks, ONLY Part 1)

## Key Technology Features of TNReady - ELA

- Writing Tasks: Students write paragraphs to explain their response.
- Multiple Choice: Traditional multiple choice
- Multiple Select: More than one answer choice

# Keyboarding Skills in the Standards

Keyboarding skills are explicitly included in the ELA standards in grade 3.

K. With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.

1: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

2: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

3: With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills).

4: Demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.

5: Demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.

6: Demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.

## Key Technology Features of TNReady - ELA

- Technology Enhanced Items: Moving blocks of texts or highlighting texts, i.e. “Drag and Drop”

Select three sentences to create an objective summary of this passage. Order the sentences so the summary reflects the arrangement of ideas in the passage.  
Place only one sentence next to each number.

Jim Bridger’s family moved from Virginia to Missouri when he was a child.

- 1.
- 2.
- 3.

Bridger retired and moved back to Missouri.

## Key Technology Features of TNReady - ELA

- Evidence-Based Selected Response:

Two parts. Choice for part A must be supported by choice for part B

**Part A**  
Which is a central idea of the passage?

- A) The sea is a place of danger.
- B) Adolescence is a difficult transition into a new life.
- C) Parents usually know what is best for their children.
- D) It is better to trust your own feeling than to trust friends.

**Part B**  
Select the detail from the passage that supports the central idea.

16 At one point during that snorkeling expedition, as I was paddling around through the murk, it suddenly seemed as if the bottom fell out of the ocean floor. I could feel a corresponding drop in the pit of my stomach as the water around me turned colder, and deepened to where I could no longer see the bottom at all. The fact that both my parents were only yards away didn't help: I was certain that I had passed some boundary and entered a world where I did not belong.

What are the necessary technology practices needed for success on TNReady?

- Regular practice with the item sampler (MICA).
- Regular practice experiencing the variety of question types.
- Timed tasks and sample assessments online.
- Regular practice word processing.
- Teachers modeling expectations of online performance
- Reading texts on a monitor, highlighting, scrolling, etc..
- Regular practice on a calculator where blueprints indicate.

# Teacher and Student Technology Practices

| Teacher Practice                            | Student Behavior   | Resource                       | Leader Action  |
|---|--|--------------------------------|--|
| Allow Students to Experience the Assessment | Students using the item sampler experiencing a variety of question types | MICA                           | Create a MIST/MICA practice schedule.                              |
| Require writing be submitted online         | Practice keyboarding and word processing                                 | MICA<br>Google Docs<br>MS Word | Create expectations for how writing is submitted, how often, etc.. |
| Utilize online reading passages             | Students reading, scrolling, highlighting passages online                | MICA<br>Google Docs<br>MS Word | Ask librarian to begin collecting a collection of passages online  |
| Timed Constructed Response Tasks            | Students expected to show proficiency within a time frame                | Any task (online or hardcopy)  | Training and support for teachers.                                 |

# Teacher and Student Technology Practices

| Teacher Practice                               | Student Behavior                          | Resource   | Leader Action   |
|--|---|--|---|
| Paperless Classrooms                           | Download, Edit, and Submit work virtually | Google Docs and Dropbox                                | Training and support for teachers.                                    |
| Online Classrooms                              | Completely Online Learning                | Many examples: Blackboard, Haiku                       | Training and support for teachers.                                    |
| Allow Students to BYOD (Bring Your Own Device) | Use their own device for online learning. | Change policy to allow!<br>(Sample Policy in Appendix) | Request for policy to change to meet the demands of our expectations. |

Popular Resources to consider:

- Google Apps, Youtube, Twitter, Haiku, Naiku, Blackboard

## Teacher and Student Technology Reflections Quick Write Activity

1. List the types of technology and resources that are currently in use in your school today.
2. What types of devices are in use and how are they being used for instructional purposes?
3. Are you seeing evidence of the technology skills needed for success on TNReady?

What key actions are needed to increase the TNReady technology-related **instructional planning** effectiveness?

| Leader Actions | Teacher Actions |
|----------------|-----------------|
|                |                 |

# Idea Gathering Sheet

(Please use this sheet to collect great ideas from your peers.)

**PLC Guide:** The following is a sample protocol that teacher PLC teams might use that would support the frequent use of technology with instruction. This should take approximately 45 - 60 minutes.

**Topic for Discussion: TNReady Teacher/Student Technology Practices**

|                       |   |
|-----------------------|---|
| <p><b>Step 1:</b></p> | <p>Before the team attends, they should: (1) Complete the “TNReady Math Item Types” PLC and/or (2) Complete the “TNReady ELA Item Types Analysis” PLC. Both of these PLC Guides can be found at the <a href="http://www.tncore.org">www.tncore.org</a> site by clicking on the “For Leaders” link.</p> <p>Ask teachers to bring with them a variety of assessments and activities that they have recently used in their classroom instruction.</p> <p>Download and lead teachers through the PowerPoint entitled “Key Question #6: Technology Practices”.</p>   |
| <p><b>Step 2:</b></p> | <p>Based upon what is asked of students for TNReady, ask teachers to brainstorm and write down the variety of skills needed for the following question types:</p> <ol style="list-style-type: none"> <li>1. Student Generated Responses (Math/ Equation Editor)</li> <li>2. Graphic (manipulating line graphs, functions, and coordinate plans/ Math)</li> <li>3. Multiple Choice (ELA and Math)</li> <li>4. Multiple Select (ELA and Math)</li> <li>5. Performance Tasks (Math, CRA-type tasks)</li> <li>6. Extended Writing Tasks Online (ELA)</li> </ol>   |
| <p><b>Step 3:</b></p> | <p>Questions for discussion:</p> <ol style="list-style-type: none"> <li>1. Complete the “Teacher and Student Technology Reflections Quick Write Activity.”</li> <li>2. Discuss your answers as a PLC team.</li> </ol>   |
| <p><b>Step 4:</b></p> | <p><b>Challenge:</b></p> <p>Pick one activity that you, as a teacher, have traditionally facilitated using a paper-pencil approach. Once you have chosen the activity, brainstorm how you could better integrate the use of technology into that activity. For example, instead of having students write their essays on paper, ask them to submit them electronically. Require this routinely. A math teacher may ask his students to use Microsoft Word or Google Docs to submit the answers to one of their CRA tasks, requiring proper mathematical symbols using the equation editor.</p>  |
| <p><b>Step 5:</b></p> | <p><b>Closing:</b></p> <ol style="list-style-type: none"> <li>1. Establish ground rules for how technology can be used more frequently in your school (i.e. monthly papers will be typed and turned in instead of paper-pencil).</li> <li>2. Purpose the next PLC to discuss the results of implementing <b>Step 4</b>.</li> <li>3. Discuss the possibility of a “Bring Your Own Device Policy” to bridge the technology availability gap.</li> <li>4. At next month’s PLC have teachers complete the “Teacher and Student Technology Reflections Quick Write Activity”, and compare answers from the first PLC. Regularly reflect on how teacher practices are changing to show evidence of student readiness for TNReady with regards to technology.</li> </ol> |



# **Section 6: Closing and Appendix**

## **Key Question #7:**

**How can we continue building capacity among our teachers to ensure students are prepared?**

## 2015 Summer Training Information

### Summer Training Overview:

Trainings will be two days in length and will be offered in each CORE region. The specific dates of trainings will be:

- June 9-10
- June 11-12
- June 16-17
- June 18-19
- June 23-24
- June 25-26

For more information about training, please visit [http://www.tncore.org/training/2015\\_summer\\_training.aspx](http://www.tncore.org/training/2015_summer_training.aspx).

### Training Course Offerings:

There will be **four content areas offered this summer**, and participation in each content area is **optional for Tennessee districts**.

| Content Area                            | Courses   |
|---|---|
| Early Grades (with a focus on literacy) | Pre-K-K<br>Grades 1-2   |
| Grades 3-11 Math                        | Grades 3-5<br>Grades 6-8<br>Grades 9-11   |
| Grades 3-11 English Language Arts       | Grades 3-5<br>Grades 6-8<br>Grades 9-11   |
| Grades 3-11 Social Studies              | Grades 3-5<br>Grades 6-11 U.S. History & Geography<br>Grades 6-11 World History & Geography |

In addition, we are adding a **one-day training summary designed for school and district leaders**. With one day for elementary principals and one day for secondary principals, this addition will allow principals, assistant principals, and other leaders to see the exact training materials teachers will receive during the summer training and review tools designed for school and district leaders to support implementation.

|   | Goals  | Activities in this content area   | Guidance on attendance  |
|---|--|---|---|
| Early Grades (with a focus on literacy) | <ol style="list-style-type: none"> <li>1. Understand what students need to know and be able to do in the early grades to be ready for success in third grade reading, writing and math.</li> <li>2. Identify high impact instructional strategies that support all students in meeting expectations, with a focus on effective reading comprehension strategies.</li> <li>3. Review methods and tools that assess progress in reading and writing.</li> <li>4. Access and examine resources to help students and teachers meet these goals.</li> </ol> | <ul style="list-style-type: none"> <li>• Analyze third grade TNReady sample items to see what students need to be prepared for in the future and at each grade.</li> <li>• Study and practice reading comprehension strategies that incorporate complex texts and writing in early grades.</li> <li>• Review and practice using sources of data to inform instructional decision-making.</li> <li>• Analyze units, lessons, resources, and videos of teacher practice.</li> </ul>           | <p><b><u>Consider having teachers attend if:</u></b><br/>         -Improving pre-K-3 reading and writing is a focus for your school/district<br/>         -Teachers have a solid start in supporting the foundational skills</p> <p><b><u>Consider not having teachers attend if:</u></b><br/>         -You have a pre-K-3 reading support strategy that is working already<br/>         -Numeracy is the top priority for your early grades teachers</p>                     |
| Grades 3-11 Math                        | <ol style="list-style-type: none"> <li>1. Understand what students need to know, understand, and do in mathematics in these grades.</li> <li>2. Evaluate high-impact instructional practices to support all students in meeting expectations, starting from Day 1.</li> <li>3. Review methods and tools to measure progress across the year.</li> <li>4. Access and examine resources to help students and teachers meet these goals.</li> </ol>   | <ul style="list-style-type: none"> <li>• Analyze and deconstruct TNReady sample items.</li> <li>• Study and practice strategies for building conceptual understanding and fluency in mathematics, including: setting a culture for rigorous instruction and implementing and supporting high level tasks.</li> <li>• Discuss strategies for creating assessments aligned to TNReady and instructional plans for use throughout the year, including using available sample items.</li> </ul> | <p><b><u>Consider having teachers attend if:</u></b><br/>         -You are looking for support for teachers transitioning to a new math assessment<br/>         -Teachers are continuing to refine instruction on more rigorous standards and would benefit from additional training and tools</p> <p><b><u>Consider not having teachers attend if:</u></b><br/>         - You are independently planning for teacher support to transition to TNReady in mathematics</p>     |
| Grades 3-11 ELA                         | <ul style="list-style-type: none"> <li>• Understand what students need to know, understand, and do in ELA in these grades.</li> <li>• Evaluate high-impact instructional practices to support all students in meeting expectations, starting from Day 1.</li> <li>• Review methods and tools to measure progress across the year.</li> <li>• Access and examine resources to help students and teachers meet these goals.</li> </ul>   | <ul style="list-style-type: none"> <li>• Analyze and deconstruct TNReady sample items.</li> <li>• Study and practice strategies for strong language instruction, particularly strengthening text-based reading and writing and providing academic feedback.</li> <li>• Discuss strategies for creating assessments aligned to TNReady and instructional plans for use throughout the year, including using available sample items.</li> </ul>   | <p><b><u>Consider having teachers attend if:</u></b><br/>         -You are looking for support for teachers transitioning to a new ELA assessment<br/>         -Teachers are continuing to refine instruction on more rigorous standards and would benefit from additional training and tools</p> <p><b><u>Consider not having teachers attend if:</u></b><br/>         - You are independently planning for teacher support to transition to TNReady in ELA</p>              |
| Grades 3-11 Social Studies              | <ol style="list-style-type: none"> <li>1. Understand what students need to know, understand, and do in social studies in these grades.</li> <li>2. Evaluate high-impact instructional practices to support all students in meeting expectations, starting from Day 1.</li> <li>3. Review methods and tools to measure progress across the year.</li> <li>4. Access and examine resources to help students and teachers meet these goals.</li> </ol>  | <ul style="list-style-type: none"> <li>• Analyze and deconstruct social studies sample items.</li> <li>• Review and study strategies for strong social studies instruction, including use of primary sources, text-based discussion and writing, and academic feedback.</li> <li>• Discuss strategies for creating assessments aligned to social studies assessment and instructional plans, including using sample items.</li> </ul>   | <p><b><u>Consider having teachers attend if:</u></b><br/>         -You are looking for support for teachers transitioning to a new social studies assessment<br/>         -Teachers are continuing to refine instruction on more rigorous standards and would benefit from additional training and tools</p> <p><b><u>Consider not having teachers attend if:</u></b><br/>         -You are independently planning teacher support for a new assessment in Social Studies</p> |

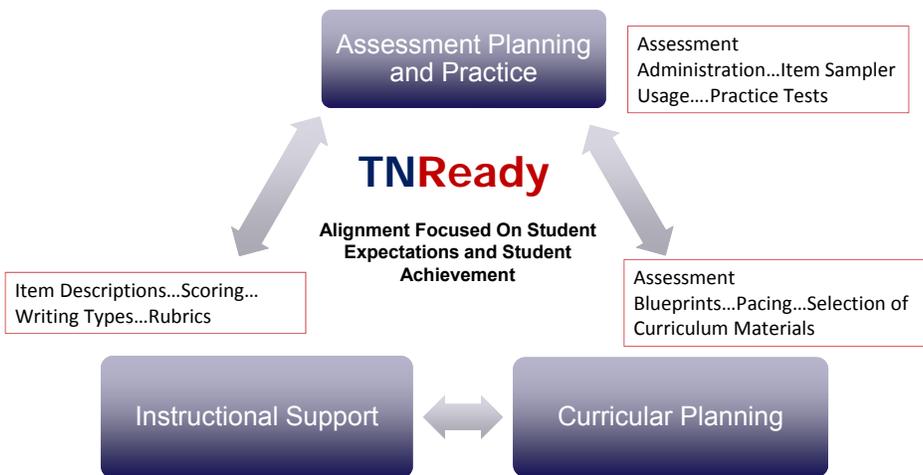
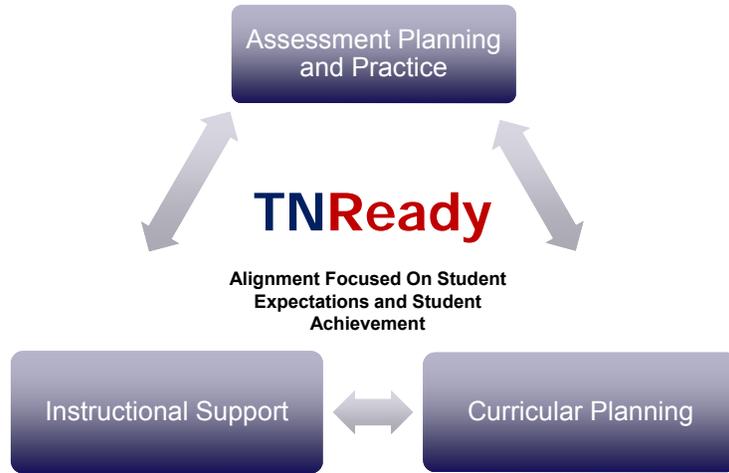
## **“Forward Focus” To Summer Training Reflection**

Take a few moments to think about your school or district approach to teacher training and support going forward.

These trainings are free and optional to Tennessee educators. Note that some dates may not be available in all CORE regions. Availability will be determined by demand, budget, and our ability to select highly qualified Core Coaches.

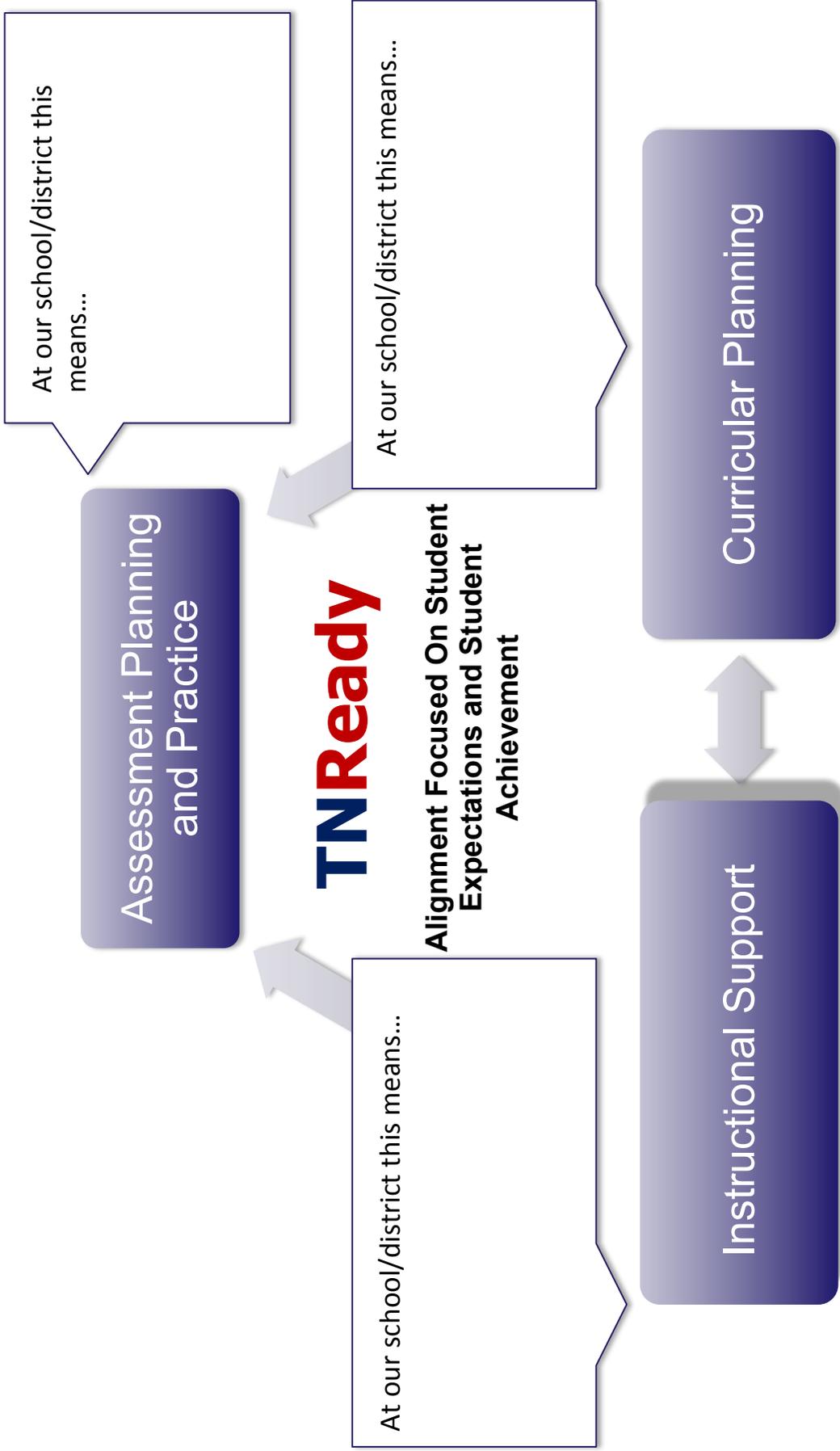
Due to limited capacity and resources, **schools and districts have specific participant allocations. Schools will be able to send one (1) representative to each course (e.g., grades 3-5 math) free of charge.**

1. Do you plan to utilize the optional training offered this summer by the Tennessee Department of Education?
2. What factors have you considered most important as you selected your Learning Leaders to attend?
3. How are you collaborating with your Learning Leaders to ensure an effective and efficient redelivery of information?
4. What will be your proposed strategy of engaging all teachers in professional learning that will support the expectations of TNReady?



# Instructional Framing with TNReady

TNCore



## “3-2-1 Self-Reflection”

Using the following protocol, reflect on the information you’ve learned today.

**3** things that I’ve learned about TNReady math and ELA assessments that need to be emphasized with my teachers:

**2** key actions that I want to immediately take when I return to school:

**1** way I can utilize the "Instructional Planning Graphic" at my school:

Insert red  
divider sheet

**TNReady**  
**English Language Arts**  
**Passage Specifications**

**Contents**

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## Introduction

Passages are used in English Language Arts (ELA) assessments to provide context for assessing students' knowledge and skills. The TNReady English Language Arts Passage Specifications provide guidance on appropriate kinds of texts, grade level-appropriate topics and complexity, and other features that allow students to demonstrate their ability to comprehend increasingly complex literary and informational texts.

Passages are often referred to as texts or stimuli and are used for both reading and writing assessments. A stimulus may consist of one or more passages/texts. Passages may be informational or literary and can cover a wide array of topics. Passages should be authentic (previously published) rather than commissioned. In sets of texts, an audio/visual text may be used with one or more related written texts.

## Stimulus Attributes

The quantitative and qualitative complexity analyses for passages used as stimuli should accompany the passages whenever they are provided to item writers and reviewers. Quantitative measures should be used to determine the appropriate grade **band** (e.g., grades 3-5) for a particular text. For high-stakes tests like TNReady, two measures should be used. If these two measures do not agree, a third measure can be used as a kind of "tie-breaker." A qualitative analysis of the text should be used to determine the grade **level** for each text. A qualitative analysis takes into account such factors as purpose, structure, and language complexity. See the worksheet in the appendix to this document. During the text review process, Tennessee educators evaluate the quantitative and qualitative data to determine whether the reading level of each selection is suitable for the grade. If the data indicate that the text is not suitable for a given grade, educators may recommend moving the text up or down grade levels.

Graphics such as infographics, photographs, tables, and diagrams can be included with the stimuli. The graphics used, however, must be purposeful (not merely decorative) and should supplement the student's understanding of the topic.

Passages should be interesting and appealing to students at the grades for which the selections are intended. They should be conceptually appropriate and relevant and should reflect literary or real-world settings and events that are interesting to students. While students may have some prior knowledge of topics that appeal to them, care should be taken to choose little-known information about topics of common interest unless the standards have specific requirements at a given grade level. Texts with controversial or offensive content should not be included. Confusing or emotionally charged subjects should also be avoided.

An important consideration is a need to provide a balance of passages. Texts written by authors with diverse backgrounds, including a balance of authors by gender and ethnicity, should be included. In addition, since the students taking the TNReady assessments are themselves a

diverse population, texts selected should appeal to a wide range of student audiences. Passages should appeal to both genders, or at least provide a balance between those of interest to or about males and those of interest to or about females. Topics pertinent to traditionally underrepresented students should be included.

### Quality Criteria for Selection of Passages

Passages should be content rich, challenging, and well crafted, representing quality writing of professional caliber in their genre and subject matter. History/social studies and science/technical texts should reflect the quality of writing that is produced by authorities in the particular academic discipline and enable students to develop rich content knowledge. Informational texts may use informational or narrative structures; both structures should be represented. Most informational texts with narrative structures are found in history and literary nonfiction; science texts with a full narrative structure should be avoided when possible.

Audio/visual texts should meet similar quality standards. In addition, the quality of the visual information and the sound should be high, so that students can readily hear and see the text. Avoid audio tracks with heavily accented English.

### Quantitative Measures

The length and complexity of texts should vary within each grade-level assessment. Readability metrics and word count should be used to measure the text complexity of TNReady passages.

The following table details the grade bands and ranges associated with three readability metrics:

**Look-up Table for Use of Three Quantitative Measures**

| Grade Band <sup>i</sup>           | Flesch-Kincaid <sup>ii</sup> | The Lexile Framework <sup>®</sup> | Reading Maturity |
|-----------------------------------|------------------------------|-----------------------------------|------------------|
| 2 <sup>nd</sup> –3 <sup>rd</sup>  | 1.98–5.34                    | 420–820                           | 3.53–6.13        |
| 4 <sup>th</sup> –5 <sup>th</sup>  | 4.51–7.73                    | 740–1010                          | 5.42–7.92        |
| 6 <sup>th</sup> –8 <sup>th</sup>  | 6.51–10.34                   | 925–1185                          | 7.04–9.57        |
| 9 <sup>th</sup> –10 <sup>th</sup> | 8.32–12.12                   | 1050–1335                         | 8.41–10.81       |
| 11 <sup>th</sup> –CCR             | 10.34–14.2                   | 1185–1385                         | 9.57–12.00       |

Links and instructions for using these quantitative analysis tools may be found at [achievethecore.org/text-complexity](https://achievethecore.org/text-complexity).

The band levels are intended to provide for a modulated climb toward college and career readiness and offer overlap between bands, which allows more flexibility in the younger grades where students enter school with widely varied preparation levels.

Since Flesch-Kincaid has no ‘caretaker’ who oversees or maintains the formula, researchers brought the measure in line with college and career readiness levels of text complexity based on the version of the formula used by Coh-Metrix.

The table below suggests an approximate word count range for a passage or passage set:

### Word Count for TNReady Reading and Writing Assessments

| Grade | Range of Number of Words* |
|-------|---------------------------|
| 3     | 100–700                   |
| 4     | 100–900                   |
| 5     | 200–1000                  |
| 6     | 200–1100                  |
| 7     | 300–1100                  |
| 8     | 350–1200                  |
| 9     | 350–1300                  |
| 10    | 350–1350                  |
| 11    | 350–1400                  |

*\*Poems are not subject to word counts.*

### Qualitative Measures

After quantitative measures can be used to place a passage within a grade band, qualitative measures are needed to help pinpoint the specific grade for which a passage is appropriate. The Text Complexity Worksheet at the end of this document should be completed for each passage or passage set.

There are a few exceptions to the requirement for use of quantitative measures. It is not possible to produce an accurate quantitative estimate for some types of passages (e.g., poems or passages with a great deal of dialogue). In these instances, a qualitative measure should be used, along with the expert judgment of Tennessee educators.

## Text Types

In broad terms, texts are categorized as either literary or informational. Literary texts include fiction, drama, and poetry, and multi-media texts. Informational texts include a broad range of text types and topics, including literary nonfiction, history/social science, science/ technical, and digital texts.

A chart showing the text types within the Tennessee Standards classifications for literary and informational texts appears below:

**Classification of Texts**

| Literary Texts |   |   |   | Informational Texts  |   |   |
|----------------|---|---|---|--|---|---|
| Text Types     | Grades 3–5  | Grades 6–8  | High School   | Text Types   | Grades 3–5  | Grades 6–8 & High School  |
| <b>Stories</b> | Includes children’s adventure stories, folktales, legends, fables, fantasy, realistic fiction, and myth | Includes the subgenres of adventure stories, historical fiction, science fiction, realistic fiction, parodies, and satire | Includes the subgenres of adventure stories, historical fiction, science fiction, realistic fiction, allegories, parodies, satire, and graphic novels | <b>Literary Nonfiction and Historical, Scientific, and Technical Texts</b> | Includes biographies and autobiographies; books about history, social studies, science, and the arts; technical texts, including directions, forms, and information displayed in charts or maps; and digital sources on a range of topics | Includes the subgenres of exposition, argument, and functional text in the form of personal essays, speeches, opinion pieces, essays about art or literature, biographies, memoirs, journalism, and historical*, scientific, technical, or economic accounts (including digital sources) written for a broad audience |
|                | <b>Dramas</b>   | Includes staged dialogue and brief familiar scenes  | Includes one-act and multi-act plays  |  |   |   |
|                | <b>Poetry</b>   | Includes the subgenres of narrative poems and free-verse poems  | Includes the subgenres of narrative poems, lyrical poems, free-verse poems, and ballads   |  |   |   |

\*Grades 11-12: including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln’s Second Inaugural Address

## Proportions of Text Types

The following table shows the proportion of informational to literary passages at each grade level:

**Percentages of Literary and Informational Texts by Grade**

| <b>Grade</b> | <b>Informational: Literary</b> |
|--------------|--------------------------------|
| 3            | 50% : 50%                      |
| 4            | 50% : 50%                      |
| 5            | 50% : 50%                      |
| 6            | 50% : 50%                      |
| 7            | 50% : 50%                      |
| 8            | 50% : 50%                      |
| 9            | 70% : 30%                      |
| 10           | 70% : 30%                      |
| 11           | 70% : 30%                      |

It is important to note that each of the three general types of informational passages--literary nonfiction, history/social studies, and science/technical—should represent approximately one third of the total number of informational passages.

## Alignment of Literary and Informational Passages

The table below lists the standards that call for specific characteristics of texts those characteristics that are likely to significantly affect passage selection for each grade. When a standard calls for a “text” or “story, drama, or poem” in a general way, it has not been listed in the table.

**Characteristics of Texts by Grade and Standard, Grades 3-11\***

| Grade | RI  | RL  | RH | RST |
|-------|---|---|----|-----|
| 3     | <ul style="list-style-type: none"> <li>• RI3, a passage with related historical events, scientific ideas, or steps in a procedure</li> <li>• RI5, a passage with search tools or text features (e.g., key words, sidebars, hyperlinks)</li> <li>• RI7, passage with at least one illustration (e.g., maps, drawings, photographs)</li> <li>• RI9, two passages on one topic</li> </ul>  | <ul style="list-style-type: none"> <li>• RL2, a fable, folktale, or myth (diverse cultures)</li> <li>• RL3, a story <b>in prose or poetry</b></li> <li>• RL5, story, drama, or poem</li> <li>• RL7, a story with some form of illustration</li> <li>• RL9, stories by the same author about the same or similar characters</li> </ul>   |    |     |
| 4     | <ul style="list-style-type: none"> <li>• RI3, a passage that is historical, scientific, or technical</li> <li>• RI5, a passage with an identifiable structure</li> <li>• RI6, a firsthand and secondhand account of the same event or topic</li> <li>• RI7, a passage with at least one visual, oral, or quantitative element</li> <li>• RI9, two passages on the same topic</li> </ul> | <ul style="list-style-type: none"> <li>• RL2, story, drama, or poem</li> <li>• RL3, a drama or a story <b>in prose or poetry</b></li> <li>• RL5, poem, drama, or prose with identifiable structure</li> <li>• RL6, story <b>in prose or poetry</b>, with distinct points of view</li> <li>• RL7, a story or drama with a visual or oral presentation of the same story or drama</li> <li>• RL9, stories, myths, or other traditional literature from different cultures that share similar themes and topics</li> </ul> |    |     |

| Grade | RI   | RL   | RH  | RST   |
|-------|--|--|---|---|
| 5     | <ul style="list-style-type: none"> <li>• RI3, a historical, scientific or technical passage</li> <li>• RI5, two or more passages with identifiable structures</li> <li>• RI6, two or more passages with multiple accounts of the same event or topic</li> <li>• RI7, multiple print or digital sources</li> <li>• RI9, two or more passages, same topic</li> </ul> | <ul style="list-style-type: none"> <li>• RL3, a drama or a story <b>told in prose or poetry</b></li> <li>• RL 5, story, drama, or poem; with <b>scenes in a story assessed instead of chapters</b></li> <li>• RL7, a story, poem or drama accompanied by a visual and/or multimedia version</li> <li>• RL9, passages of the same genre with similar themes and topics</li> </ul> |   |   |
| 6     | <ul style="list-style-type: none"> <li>• RI7, two or more passages in different media or formats</li> <li>• RI8, passage with claims supported by reasons and evidence and claims that are not</li> <li>• RI9, two or more passages presenting the same events</li> </ul>  | <ul style="list-style-type: none"> <li>• RL3, a drama or a story <b>told in prose or poetry</b></li> <li>• RL7, a story, poem or drama accompanied by an audio, video or live version</li> <li>• RL9, passages from different genres with similar themes and topics</li> </ul>   | <ul style="list-style-type: none"> <li>• RH3, a passage describing a process</li> <li>• RH7, two or more passages, one consisting of visual information</li> <li>• RH9, a primary and a secondary source, same topic</li> </ul> | <ul style="list-style-type: none"> <li>• RST3, a passage containing a multistep procedure</li> <li>• RST6, a passage containing an explanation, a procedure, or a discussion of an experiment</li> <li>• RST7, two passages on quantitative or technical information, one with words, one with visual expression</li> <li>• RST9, two or more passages, one in words, one an experiment, simulation, video, or multimedia source</li> </ul> |

| Grade | RI  | RL   | RH  | RST   |
|-------|---|--|---|---|
| 7     | <ul style="list-style-type: none"> <li>• RI6: passage with a discernible point of view</li> <li>• RI7: passage paired with its audio/video/or multimedia presentation</li> <li>• RI8: passage with discernible argument and specific claims; reasoning may or may not be sound, and evidence may or may not be relevant and sufficient</li> <li>• RI.9: two or more passages about the same topic with emphasis on different evidence and different interpretations of facts</li> </ul> | <ul style="list-style-type: none"> <li>• RL3, a drama or a story <b>told in prose or poetry</b></li> <li>• RL5, a drama, poem, <b>or story with assessable structure</b></li> <li>• RL7, a story, poem, or drama accompanied by an audio, filmed, staged or multimedia presentation</li> <li>• RL9, one passage that is a work of fiction portraying a time, place, or character and a second passage that is a historical account of the same period</li> </ul>   | <ul style="list-style-type: none"> <li>• RH3, a passage describing a process</li> <li>• RH7, two or more passages, one consisting of visual information</li> <li>• RH9, a primary and a secondary source, same topic</li> </ul> | <ul style="list-style-type: none"> <li>• RST3, a passage containing a multistep procedure</li> <li>• RST6, a passage containing an explanation, a procedure, or a discussion of an experiment</li> <li>• RST7, two passages on quantitative or technical information, one with words, one with visual expression</li> <li>• RST9, two or more passages, one in words, one an experiment, simulation, video, or multimedia source</li> </ul> |
| 8     | <ul style="list-style-type: none"> <li>• RI6, a passage in which the author acknowledges and responds to conflicting evidence or viewpoints</li> <li>• RI7, passages in different media presenting same topic or idea</li> <li>• RI8, a passage that presents an argument but also has irrelevant evidence</li> <li>• RI9, two or more passages providing conflicting information, same topic</li> </ul>  | <ul style="list-style-type: none"> <li>• RL3, a story, drama, <b>or poem that tells a story</b></li> <li>• RL5, two or more passages with discernible and different structures</li> <li>• RL6, a passage with dramatic irony creating suspense or humor</li> <li>• RL7, a filmed production of a story or drama accompanied by a script and director notes</li> <li>• RL9, a modern work of fiction drawing on themes, patterns of events, or character types from myths, traditional stories, or religious works</li> </ul> | <ul style="list-style-type: none"> <li>• RH3, a passage describing a process</li> <li>• RH7, two or more passages, one consisting of visual information</li> <li>• RH9, a primary and a secondary source, same topic</li> </ul> | <ul style="list-style-type: none"> <li>• RST3, a passage containing a multistep procedure</li> <li>• RST6, a passage containing an explanation, a procedure, or a discussion of an experiment</li> <li>• RST7, two passages on quantitative or technical information, one with words, one with visual expression</li> <li>• RST9, two or more passages, one in words, one an experiment, simulation, video, or multimedia source</li> </ul> |

| Grade | RI  | RL  | RH  | RST  |
|-------|---|---|---|--|
| 9-10  | <ul style="list-style-type: none"> <li>• RI6, a passage in which the author uses rhetoric effectively to advance a point of view or purpose</li> <li>• RI7, a passage accompanied by a multimedia version of the same passage</li> <li>• RI8, a passage presenting an argument but also containing false statements or fallacious reasoning</li> <li>• RI9, seminal U.S. documents of historical and literary significance</li> </ul> | <ul style="list-style-type: none"> <li>• RL5, a passage structured to create effects like mystery, tension, or surprise</li> <li>• RL6, a passage from outside the U.S. (world literature)</li> <li>• RL7, passages in two different media</li> <li>• RL9, two passages, one of which transforms the other, including Shakespeare and/or an American dramatist</li> </ul> | <ul style="list-style-type: none"> <li>• RH3, passage containing a series of events</li> <li>• RH6, two or more passages by different authors, same or similar topic</li> <li>• RH7, two or more passages, one a quantitative or technical analysis</li> <li>• RH9, multiple primary and secondary sources treating the same topic</li> </ul> | <ul style="list-style-type: none"> <li>• RST 2, a passage containing a complex process, phenomenon, or concept</li> <li>• RST 3, a passage providing a complex multistep procedure</li> <li>• RSTS6, a passage providing an explanation, describing a procedure, or discussing an experiment</li> <li>• RST7, a passage with quantitative or technical information expressed in words or a visual or a mathematical passage</li> <li>• RST8, science/technical passage in which the author makes and supports a claim</li> <li>• RST9, two or more passages in which findings support or contradict those in other passages</li> </ul> |

| Grade | RI   | RL   | RH  | RST  |
|-------|--|--|---|--|
| 11    | <ul style="list-style-type: none"> <li>• RI6, a passage with effective rhetoric</li> <li>• RI7, multiple sources of information presented in different media or formats</li> <li>• RI8, two or more seminal U.S. passages or works of public advocacy</li> <li>• RI9, two or more 17<sup>th</sup>-, 18<sup>th</sup>-, and 19<sup>th</sup>-century foundational U.S. documents of historical and literary significance</li> </ul> | <ul style="list-style-type: none"> <li>• RL3, a drama or a story <b>told in prose or poetry</b></li> <li>• RL6, passage in which the reader must distinguish between what is stated and what is meant (e.g., satire, sarcasm, irony, or understatement)</li> <li>• RL7, multiple versions of a story, drama, or poem</li> <li>• RL9, two or more foundational passages from 18<sup>th</sup> 19<sup>th</sup>, or early 20<sup>th</sup> century American literature</li> </ul> | <ul style="list-style-type: none"> <li>• RH3, a passage with a part or parts that leave matters uncertain</li> <li>• RH5, a complex primary source</li> <li>• RH6, two or more passages with differing points of view on the same historical event or issue</li> <li>• RH7, multiple sources of information in diverse formats and media</li> <li>• RH8, two passages, one of which corroborates or challenges the premises, claims, or evidence in the other</li> <li>• RH 9, primary and secondary passages from diverse sources, with some discrepancies among them</li> </ul> | <ul style="list-style-type: none"> <li>• RST2, a passage containing a complex process, phenomenon, or concept</li> <li>• RST 3, a passage describing a complex multistep procedure</li> <li>• RST 5, a passage that structures information into categories or hierarchies</li> <li>• RSTS6, a passage providing an explanation, describing a procedure, or discussing an experiment</li> <li>• RST7, multiple sources in diverse formats or media</li> <li>• RST8, multiple passages, one of which corroborates or challenges information in the other</li> <li>• RST9, passages from a range of sources (e.g., passages, experiments, simulations)</li> </ul> |

\* The **bold-faced type** in the chart shows areas in which the standards include genres listed in Reading Standard 10 for each grade in addition to the language of each grade-specific standard.

### Seminal and Foundational Texts

Foundational literary texts include literature that addresses prominent themes, literary movements, schools of thought, or topics (political, social, or economic) within a given time period, including works of major writers in a variety of genres. Often, foundational texts in literary terms introduce concepts, ideas, metaphors, etc., that have influenced other texts or a literary or historical movement, and/or have been widely alluded to in other texts of literary merit written subsequent to the publication of the proposed text stimulus. As such, these are texts that have been widely read and studied. Any text that meets the description above and

that has extensive critical acclaim and/or is an extensive literary critical work focused on explaining/analyzing the proposed foundational text is acceptable.

***Additional Criteria for Selecting Informational Texts that are Seminal and/or Foundational***

- Three standards, RI.9-10.9, RI.11-12.8, and RI.11-12.9, require students to read informational texts that are seminal and/or foundational U.S. texts.
- All passages submitted for the Grade 11 Research Simulation task models for literary nonfiction must be foundational U.S. texts. In keeping with the Standard 9 requirement in the task models, even when the text requirements only generally require “literary non-fiction,” at least 2 of the 3 texts must be 17-19th century texts; the 3rd may be 20th century. The final PCR must be tied to the 17-19th century texts but may also draw from a 20th century text.

The following information will be helpful when selecting seminal and/or foundational texts:

***Clarifying Guidance on How to Apply Reading Standards RI.9-10.9, RI.11-12.8, RI.11-12.9 for Instruction and Assessment***

At the high school level, three standards in the informational reading standards call on students to read seminal and foundational US documents of historical and literary significance. The focus on seminal and foundational US documents was suggested (and in some cases explicitly named) because:

1. These texts are practical and educationally powerful, ensuring rigor and quality in terms of what students will be asked to read. Being able to handle informational texts of this nature is a strong predictor of college and career readiness, and prepares students for a wide range of reading challenges.
2. Overall, they invite careful and close analysis, making them ideal for instruction and for assessment. They are brief enough to be ideal for classroom use and typically can be excerpted beautifully for assessment use because of the density and repetition of ideas.
3. Lastly, grasping the import of these works reflects an understanding and commitment to participating in the civic life of the country. It is striking how much of political conversation of the US returns to the Founding Documents and the Great Conversation that they continue to generate. They are essential for access into public discourse and being an informed citizen.

The three standards are related but different in terms of their parameters and implications for assessments:

*RI.9-10.9:* Analyze seminal U.S. documents of historical and literary significance (e.g., Washington’s Farewell Address, the Gettysburg Address, Roosevelt’s Four Freedoms speech, King’s “Letter from Birmingham Jail”), including how they address related themes and concepts.

The word "seminal" in RI.9-10.9 means US documents of historical and literary significance that are pivotal, ground-breaking, and have lasting influence—ones that have had an impact on our collective thought and practice. These are texts that collectively are part of the cultural and civic discourse in the country. This would include, the great thinkers in our nation’s history that have been influential in shaping the course of our society and also those that reflect the changing fabric of our society at different times, including minority voices, dissenting voices, and multiple perspectives from people who played important roles in shaping thought on critical themes and issues. This corpus could also include celebrated letters, journals, and memoirs from common, everyday individuals who are reflecting first-hand on their experience of certain national policies and practice (e.g., a widely circulated collection of letters from Civil War soldiers, diaries of Japanese Americans during WWII), as well as prominent Supreme Court cases that uphold or strike down lower court rulings when such decisions have entered the body politic and impacted societal thought and practice (sometimes well after the events upon which the rulings are reflecting).

The other aspect of this standard that should not be lost is that it asks for how seminal U.S. documents of historical and literary significance “address related themes and concepts.” This requires reviewing more than one seminal text at a time. There are, however, limits on what counts as “seminal”: a letter from a soldier from the Civil War describing his new mess kit paired with an article describing the evolution of the “spork” would not qualify. Just because a text is historical—regardless of how interesting and compelling it may be—does not mean it qualifies as seminal.

*RI.11-12.8:* Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., *The Federalist*, presidential addresses).

The intent of this standard is similar to RI.9-10.9, though it shifts the focus from “related themes and concepts” to “reasoning” within seminal texts. To put it simply, the seminal texts described in the grades 9-10 standard are the same as those described in the 11-12 standards. The other addition in the grades 11-12 standard is to also include texts that apply constitutional principles as well as works of public advocacy. Seminal texts here include (but are not limited to) documents that emphasize “application of constitutional principles and use of legal reasoning” and “public advocacy.” This means that US Supreme Court cases should figure

prominently as well as advocacy that shaped (or is shaping) national public opinion and/or attitudes of decision-makers regarding political, economic, and social issues, causes, and policy.

*RI.11-12.9:* Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln’s Second Inaugural Address) for their themes, purposes, and rhetorical features.

This standard is closely connected to the two standards above, as it covers much of the same content as the other two. Much like its counterpart in Grades 9-10, the focus in this standard is on the themes, purposes, and rhetorical features of these texts. The term “foundational U.S. documents,” however, suggests a stricter interpretation, as the texts listed in the standard are required reading. They include the Preamble to the US Constitution, the Bill of Rights, and the Declaration of Independence—documents that go directly to the founding of the nation. The standard uses the word “including,” which means that while the named documents must be read, the notion of a “foundational document” is not limited to them. For shorthand, the texts that articulate the principles of liberty and equality and exhort us to live up to those principles throughout the nation’s history can be referred to as the Great Conversation.

Unlike the other two standards, this standard places time limits on that Conversation—only going up through the nineteenth century. In addition to the named texts, documents that have contributed to the Great Conversation include the Federalist Papers, debates from the Constitutional Convention, and writings from Jefferson, Madison and Washington; the Gettysburg Address (for how it re-invigorates the Declaration), the Emancipation Proclamation, and of course

Lincoln’s Second Inaugural (named explicitly in the standard); documents relating to women's rights in the 19th century as well as speeches given by Native American leaders; and writings from eminent civil rights leaders and early Supreme Court cases addressing equal rights.

### **Paired Passages**

Pairings of multiple passages should contain features that allow assessment of standards that require more than one text. This may include:

- literary passages with related themes, settings, plots, or other literary elements that allow significant points of comparison between texts
- informational passages with related focused ideas about topics, allowing significant comparisons between the text in terms of point of view and focus, use of evidence, differences in emphasis, etc.

- passages that contain ideas or events that have been reused and changed from an original text to a derivative text, allowing meaningful analysis of how the ideas have been transformed
- informational passages (including visual and quantitative representations of information) that lend themselves to synthesis of ideas, allowing students to develop an understanding of a topic using multiple sources
- passages that contain different text structures, allowing students to compare and contrast text structures between texts

Within each grade, several standards call for students to use more than one text in order to demonstrate achievement of the standard.

The standards clearly delineate when and how text genres should be paired. A common misconception is that in order to test all of the standards, passages must generally be presented with a companion piece. However, there are actually only a few standards that specifically ask students to read across passages or other stimuli—usually standards 7 and 9, but also a few additional standards at various grades.

The standard codes for the paired or multiple stimuli standards are listed by grade in the table below. The table shows that the numbers of these standards vary not only by grade level but also by domain [Reading Literary Text (RL), Reading Informational Text (RI), Reading History/Social Studies Text (RH), and Reading Scientific and Technical Text (RST).] The table also gives the percentage of these standards in each grade, illustrating that the preponderance of standards focuses on single rather than multiple texts.

**Standards Requiring More Than One Stimulus**

| Grade | Number of RL, RI, RH, and RST standards requiring more than one stimulus (stimulus may be text, art, graphic, quantitative info, multimedia) | Standard Codes                     |
|-------|--|------------------------------------|
| 3     | 4  | RL.7*, 9; RI.7*, 9                 |
| 4     | 7  | RL.5, 6, 7, 9; RI.6, 7*, 9         |
| 5     | 6  | RL.7*, 9; RI.5, 6, 7, 9            |
| 6     | 8  | RL.7,9; RI.7,9; RH.7,9; RST.7,9    |
| 7     | 8  | RL.7,9; RI.7,9; RH.7,9; RST.7,9    |
| 8     | 9  | RL.5, 7,9; RI.7,9; RH.7,9; RST.7,9 |
| 9-10  | 9  | RL.7,9; RI.7,9; RH.6,7,9; RST.7,9  |
| 11    | 8  | RL.7,9; RI.7; RH.6,7,9; RST.7,9    |

*\* These standards require a text with a supplemental component rather than two or more texts.*

The following section of this document extends and amplifies the information in the table above with an analysis of what the standards say about the various purposes for using paired or multiple texts. The standards calling for paired or multiple texts can be sorted into

several general categories based on purpose. Listed below are seven general purposes and additional information that should govern text selection for each.

**1. Compare literary elements, including theme [literary texts]**

Seven standards ask students to compare the elements in literary texts, including themes:

RL.3.9  
RL.4.5  
RL.4.6  
RL.4.9  
RL.5.9  
RL.6.9  
RL.11-12.9

When two or more literary texts are selected to assess comparison and analysis of literary elements, they should contain literary elements that:

- Are readily discernible to students (e.g., identifiable themes supported by textual evidence, clearly delineated points of view)
- Are meaningful (e.g., a setting that contributes to the plot or theme)
- Have significant points of comparison (e.g., themes that have a recognizable relationship to each other, similar settings that have differing but related impacts in the literary texts, plots with similar elements).

**2. Compare central ideas, topics (including same event and point of view) [informational texts]**

Nine standards focus on the comparison of central ideas, same events, or same topics in informational texts:

RI.3.9  
RI.4.6  
RI.5.6  
RI.7.9  
RI.8.9  
RI.9-10.9  
RH.9-10.6  
RH.11-12.6  
RST.9-10.9

When two or more informational texts are selected to assess standards that call for comparison and analysis of central ideas, topics, or events, these texts must:

- Not only treat the same general topic but also contain more focused ideas related to the broader topic (e.g., not two texts simply about bees but texts that treat ideas like beneficial effects of bees or signals among bees).

- Have discernible points of comparison in terms of such aspects as author’s point of view or focus, amount and quality of evidence, differences in emphasis, significant omissions and/or inclusions of ideas.
- Have points of comparison that invite questions beyond superficial observations (e.g., “which text has more detail about [idea]?” or “which text mentions [topic]?”)

**3. Compare and/or analyze different versions of the same text [literary or informational texts]**

Six standards call for students to compare and/or analyze texts that represent alternate versions of each other:

- RL.4.7
- RL.6.7
- RL.7.7
- RI.7.7
- RL.8.7
- RL.11-12.7

Items assessing the standards in this category are based on a text and a second version of that text, with the second version either an audio or a video presentation. When selecting stimuli for this category of standards, developers should ensure that:

- A copy of the written text accompanies an audio or video rendition of the text so that the aspects affected by delivery in a different medium can be readily discerned.
- A transcript of the media version should be provided when there are variations in words between the written version and the audio or video version.

**4. Analyze how ideas are transformed from one stimulus to another [literary or informational texts]**

Standards in this category require more than the comparison of literary elements (purpose 1) or the comparison of ideas, topics, events, or points of view in informational texts (purpose 2). They also are different from comparisons between a written text and another version of that same text (purpose 3). Standards in the purpose 4 category require an analysis of how ideas or events have been transformed from one text to another. The transformation can be from one genre to another or from one work to another.

Twelve standards require an analysis of a transformation:

- |        |           |
|--------|-----------|
| RI.6.9 | RL.8.9    |
| RL.7.9 | RL.9-10.7 |
| RI.8.7 | RL.9-10.9 |
|        | RI.9-10.7 |

RH.6-8.9  
RH.9-10.9  
RST.6-8.7

RST.6-8.9  
RST.9-10.7

Because the focus is transformation of ideas, texts selected in this category:

- Must contain ideas or events that have been reused and changed in discernible ways from an original text to a derivative text; the stimuli must include the original text and the derivative text.
- May be primary and secondary sources—historical or scientific/technical—for the same topics or events may be used.
- May be classic works (e.g., mythology, Shakespeare) may be used with newer texts that incorporate material from the classic texts.
- Must be selected with care so that meaningful analyses can be made.

**5. Integrate information for a purpose [informational texts]**

The standards in this category are less focused on comparison of texts and more focused on synthesis of ideas from texts, usually for a specific purpose. Eleven standards require students to integrate information:

RI.4.9  
RI.5.7  
RI.5.9  
RI.6.7  
RI.11-12.7

RH.6-8.7  
RH.9-10.7  
RH.11-12.7  
RH.11-12.9  
RST.11-12.7  
RST.11-12.9

Because the focus is not comparison but synthesis, the texts selected to assess these standards must therefore:

- Lend themselves to synthesis of ideas so that students can develop a coherent understanding of the topic (e.g., sufficient information about the Emancipation Proclamation that students gain an understanding of most of the key ideas and details on this topic).
- Represent a range of different kinds of stimuli, including visual and quantitative representations of information.

**6. Compare structures of texts [literary or informational texts]**

Two standards specifically ask students to compare the structure of two texts.

RI.5.5

## RL.8.5

Although this category contains only two standards, it has been kept separate in this document because the textual requirements are very specific.

Texts selected for comparing structure must:

- Have clearly discernible structures that are used consistently throughout most of the texts (e.g., a comparison structure used as the basis for an entire article rather than in a single paragraph).
- Rarely have structures that are simply chronological; a comparison of chronology-based texts usually is not fruitful. When two or more texts with a chronological structure are to be compared, there should be specific similarities and/or differences that lend themselves to meaningful analysis in terms of the authors' purposes, use of evidence, or viewpoints.

### **7. Analyze supplemental elements [literary or informational texts]**

The final category contains standards that call for supplemental elements. Two separate stimuli are not required, but a second element—visual, oral, multimedia, or quantitative—must be attached to the text to be assessed. Students therefore are not asked for comparison or synthesis of stimuli, as in the categories of standards discussed earlier, but they are asked to analyze the contribution of the supplemental element or the means of presentation of the element. Four standards call for analysis of supplemental elements:

RL.3.7  
RI.3.7  
RI.4.7  
RL.5.7

Guidelines for selection of the supplemental element include:

- The additional visual, oral, multimedia, or quantitative element should provide information that is essential for understanding the text and not appear to be artificially “tacked on.”

### **Guidelines for Selecting Paired Texts**

In general, care must be taken to select pairs or multiple texts that not only meet the requirements of the standards, as described above, but also have a clear and meaningful relationship to each other. The testable points must arise from significant points of comparison or integration of ideas, not from superficial or obscure connections. Texts should not be paired without specific standards-based justification.

For tasks that simulate research, one text should be clearly appropriate to serve as an “anchor” text, providing foundational knowledge and leading naturally to additional reading and exploration. See the of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).

### ***Using Texts to Assess More Than One Purpose***

The preceding discussion of purposes for paired or multiple texts shows that for many of the standards the requirements for text selection can be specific and stringent. Consequently, when selecting paired or multiple texts, it is important first to determine which category of standards the texts will be measuring and then to determine which other standards in that grade level need to be measured with the same texts. There may be instances when the requirements for one standard preclude or challenge the requirements for another. For example, in grades 9-10, paired informational texts that will be assessing RI.9-10.9 (“Analyze seminal U.S. documents of historical and literary significance (e.g., Washington’s Farewell Address, the Gettysburg Address, Roosevelt’s Four Freedoms speech, King’s ‘Letter from Birmingham Jail,’ including how they address related themes and concepts”) may not be useful for also assessing RI.9-10.8 (“Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning”). In general, taking care to understand the focus of the standards during the text selection process will make item development go more smoothly and will result in higher quality items.

### **Purpose-Setting Statements**

TNReady passages may be excerpts from longer works. Both complete and excerpted passages may need introductions. The purpose of the written introduction is to provide necessary background context for students before they read the passage. Each introduction should provide only the information necessary for the student to understand the stimulus and be able to respond to the items/tasks. Care must be taken that the introduction does not give the student information that he or she should glean from careful reading of the passage.

The introduction should include a date or year of publication if understanding is dependent on knowledge of the date.

### **Guidelines for the Use of Images**

Graphics may be included in ELA/Literacy stimuli for clarity, student engagement, or other purposes. All images should be provided in formats that will be accessible to students with varying abilities, including students who are visually impaired. Graphics should only contain information that will help students understand or process information.

### **Passage Sources**

Previously published passages are readily available on the Web and in the public domain. Care should be taken to avoid archaic language and to verify the passage formatting and accuracy of content. Be sure to carefully evaluate the reliability of the source before using any text from the Internet.

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divider sheet

## Introduction

TNReady is the statewide assessment for English Language Arts (ELA) and mathematics. TNReady includes grade level tests for students enrolled in Grades 3-8 and End-of-Course tests for students enrolled in courses aligned to the first three English courses required for high school graduation and the first three mathematics credits required for high school graduation. TNReady tests are available in two modes: computer-based tests (CBT) and paper-based testing (PBT). The two modes, CBT and PBT, will produce comparable student results.

Increased opportunities for students exist when using a computer-based test design such as TNReady. Some students may require individualized access through accessibility features and/or accommodations. This document provides guidance on the use of accessibility features and accommodations for students with disabilities and English Learners.

The goals of this document are to:

- Identify avenues for all students to participate in the statewide assessment program.
- Provide detailed information regarding the valid and appropriate use of accessibility features and accommodations for students participating in the statewide assessment program.

This document does not provide guidance for the alternate assessment available for students with significant cognitive disabilities, the National Center and State Collaborative (NCSC). For guidance or information, please visit the Special Education Assessment page on the TNDOE website.

## Intended Audience and Recommended Use

The TNReady Accessibility Guidelines are intended for school-level personnel and decision-making teams including parents, students, classroom teachers, English as a Second Language (ESL) specialists, special education teachers, and related service personnel to use in selecting and administering the accessibility and/or accommodations for those students who need them for equitable access. These are also intended for assessment staff and administrators who oversee the decisions that are made in instruction and assessment.

The Accessibility Guidelines apply to all students. They emphasize an individualized approach to the implementation of assessment practices for those students who have diverse needs and participate in large-scale content assessments. This document focuses on the Allowable Test Administration Conditions, Accessibility Features, and Accommodations for the TNReady content assessments of English language arts and mathematics (math). At the same time, it supports important instructional decisions about accessibility and accommodations for students who participate in the TNReady assessments. It recognizes the critical connection between accessibility and accommodations in instruction and accessibility and accommodations during assessment.

## TNReady Assessment Design

TNReady is a standardized test. Correct administration requires the use of this document as well as the corresponding Test Administration Manual. For the secure summative assessments, a school team can only make available to students the allowable testing procedures, accessibility features, and accommodations that are included in this guide or through the state approved accommodation request process.

## Student Participation in TNReady

Federal laws governing student participation in statewide assessments include the Elementary and Secondary Education Act (ESEA) (reauthorized as the No Child Left Behind Action of 2001-NCLB), the Individuals with Disabilities Education Improvement Act of 2004 (IDEA), and Section 504 of the Rehabilitation Act of 1973 (reauthorized in 2008). Both Federal and State laws require that all students enrolled in public schools participate in assessment designed to provide accountability for the effectiveness of instruction in schools. To prepare for the assessments, every student should be engaged in an instructional program based on Tennessee's Academic Standards.

All students, including students with disabilities, English Learners, and English Learners with disabilities, are to be held to the same expectations for participation and performance on state assessments. Specifically, all students enrolled in grades 3-8 and the applicable high school courses are required to participate in the TNReady mathematics assessment except:

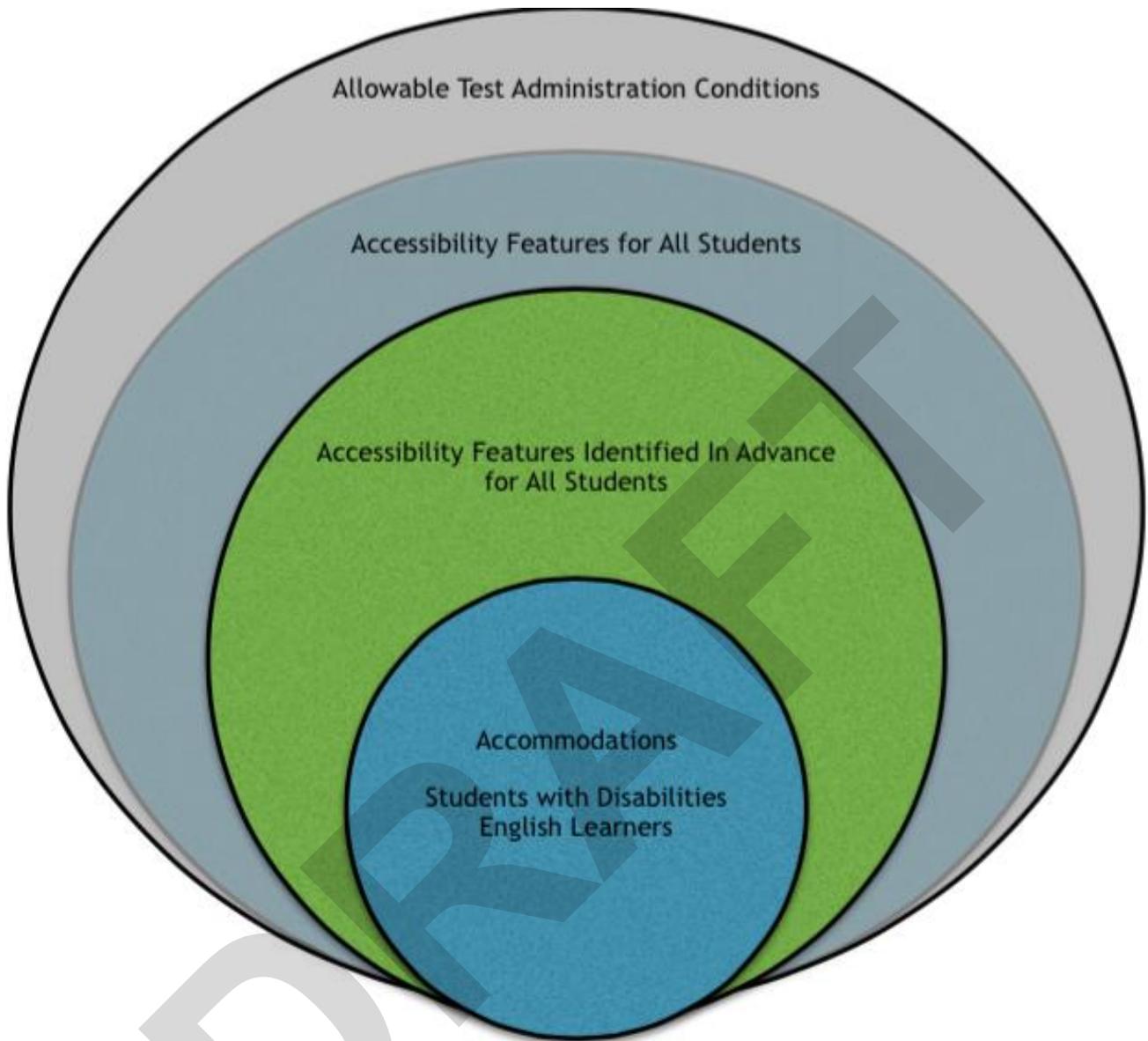
- Students who will be assessed using the alternate assessment, NCSC, or meet medical exemption guidelines.

All students enrolled in grades 3-8 and the applicable high school courses are required to participate in the TNReady English language arts assessment except:

- Students who will be assessed using the alternate assessment, NCSC, or meet medical exemption guidelines.
- English Learners (EL) who are enrolled for the first year in a U.S. school.

The model that serves as the basis for the TNReady Accessibility Guidelines is shown in Figure 1. This figure portrays several aspects of the TNReady assessment features-allowable testing procedures, accessibility features (including accessibility features identified in advance) which are available to all students, and accommodations available as needed per documented IEP, 504 Plan or due to English language proficiency status. Allowable testing procedures and accessibility features are available to all students, including those receiving accessibility features identified in advance and those receiving accommodations. Accessibility features identified in advance are available only to students for whom an adult or team has indicated the need for these features. Accommodations are available only to those students with documentation of need through a formal plan (i.e., IEP) or status as an English Learner. The use of these supports all yield valid scores that count as participation in statewide assessments when used in a manner consistent with the guidelines.

Figure 1: Increasing Access for All



## Section 1: Allowable Test Administration Conditions

Allowable test administration conditions are specific testing situations and conditions that may be offered to any student in order to provide a comfortable and distraction-free testing environment. Some examples include:

- Testing in small groups, testing in an individual setting, testing in a separate location or in a study carrel
- Preferential seating in a specific location within the testing room or seated at special furniture
- Having the test administered by a familiar test administrator
- Using a special pencil or pencil grip
- Using devices that allow the student to see the test (i.e., glasses, contacts, magnification, special lighting)
- Using devices that allow the student to hear test directions; hearing aids, amplification
- Signing the scripted directions
- Reading the test quietly to himself/herself as long as other students are not disrupted
- Using blank scratch or graph paper provided by the test administrator, graphic organizers are not allowed for use

Please refer to the TNReady Test Administration Manual for additional allowable test administration conditions.

## Section 2: Accessibility Features and Accessibility Features Identified in Advance

Accessibility features are built into the computer testing platform. These features are available to all students and can be accessed any time during the assessment. Students must practice using these features.

**Table 1: Accessibility Features for All Students**

| Accessibility Features for All Students       | Description  |
|---|--|
| Help  | View on-screen instructions and video tutorial about how to respond to each item type.   |
| Highlighter                                   | Highlight text in a passage or item.   |
| Line Reader                                   | Allows student to track the line he or she is reading. Students are able to focus their attention on a specific piece of text at a time.   |
| Mark (Flag) for Review                        | Mark an item for review so that it can be easily found later.  |
| Notes/Comments                                | Allows student to open an on-screen notepad and take notes or make comments. In ELA, notes are available globally and available throughout the session. In math, comments are attached to a specific test item and available throughout the session. |
| Answer Eliminator                             | Cross out answer options for multiple-choice and multi-select items.   |
| Text-to-Speech for Internal Test Instructions | Students are read internal test instructions via computer platform.  |

| Accessibility Features for All Students | Description  |
|---|--|
| Writing Tools                           | Editing tools (cut, copy, and paste) and basic text formatting tools (bold, underline, and italic) as well as spell check for extended response items. Spell check gives options for the correctly spelled word. |
| Zoom In/Zoom Out                        | Enlarge the font and images in the test. Undo zoom in and return the font and images in the test to the original size.   |
| Pop Up Glossary or Dictionary/Thesaurus | The student is able to view definitions of pre-selected, underlined words. The definition appears in a pop-up text box.  |
| Audio Amplification                     | Student can adjust the volume of the audio during the test session   |

### Accessibility Features Identified in Advance

A small number of students will require additional accessibility features to meet their individual needs. These accessibility features will be selected ahead of time based on the individual needs and preferences of the student.

It is recommended that a consistent process be used to determine these supports for individual students and to subsequently teach the student how to access and use the features. Accessibility features identified in advance must be entered in to the student’s personal profile on the MIST platform.

### Who Makes Decisions about Accessibility Features Identified in Advance?

The decisions are made by all educators familiar with the student’s characteristics and needs, as well as those supports that the student has been using during instruction and for other assessments. These supports are needed in the student’s every day life. For example, the student who requires a color overlay when reading text may also require the Color Contrast Accessibility Feature Identified in Advance. Therefore, it is critical for all educators making these decisions to be trained on the process and range of supports available. Student input to the decision, especially for older students, is strongly recommended. Appendix D may be used to collect student input to this decision.

**Table 2: Accessibility Features Identified in Advance**

| Accessibility Features for All Students Identified In Advance | Description | Recommendations for Use |
|---|-------------|-------------------------|
|---|-------------|-------------------------|

| Accessibility Features for All Students Identified In Advance | Description  | Recommendations for Use  |
|---|--|--|
| Answer Masking  | Answer options are masked. The student will uncover answer options when ready.   | This feature is recommended for students who have attention difficulties. It may also be needed by students with print disabilities or visual impairments. Students may need to mask content not of immediate need which may be distracting.   |
| Color Contrast (Background/Font Color)                        | Enable students to adjust screen background or font color, based on student needs or preferences. Provides an alternate onscreen background and/or font color when enabled. Current color options are:<br>Black on Cream<br>Black on Light Blue<br>Black on Light Magenta<br>White on Black<br>Light Blue on Dark Blue<br>Gray on Green (Low Contrast) | Students with attention difficulties may need this support for viewing test content. It also may be needed by some students with visual impairments or other print disabilities. Choice of colors should be informed by evidence that color selections meet the student's needs.   |
| Text-to-Speech for Math                                       | Test is read aloud to students using embedded text-to-speech software. Students must be tested in a separate setting if unable to wear headphones.   | This feature is not recommended for students who are currently reading on or just below grade level. If not used regularly during instruction, this support is likely to be confusing and may impede the performance on assessment. The use support should only be reserved for the struggling readers who need assistance accessing text. This may be used with beginning and intermediate ELs. |
| Human Signer for Math   | A human signer may be provided for a student with a hearing impairment or deafness.  | Students who require an interpreter for daily instruction.   |
| Magnification   | Allows student to use a "magnification bubble" tool to increase the size to an even larger level not provided by the zoom tool.  | Students with a visual impairment who require magnification above that which is provided via zoom tool. This feature allows a student to "hover" a magnification glass over text to enlarge the image.   |
| Increased Font Size   | The font size can be increased to a predetermined size as needed. The zoom and magnification features are available for use in conjunction with increased font size.   | Students with a visual impairment who required a larger font size in addition to zoom and/or magnification of text.  |

### Section 3: Accommodations

Accommodations are available only to students with a disability served under an Individual Education Program (IEP), 504 Plan, or students classified as English Learners, and only when the student requires the accommodation(s) to participate in the assessment meaningfully and appropriately.

Please note: one exception to the IEP or 504 requirement is for students who have had a physical injury (e.g., broken hand or arm) that impairs their ability to use a computer. These students may use the speech-to-text or the scribe accommodation, as noted in this section.

Testing accommodations provide more equitable access during assessment but do not alter the validity of the assessment, score interpretation, reliability, or security of the assessment and do not substantially change the instructional level, the content, or the performance criteria. Accommodations can be changes in presentation, response, setting, and timing/scheduling of educational activities. For a student with disabilities, accommodations are intended to reduce or even eliminate the impact of the student's disability on their access and participation in the assessment. For an English Learner or a student in the first or second year of Transition (T1/T2) from English Learner status, accommodations are intended to allow the student the opportunity to demonstrate content knowledge even though the student may not be functioning at grade level in English.

Testing accommodations may not violate the construct of a test item, provide verbal or other clues, suggestions that hint at or give away the correct response to the student. Therefore, it is not permissible to simplify, paraphrase, explain, or eliminate any test item, writing prompt, or answer option.

While there are many accommodations used within daily instruction, accommodations available to students while testing on TNReady are generally limited to those listed in the later sections of this document. If an accommodation is not listed and is needed to ensure access, please follow the Unique Accommodation Request process.

Accommodations must be indicated in the student's MIST profile and the school staff must ensure that the materials or and school staff must ensure the materials and or the setting are available for the assessment.

#### **Who Makes Decisions about Accommodations?**

IEP teams and/or educators make decisions about accommodations. These teams (or educators for 504 and English Learners) provide evidence of the need for accommodations and ensure they are noted on the IEP or 504 plan. Therefore, no accommodation may be put in place for a TNReady assessment that does not have data to support its use.

### Selecting Appropriate Testing Accommodations for Students Who Need Them

Research indicates that more accommodations are not necessarily better. Providing students with accommodations that are not truly needed may have a negative effect on performance. There should be a direct connection between a student's disability, special education area of deficit, or English proficiency and the accommodation(s) provided to the student during educational activities, including assessment. Make accommodation decisions based on individual needs to reduce the effect of the disability or limited English proficiency. Selected accommodations should be provided routinely for classroom instruction and classroom assessment during the school year in order to be used for standardized assessments.

### Administering TNReady with Testing Accommodations

Prior to the test, test administrators must know what accommodations each student will be using and how to administer them properly. Testing accommodations provided for one student may not impede or impact other students in the testing room. It is the responsibility of the Test Administrator to see that each student who qualifies for testing accommodations receive them with efficacy while also ensuring that other students who do not receive accommodations are not affected. Accommodations must be properly recorded as directed in the TNReady Test Administration Manual.

### **Accommodations for Students with an Injury**

Students with an injury, such as a broken hand or arm, that would make it difficult to participate in TNReady may use, as appropriate, any of the following accommodations. There are no specific CBT tools to support these accommodations.

| <b>Accommodations for Students with an Injury</b> | <b>Description</b>  |
|---|---|
| Adult Transcription                               | An adult marks selected response items based on student answers provided orally or using gestures. An adult transfers student responses to the MIST testing platform.   |
| Assistive Technology                              | Use of assistive technology for the writing response and/or other open response items. Internet access, grammar check, and word prediction functions must be turned off. An adult must transfer the student's responses exactly as written to the MIST testing platform.<br>Any print copy must be shredded. Any electronic copy must be deleted. This accommodation also requires Adult Transcription. |

### **Accommodations for Students with Disabilities**

Students with disabilities may use any of the accessibility features, accessibility features identified in advance, and any of the following accommodations, as designated in their IEP or 504 Plan.

| <b>Accommodations for Students with Disabilities</b> | <b>Description</b> |
|--|--------------------|
|--|--------------------|

| Accommodations for Students with Disabilities | Description  |
|---|--|
| Adult Transcription                           | An adult marks selected response items based on student answers provided orally or using gestures. An adult transfers student responses to the MIST testing platform.  |
| Assistive Technology                          | <p>Use of assistive technology for the writing response and/or other open response items. Internet access, grammar check, and word prediction functions must be turned off. An adult must transfer the student's responses exactly as written to the MIST testing platform. Any print copy must be shredded. Any electronic copy must be deleted. This accommodation also requires Adult Transcription.</p> <p>Students may use a range of assistive technologies on the assessment, including devices that are compatible with MIST and those that are used externally. Assistive technology options include, but are not limited to, adapted keyboards, large keyboards, MouseKeys, FilterKeys, adapted mouse, touch screen, Dynavox, and head wand.</p> |
| Braille Test Booklet                          | Provide a paper Braille test booklet. This accommodation requires Adult Transcription on the MIST platform.  |
| <p>Extended Time</p> <p>Paper Test</p>        | <p>Not to exceed double time. If a student has a need to exceed double time, please submit a Unique Accommodation Request.</p> <p>A PDF may be available through the Unique Accommodation Request process for students who are unable to participate in a computer-based assessment due to his or her disability. This accommodation requires Adult Transcription on the MIST platform.</p>  |
| Text-to-Speech for English Language Arts      | <p>A student receives an audio representation of the ELA/Literacy assessment via text-to-speech or a human signer. This accommodation is intended to provide access to text on TNReady ELA assessments to students with print related disabilities who would otherwise be unable to participate. Access is defined as a student is able to decode and comprehend text.</p> <p>For additional guidance, please see Appendix A</p>   |
| Human Signer for English Language Arts        | <p>A student who requires a human signer for English Language Arts content may use this accommodation during the TNReady English Language Arts assessment.</p> <p>For additional guidance, please see Appendix A.</p>  |
| Visual Representations for Math               | This accommodation may be used in place of scratch paper for students who typically use an abacus or manipulative such as cubes, tiles, rods, blocks, etc. This accommodation may not be used on the non-calculator sections of the assessment.  |
| Rest/Breaks                                   | This allows for the assessment to be paused at any time and restarted. Each session must be completed within one test day. Once paused, a student may not be able to view previously completed work if the break   |

| Accommodations for Students with Disabilities | Description  |
|---|--|
|   | exceeds 20 minutes.  |
| Speech-to-Text                                | Voice recognition software allows students to use their voices as input devices to the computer to dictate responses. Students may use their own assistive technology devices.             |
| Word Prediction                               | This accommodation provides a bank of frequently used words on-screen for the student to choose.   |
| Unique Accommodation Request                  | This request process is provided to review any accommodation not listed for a student with an identified need. The accommodation may not invalidate or modify any intended test construct. |

### Accommodations for English Learners and Transition Year 1 and Year 2 Students

Students who are not proficient in English, as determined by ACCESS for ELLs, may use, as appropriate, any of the accessibility features and any of the following accommodations. This includes English Learners (ELs) and students in the Transition Year 1 and Transition Year 2. Students whose parents have waived services are eligible to receive accommodations for ELs. As ELs gain in English proficiency, their need for support may decrease. The language proficiency of the student should be taken into consideration when determining appropriate EL accommodations.

| Accommodations for EL and T1/T2 Students | Description  |
|--|--|
| Extended Time                            | Not to exceed double time.   |
| Word-to-Word Dictionary                  | The student may use an approved bilingual, word-to-word dictionary. Dictionaries that include definitions, phrases, sentences, or pictures are not allowed. The student should be familiar with the dictionary they will use during testing. Students should be given ample time to complete the test using the accommodation. If no hard copy word-to-word dictionary can be found for a specific language, contact the Tennessee Department of Assessment for additional guidance. |
| Rest/Breaks                              | This allows for the assessment to be paused at any time and re-started. Each session must be completed within one test day. Once paused, a student may not be able to view previously completed work if the break exceeds 20 minutes.  |

## Section 4: The Decision-making Process for Selecting Accessibility Features and Accommodations

### Selecting Accessibility Features and Accommodations for Individual Students

When selecting accessibility features or accommodations, educators should consider the following:

- What learning challenges is the student experiencing?  
Observe the student’s classroom performance
- Does the feature or accommodation address the challenge?  
Try various supports in different instruction and assessment settings and evaluate whether they address the student’s needs; if not, revise the support(s) accordingly.
- Is the accessibility feature or accommodation allowed for TNReady?  
Develop a plan or amend the IEP/504 Plan in collaboration with an EL specialist, general education team, special education teacher, or school level decision making team, while reviewing the available supports. Remember that the different assessments and parts assess different content and additional support may not be necessary for each part.

Accessibility Features, including those identified in advance, and accommodations are intended to provide students with the tools and supports they need in order to participate fairly and equitably in the TNReady assessments. In making decisions regarding accessibility features and accommodations, educators should remember that:

- Students should only receive the supports that they use during daily instruction (with rare exceptions) and that they need in order to participate meaningfully in the assessment;
- Selection of supports should not be based on a “more-is-better” approach in an attempt to provide every possible advantage on the test, nor should students be provided with unnecessary accommodations;
- Accessibility features and accommodations should not be broadly assigned across all TNReady assessments and parts, but considered and discussed separately for each assessment and assessment part;
- Accommodations should not be assigned based on the type of disability or English language proficiency, but rather on the individual needs of the student based on data; and
- Accommodations should not be used to compensate for a student’s lack of knowledge and/or skills, or because of a lack of appropriate instruction.

When possible, educators should choose supports that are consistent with the student’s current needs, based on the experience of educators who currently work with the student, and they are consistent with those already used for routine instruction and local assessments. In any case, it is critical that students have the opportunity to become familiar with the accessibility feature or accommodation, and practice using them prior to the administration of the TNReady assessment. For this reason, it is necessary to decide on supports well in advance of the assessment.

Appendix A: Text-to-Speech Guidance : IEP or 504 Plan Decision Making Tool

Directions: This tool has been developed to assist IEP teams and 504 plan coordinators in identifying students who may need the accommodation of text-to-speech in order to access the English language arts assessment. Inappropriate use of an accommodation may result in the student’s assessment being invalidated and the score will not be included in summary calculations. The student will be considered a participant, but the test is not scored and all reports will indicate the score was nullified.

| Guidelines for IEP Team or 504 Plan Considerations  | Additional Guidance  |
|---|--|
| <p>The student has an Individual Education Plan (IEP) or 504 Plan</p>   | <p>Student has an approved IEP or current 504 plan</p>   |
| <p>In making decisions on whether to provide the student with this accommodation, IEP teams and 504 plan coordinators are instructed to consider whether the student has:</p> <ul style="list-style-type: none"> <li>• Blindness or a visual impairment and has not yet learned (or is unable to use) braille;<br/>Or</li> <li>• A disability that <b>severely</b> limits or prevents him/her from accessing text, even after varied and repeated attempts to teach the student to do so (e.g., student is unable to decode printed text);<br/>Or</li> <li>• Deafness or a hearing impairment and is severely limited or prevented from decoding text due to a documented history of early and prolonged language deprivation.</li> </ul> | <p>For the text-to-speech or human signer accommodation, the IEP team or 504 plan coordinator must determine whether the student has a disability that severely limits or prevents him or her from decoding text.</p> <p>For the text-to-speech or human signer accommodation, the IEP team or 504 plan coordinator must determine whether the student has a disability that severely limits or prevents him or her from accessing text.</p> <p>The IEP team or 504 plan must document objective evidence from a variety of sources (including state assessment, district assessment, and one or more locally-administered diagnostic assessments or other evaluation) that indicate that the student’s ability to decode text is severely limited or prevented or that the student is blind or visually impaired and has not yet learned (or is unable to use) braille.</p> |
| <p>Before listing the accommodation in the students evidence for that the student is blind or visually impaired and has not yet</p> <ul style="list-style-type: none"> <li>• The student has access to printed text during routine instruction through a reader or other spoken-text audio format, or interpreter;</li> <li>• The student’s inability to access text or read braille is documented in evaluation summaries from locally-administered diagnostic assessments; or</li> <li>• The student receives ongoing, intensive intervention and/or instruction in the foundational reading skills to continue to attain the important college and career-ready skill of independent reading.</li> </ul>                               | <p>List the data and evaluation sources:</p> <ol style="list-style-type: none"> <li>1. Name of Diagnostic Evaluation or Educational Assessment and scores:</li> <li>2. Provide a summary of the results:</li> <li>3. Additional Assessments and results:</li> <li>4. List the instructional intervention and supports specifically related to reading that are currently provided to the student: <ul style="list-style-type: none"> <li>• Intensive reading interventions have been provided for ___ years</li> <li>• List the specific school years and frequency<br/>_____</li> <li>• Describe and list the specific reading interventions provided to the student.</li> </ul> </li> </ol>  |

**Appendix B: Unique Accommodation Request Process**

Directions: If a student with a disability or English Learner requires an accommodation that is not listed in the Accessibility and Accommodation guidance document and does not change the construct being measured by the test, the school may request approval for use of the accommodation using this request form. If approved, the accommodation must be listed in the Individual Education Plan (IEP) or 504 plan for a student with a disability or the English Learner plan, if applicable.

To Request approval for a unique accommodation, this form must be completed and uploaded to EdTools by the principal or District Primary Testing Coordinator, or designee, at least six weeks prior to testing to ensure a timely state response is received. Do not email this form. Once the form is uploaded, email [tned.assessment@tn.gov](mailto:tned.assessment@tn.gov) to notify the Office of Assessment. A copy of this form must be kept in the student’s file and, if appropriate, retained at the district office.

|   |                         |
|---|-------------------------|
| <b>Contact Information</b>  |                         |
| District/School Name:   | District/School Number: |
| Name of Principal/Designee or District/LEA Assessment Coordinator:  | Date:                   |
| Email:  | Contact Number:         |
| <b>Student Information</b>  |                         |
| Student Name:   | State ID Number:        |
| Grade:  | DOB:                    |
| Indicate Type of Plan:    IEP    504 Plan    English Learner  |                         |
| <b>TNReady Test Administration</b>  |                         |
| For which TNReady Assessment are you seeking approval to use the unique accommodation?  |                         |
| Provide a brief description of the accommodation for which you are requesting approval:   |                         |
| Describe evidence that supports the need for this accommodation, including how it is used by the student in the classroom and on other assessments: |                         |

Appendix C: Decision Making Tool for Paper Based Testing

|   |   |
|---|---|
| <p>The following decision guidance may be used to inform teams when the team may request a Paper Based Testing option.<br/>                 Student: _____ District/School: _____</p>   |   |
| <p>Does the student have one of the following conditions:</p>   |   |
| <p>Blindness or a Visual Impairment</p>   | <p>Medical Condition or an Orthopedic Impairment</p>  |
| <p>If Yes, see corresponding columns below. If No, stop-student is not eligible to receive a paper based test due to his or her disability.</p>   |   |
| <p>Yes-the student is blind or significantly visually impaired</p>  | <p>Yes-the student has a medical condition or orthopedic impairment which precludes access to the on line platform</p>  |
| <p>Please answer the following questions:<br/>                 Step One: Zoom</p> <ul style="list-style-type: none"> <li>▪ Was the student provided multiple opportunities during multiple sessions to use the zoom tool?<br/>                     Yes-Did the tool provide adequate access?<br/>                     If yes, stop.<br/>                     If no, move to step two.<br/>                     No-Stop. Student must be provided the least restrictive option first.</li> </ul> <p>Step Two: Increased Font Size, in addition to Zoom</p> <ul style="list-style-type: none"> <li>▪ If the zoom tool did not provide adequate access, was the student provided multiple opportunities during multiple sessions to use increased font size in addition to the zoom tool?<br/>                     Yes-What was the outcome of this opportunity?<br/>                     No-Stop. Student must be provided the least restrictive option first.</li> </ul> <p>Step Three: Magnification Tool, in addition to Zoom and Increased Font Size</p> <ul style="list-style-type: none"> <li>▪ If increased font size in addition to the zoom tool did not provide adequate access, was the student provided multiple opportunities during multiple sessions to use the magnification bubble in conjunction with zoom and increased font size?<br/>                     Yes-What was the outcome of this opportunity?</li> </ul> <p>If unsuccessful, submit a unique accommodation request with all supporting evidence to request a PDF.<br/>                 No-Stop. Student must be provided the least restrictive option first.</p> | <p>Please answer the following questions:<br/>                 Step One: Doctor Statement</p> <ul style="list-style-type: none"> <li>▪ Does the student have a recent doctor’s statement or IEP or 504 plan evaluation to verify the student’s disability?<br/>                     Yes-Proceed to the next question.<br/>                     No-A current doctor’s statement or IEP or 504 plan evaluation is required before this condition will be considered.</li> </ul> <p>Step Two: Other attempted accommodations</p> <ul style="list-style-type: none"> <li>▪ Can the student access the on line assessment if provided multiple breaks, appropriate lighting, special time of day, and/or assistive technology?<br/>                     Yes-Stop. The student can be accommodated without the need for a PDF.<br/>                     No-List other accommodations attempted and outcomes of each:<br/>                     If listed accommodations do not provide access to the on line testing platform, proceed to Step Three.</li> </ul> <p>Step Three: Other devices</p> <ul style="list-style-type: none"> <li>▪ Is the student able to use a tablet or a Chromebook?<br/>                     Yes-Stop. Student is able to access TNReady via tablet or Chromebook.<br/>                     No- If student is unable to access TNReady via alternate devices and steps one and two have also been proven ineffective, submit a unique accommodation request form with all supporting evidence to request a PDF.</li> </ul> |

## Appendix D: Accommodations from the Student's Perspective

Use this questionnaire to collect information about needed accommodations from the student's perspective. The questions can be completed independently or as part of an interview process. Whatever method is used, however, be certain that the student understands the concept of an accommodation, providing examples as necessary. Also, provide a list of possible accommodations to give the student a good understanding of the range of accommodations that may be available.

1. Think about all the classes you are taking now. Which is your best class?

---

2. Explain what you do well in this class.

---

The things you said you can do well above are your strengths. For example, you may have mentioned reading, writing, listening, working in groups, working alone, drawing, or doing your homework as some things you can do well. If you said you really like the subject, have a good memory, and work hard in class, these are also examples of your strengths.

3. Now ask yourself, "What class is hardest?"

---

4. What's the hardest part of this class for you?

---

The things you said were hardest are areas you need to work on during the school year. For example, you may have listed paying attention in class, reading the book, taking tests, listening, staying in the seat, remembering new information, doing homework, or doing work in groups.

These are all things in which an accommodation may be helpful for you.

5. In the list that follows, write down all of the classes you are taking now. Then look at a list of accommodations. Next to each class, write down what accommodation(s) you think might be helpful for you.

Classes

Accommodations

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

Use this questionnaire to collect information about needed accommodations from the student's perspective. The questions can be completed independently or as part of an interview process. Whatever method is used, however, be certain that the student understands the concept of an accommodation, providing examples as necessary. Also, provide a list of possible accommodations to give the student a good understanding of the range of accommodations that may be available.

1. Think about all the classes you are taking now. Which is your best class?

---

2. Explain what you do well in this class.

---

The things you said you can do well above are your strengths. For example, you may have mentioned reading, writing, listening, working in groups, working alone, drawing, or doing your homework as some things you can do well. If you said you really like the subject, have a good memory, and work hard in class, these are also examples of your strengths.

3. Now ask yourself, "What class is hardest?"

---

4. What's the hardest part of this class for you?

---

The things you said were hardest are areas you need to work on during the school year. For example, you may have listed paying attention in class, reading the book, taking tests, listening, staying in the seat, remembering new information, doing homework, or doing work in groups.

These are all things in which an accommodation may be helpful for you.

5. In the list that follows, write down all of the classes you are taking now. Then look at a list of accommodations. Next to each class, write down what accommodation(s) you think might be helpful for you.

| Classes  | Accommodations |
|----------|----------------|
| 1. _____ | _____          |
| 2. _____ | _____          |
| 3. _____ | _____          |
| 4. _____ | _____          |
| 5. _____ | _____          |



STATE OF TENNESSEE  
**DEPARTMENT OF EDUCATION**  
6<sup>th</sup> FLOOR, ANDREW JOHNSON TOWER  
710 JAMES ROBERTSON PARKWAY  
NASHVILLE, TN 37243-0375

**BILL HASLAM**  
GOVERNOR

**KEVIN HUFFMAN**  
COMMISSIONER

TO: Directors of Special Education

FROM: Bill Wilson *BW*  
Assistant General Counsel for Special Education

DATE: October 4, 2012

RE: Assessment Accommodation Guidelines

The IDEA regulation at 34 C.F.R. § 300.160(b), regarding participation in assessments, provides that states must ensure that all children with disabilities are included in all general state and district-wide assessment programs with appropriate accommodations and alternate assessments, if necessary, as indicated in their respective IEPs. The regulation also directs states to develop guidelines for the provision of appropriate accommodations. Such guidelines must identify only those accommodations for each assessment that do not invalidate the score and the guidelines must instruct IEP Teams to select, for each assessment, only those accommodations that do not invalidate the test score.

The Tennessee Department of Education has developed such guidelines for the provision of appropriate accommodations. The guidelines were communicated to local education agencies. IEP teams were instructed to identify only the accommodations that do not invalidate test scores.

If an IEP contains an accommodation that is no longer allowed pursuant to the most recent accommodation guidelines, the accommodation will not be allowed on the particular assessment being administered.

Changes in accommodation guidelines, just as changes in state law, regulation or policy, do not require individual IEP meetings for every affected student. Dispute resolution procedures including written administrative complaints, mediation and due process hearings are not available to parents in such instances because the accommodation guidelines and changes thereto, are mandated by federal law and affect all students with disabilities. Local education agencies must inform parents of the most recent allowable test accommodations and this may be accomplished by letter prior to administration of a particular assessment.

cc: Kathleen Airhart, Deputy Commissioner  
Nan McKerley, Executive Director, Division of Special Education  
Lori Nixon, Office of Assessment



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DEPARTMENT OF EDUCATION  
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**BILL  
HASLAM**  
GOVERNOR

**CANDICE MCQUEEN**  
COMMISSIONER

## **Sample Letter: Testing Accommodations**

Dear Parent/Guardian,

After the 2014-15 school year, Tennessee will be replacing the TCAP Achievement and the TCAP End of Course with the Tennessee Ready (TNReady) for Language Arts and Mathematics. This change in testing may impact your child's individualized education plan (IEP). Your child's current IEP may need to be updated to reflect this new assessment and ensure that he/she is receiving the appropriate accommodations on the new assessment. The purpose of this letter is to inform you of the most recent allowable test accommodations and any changes needed to your child's accommodations in the IEP.

Many accommodations that were previously included on the IEP may already be incorporated into the new TNReady Test or may be available to all students. To help ensure that we are providing accommodations appropriate for your child on the TNReady Test, it is necessary to amend your child's IEP.

The IDEA regulation at 34 C.F.R. § 300.160(b), regarding participation in assessments, provides that states must ensure that all children with disabilities are included in all general state and district-wide assessment programs with appropriate accommodations and alternate assessments, if necessary, as indicated in their respective IEPs. Additionally, Section 614(d)(3)(D) of H.R. 1350, the revised Individuals with Disabilities Education Act, the "IDEA," provides as follows: In making changes to a child's IEP after the annual IEP meeting for a school year, the parent of a child with a disability and the public agency (school district) may agree not to convene an IEP meeting for the purposes of making those changes, and instead may develop a written document to amend or modify the child's current IEP. Such changes may be made by amending the IEP rather than by redrafting the entire IEP. Upon request, a parent must be provided with a revised copy of the IEP with the amendments incorporated.

The Tennessee Department of Education has developed guidelines for the provision of appropriate accommodations. The guidelines were communicated to local education agencies and IEP teams were instructed to identify only the accommodations that do not invalidate test scores.

If you have any questions or wish to discuss these changes rather than amend the IEP through use of the statewide process, please contact \_\_\_\_\_ at \_\_\_\_\_. A list of the changes due to new accessibility and accommodation guidance are attached to this letter.

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## **Assessment Terms Glossary**

**Blueprint:** Grade-level test design documents that provide a list of the standards assessed and also specify the range of items that are included on each test part. The blueprint is designed to depict how students' knowledge, skills, and abilities will be assessed and helps ensure that the test is aligned to classroom instruction.

**Composite score:** Test score that is derived by combining one or more scores by averaging or summing the contributing scores.

**Cut score:** A specified point on a scale score such that scores at or above or below that point are used to categorize students at various proficiency levels.

**Equating:** Procedure that allows for test scores to be compared across years as well as between forms. The procedure is a statistical process that requires attention throughout the test construction process.

**Linking Items:** The result of placing a common set of items on multiple test forms. Items can be linked across years as well as between forms in order to make statistical adjustments across tests that differ in content and/or difficulty.

**Performance level descriptors (PLDs):** Descriptions that broadly describe the content knowledge, skills, and practices students should be able to demonstrate at each performance level for each grade level.

**Predictive validity:** The ability of a score on one test to forecast or predict a student's probable performance on another test of similar skills.

**Raw score:** Test score based on the number of correct answers.

**Reporting Category:** Derived from student scores on subsets of test questions, used for diagnostic information to help identify student strengths and weaknesses, as well as inform instructional strategies. Scores stemming from reporting categories are called criterion-referenced scores, because they are estimates of how much a student knows in a clearly defined skill domain (i.e., the criterion).

**Scale score:** A mathematical transformation of a raw score that allows for direct comparisons of scores earned by a student across subtests and forms on a common interval scale. Scaling allows for comparison of scores from different groups of students.

**Spiraling:** A process used to randomize the distribution of test forms to students. Spiraled forms are possible when multiple, equated forms of a test exist.

**Standard-setting:** Procedure in which a panel of educators determines the cut scores for a given assessment that is used to measure students' progress towards certain performance standards.

**Test construct:** The concepts or skills that a test is designed to measure.

**Test Form:** Comparable versions of the assessment that include same operational items and different field test items.

**Test Part:** For TNReady, refers to the two sections of the test that occur (I) 2/3 of the way through the instructional period and (II) at the end of the course.

**Test Subtest:** The individual components of the Test Part that comprise the full form.

**Test Session:** The actual window of time during which the student completes the subtest and the proctor is present to oversee administration.

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# Tennessee's State Mathematics Standards - Algebra I

|                     |   | Standards   |   | Scope and Clarifications   |  |
|---------------------|---|---|---|--|--|
| Number and Quantity | The Real Number System (N-RN)           | Use properties of rational and irrational numbers       | <p>3. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.</p>   | <p><i>There is no additional scope or clarification information for this standard.</i></p>   |  |
|                     | Quantities* (N-Q)                       | Reason quantitatively and use units to solve problems.  | <p>1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p> <p>2. Define appropriate quantities for the purpose of descriptive modeling.</p> <p>3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p>  | <p><i>There is no additional scope or clarification information for this standard.</i></p> <p>This standard will be assessed in Algebra I by ensuring that some modeling tasks (involving Algebra I content or securely held content from grades 6-8) require the student to create a quantity of interest in the situation being described (i.e., a quantity of interest is not selected for the student by the task). For example, in a situation involving data, the student might autonomously decide that a measure of center is a key variable in a situation, and then choose to work with the mean.</p> <p><i>There is no additional scope or clarification information for this standard.</i></p>   |  |
| Algebra             | Seeing Structure in Expressions (A-SSE) | Interpret the structure of expressions                  | <p>1. Interpret expressions that represent a quantity in terms of its context.*</p> <p>a. Interpret parts of an expression, such as terms, factors, and coefficients.</p> <p>b. Interpret complicated expressions by viewing one or more of their parts as a single entity. <i>For example, interpret <math>P(1+r)^n</math> as the product of <math>P</math> and a factor not depending on <math>P</math>.</i></p> <p>2. Use the structure of an expression to identify ways to rewrite it. <i>For example, see <math>x^4 - y^4</math> as <math>(x^2)^2 - (y^2)^2</math>, thus recognizing it as a difference of squares that can be factored as <math>(x^2 - y^2)(x^2 + y^2)</math>.</i></p> | <p><i>There is no additional scope or clarification information for this standard.</i></p>   |  |
|                     |   | Write expressions in equivalent forms to solve problems | <p>3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*</p> <p>a. Factor a quadratic expression to reveal the zeros of the function it defines.</p> <p>b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.</p> <p>c. Use the properties of exponents to transform expressions for exponential functions. <i>For example the expression <math>1.15^t</math> can be rewritten as <math>(1.15^{1/12})^{12t} \approx 1.012^{12t}</math> to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.</i></p>       | <p><i>There is no additional scope or clarification information for this standard.</i></p> <p>i) Tasks are limited to numerical expressions and polynomial expressions in one variable.</p> <p>ii) Examples: Recognize <math>53^2 - 47^2</math> as a difference of squares and see an opportunity to rewrite it in the easier-to-evaluate form <math>(53+47)(53-47)</math>. See an opportunity to rewrite <math>a^2 + 9a + 14</math> as <math>(a+7)(a+2)</math>.</p> <p>i) Tasks have a real-world context. As described in the standard, there is an interplay between the mathematical structure of the expression and the structure of the situation such that choosing and producing an equivalent form of the expression reveals something about the situation.</p> <p>ii) Tasks are limited to exponential expressions with integer exponents.</p> |  |



# Tennessee's State Mathematics Standards - Algebra I

| Reasoning with Equations and Inequalities (A-REI)                                |   | Algebra |  |
|--|---|---------|--|
| Understand solving equations as a process of reasoning and explain the reasoning | 1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.  |         | i) Tasks are limited to quadratic equations.   |
| Solve equations and inequalities in one variable                                 | 3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.<br>4. Solve quadratic equations in one variable.<br>a. Use the method of completing the square to transform any quadratic equation in $x$ into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.<br>b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers $a$ and $b$ .   |         | There is no additional scope or clarification information for this standard.<br><br>For A-REI.4b:<br>i) Tasks do not require students to write solutions for quadratic equations that have roots with nonzero imaginary parts. However, tasks can require the student to recognize cases in which a quadratic equation has no real solutions.<br><br><i>Note, solving a quadratic equation by factoring relies on the connection between zeros and factors of polynomials (cluster A-APR.B). Cluster A-APR.B is formally assessed in A2.</i> |
| Solve systems of equations   | 5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.<br>6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.   |         | There is no additional scope or clarification information for this standard.<br><br>i) Tasks have a real-world context.<br>ii) Tasks have hallmarks of modeling as a mathematical practice (less defined tasks, more of the modeling cycle, etc.).   |
| Represent and solve equations and inequalities graphically                       | 10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).<br>11. Explain why the $x$ -coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$ ; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*<br>12. Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes. |         | There is no additional scope or clarification information for this standard.<br><br>i) Tasks that assess conceptual understanding of the indicated concept may involve any of the function types mentioned in the standard except exponential and logarithmic functions.<br>ii) Finding the solutions approximately is limited to cases where $f(x)$ and $g(x)$ are polynomial functions.  |
|  |   |         | There is no additional scope or clarification information for this standard.   |

# Tennessee's State Mathematics Standards - Algebra I

| Functions  |   | Interpreting Functions (F-IF)  |  |
|--|---|--|--|
| Understand the concept of a function and use function notation         | <ol style="list-style-type: none"> <li>Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If <math>f</math> is a function and <math>x</math> is an element of its domain, then <math>f(x)</math> denotes the output of <math>f</math> corresponding to the input <math>x</math>. The graph of <math>f</math> is the graph of the equation <math>y = f(x)</math>.</li> <li>Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.</li> <li>Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. <i>For example, the Fibonacci sequence is defined recursively by <math>f(0) = 1, f(n+1) = f(n) + f(n-1)</math> for <math>n \geq 1</math>.</i></li> </ol> | <p><i>There is no additional scope or clarification information for this standard.</i></p> <p><i>There is no additional scope or clarification information for this standard.</i></p> <p>i) This standard is part of the Major work in Algebra I and will be assessed accordingly.</p>   | <p><i>There is no additional scope or clarification information for this standard.</i></p> |
| Interpret functions that arise in applications in terms of the context | <ol style="list-style-type: none"> <li>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <i>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</i>★</li> <li>Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. <i>For example, if the function <math>h(n)</math> gives the number of person-hours it takes to assemble <math>n</math> engines in a factory, then the positive integers would be an appropriate domain for the function.</i>★</li> </ol>  | <p>i) Tasks have a real-world context.<br/>ii) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.</p> <p><i>Compare note (ii) with standard F-IF.7. The function types listed here are the same as those listed in the Algebra I column for standards F-IF.6 and F-IF.9.</i></p> | <p><i>There is no additional scope or clarification information for this standard.</i></p> |
| Interpret functions that arise in applications in terms of the context | <ol style="list-style-type: none"> <li>Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.</li> </ol>  | <p>i) Tasks have a real-world context.<br/>ii) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.</p> <p><i>The function types listed here are the same as those listed in the Algebra I column for standards F-IF.4 and F-IF.9.</i></p>   | <p><i>There is no additional scope or clarification information for this standard.</i></p> |

# Tennessee's State Mathematics Standards - Algebra I

| Functions                     |  |
|-------------------------------|--|
| Interpreting Functions (F-IF) | Analyze functions using different representations                  |
| Building Functions (F-BF)     | Build a function that models a relationship between two quantities |
| Building Functions (F-BF)     | Build new functions from existing functions                        |
| Interpreting Functions (F-IF) | Analyze functions using different representations                  |
| Building Functions (F-BF)     | Build a function that models a relationship between two quantities |
| Building Functions (F-BF)     | Build new functions from existing functions                        |

7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★  
 a. Graph linear and quadratic functions and show intercepts, maxima, and minima.  
 b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.

8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.  
 a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.

9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*

*There is no additional scope or clarification information for this standard.*

*There is no additional scope or clarification information for this standard.*

i) Tasks are limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.  
*The function types listed here are the same as those listed in the Algebra I column for standards F-IF.4 and F-IF.6.*

i) Tasks have a real-world context.  
 ii) Tasks are limited to linear functions, quadratic functions, and exponential functions with domains in the integers.

i) Identifying the effect on the graph of replacing  $f(x)$  by  $f(x) + k$ ,  $k f(x)$ ,  $f(kx)$ , and  $f(x+k)$  for specific values of  $k$  (both positive and negative) is limited to linear and quadratic functions.  
 ii) Experimenting with cases and illustrating an explanation of the effects on the graph using technology is limited to linear functions, quadratic functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.  
 iii) Tasks do not involve recognizing even and odd functions.

3. Identify the effect on the graph of replacing  $f(x)$  by  $f(x) + k$ ,  $k f(x)$ ,  $f(kx)$ , and  $f(x + k)$  for specific values of  $k$  (both positive and negative); find the value of  $k$  given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*

*The function types listed in note (ii) are the same as those listed in the Algebra I column for standards F-IF.4, F-IF.6, and F-IF.9.*

# Tennessee's State Mathematics Standards - Algebra I

| <b>Functions</b><br><b>Linear, Quadratic, and Exponential Models*</b><br><b>(F–LE)</b>  |   | <b>Construct and compare linear, quadratic, and exponential models and solve problems</b>  | <b>Interpret expressions for functions in terms of the situation they model</b>               |
|---|---|--|---|
| <p>1. Distinguish between situations that can be modeled with linear functions and with exponential functions.</p> <p>a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.</p> <p>b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.</p> <p>c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.</p> | <p>2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).</p> | <p>3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.</p> | <p>5. Interpret the parameters in a linear or exponential function in terms of a context.</p> |
| <p><i>There is no additional scope or clarification information for this standard.</i></p>  |   | <p><i>There is no additional scope or clarification information for this standard.</i></p>   |   |
| <p>i) Tasks are limited to constructing linear and exponential functions in simple context (not multi-step).</p>  |   | <p>i) Tasks have a real-world context.<br/>ii) Exponential functions are limited to those with domains in the integers.</p>  |   |
| <p><i>There is no additional scope or clarification information for this standard.</i></p>  |   | <p><i>There is no additional scope or clarification information for this standard.</i></p>   |   |

# Tennessee's State Mathematics Standards - Algebra I

| Statistics and Probability   |   | Interpreting Categorical and Quantitative Data (5-ID)   |  |
|--|---|---|--|
| Summarize, represent, and interpret data on a single count or measurement variable     | 1. Represent data with plots on the real number line (dot plots, histograms, and box plots).  | There is no additional scope or clarification information for this standard.  |  |
|  | 2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.   | There is no additional scope or clarification information for this standard.  |  |
|  | 3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).   | There is no additional scope or clarification information for this standard.  |  |
| Summarize, represent, and interpret data on two categorical and quantitative variables | 5. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.  | There is no additional scope or clarification information for this standard.  |  |
|  | 6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. <ul style="list-style-type: none"> <li>a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. <i>Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.</i></li> <li>b. Informally assess the fit of a function by plotting and analyzing residuals.</li> <li>c. Fit a linear function for a scatter plot that suggests a linear association.</li> </ul> | For S-ID.6a:<br>i) Tasks have a real-world context.<br>ii) Exponential functions are limited to those with domains in the integers. |  |
| Interpret linear   | 7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.   | There is no additional scope or clarification information for this standard.  |  |
|  | 8. Compute (using technology) and interpret the correlation coefficient of a linear fit.  | There is no additional scope or clarification information for this standard.  |  |
|  | 9. Distinguish between correlation and causation.   | There is no additional scope or clarification information for this standard.  |  |

|               |                    |                    |
|---------------|--------------------|--------------------|
| Major Content | Supporting Content | Additional Content |
|---------------|--------------------|--------------------|

\*Mathematical Modeling is a Standard for Mathematical Practice (MP4) and a Conceptual Category, and specific modeling standards appear throughout the high school standards indicated with a star (\*). Where an entire domain is marked with a star, each standard in that domain is a modeling standard.

# Tennessee's State Mathematics Standards - Core Math I

| Number and Quantity |                             | Domain                                  | Cluster   | Standard   | Scope and Clarifications   |
|---------------------|-----------------------------|---|---|--|--|
| Algebra             | Creating Equations* (A-CED) | Seeing Structure in Expressions (A-SSE) | Create equations that describe numbers or relationships | <ol style="list-style-type: none"> <li>1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</li> <li>2. Define appropriate quantities for the purpose of descriptive modeling.</li> <li>3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</li> </ol>  | <p><i>There is no additional scope or clarification information for this standard.</i></p> <p>This standard will be assessed in Math I by ensuring that some modeling tasks (involving Math I content or securely held content from grades 6-8) require the student to create a quantity of interest in the situation being described (i.e., a quantity of interest is not selected for the student by the task). For example, in a situation involving data, the student might autonomously decide that a measure of center is a key variable in a situation, and then choose to work with the mean.</p> <p><i>There is no additional scope or clarification information for this standard.</i></p> |
|                     |                             |   |   | <ol style="list-style-type: none"> <li>1. Interpret expressions that represent a quantity in terms of its context.*               <ol style="list-style-type: none"> <li>a. Interpret parts of an expression, such as terms, factors, and coefficients.</li> <li>b. Interpret complicated expressions by viewing one or more of their parts as a single entity. <i>For example, interpret <math>P(1+r)^n</math> as the product of <math>P</math> and a factor not depending on <math>P</math>.</i></li> </ol> </li> <li>3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*               <ol style="list-style-type: none"> <li>c. Use the properties of exponents to transform expressions for exponential functions. <i>For example the expression <math>1.15^t</math> can be rewritten as <math>(1.15^{1/12})^{12t} \approx 1.012^{12t}</math> to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.</i></li> </ol> </li> </ol> | <p>i) Tasks are limited to exponential expressions, including related numerical expressions.</p> <p><i>There is no additional scope or clarification information for this standard.</i></p>  |
| Algebra             | Creating Equations* (A-CED) | Seeing Structure in Expressions (A-SSE) | Write expressions in equivalent forms to solve problems | <ol style="list-style-type: none"> <li>1. Create equations and inequalities in one variable and use them to solve problems. <i>Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</i></li> <li>2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</li> <li>3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. <i>For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.</i></li> <li>4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. <i>For example, rearrange Ohm's law <math>V = IR</math> to highlight resistance <math>R</math>.</i></li> </ol>  | <p>i) Tasks are limited to linear or exponential equations with integer exponents. ii) Tasks have a real-world context. iii) In the linear case, tasks have more of the hallmarks of modeling as a mathematical practice (less defined tasks, more of the modeling cycle, etc.).</p> <p>ii) Tasks are limited to linear equations ii) Tasks have a real-world context. iii) Tasks have the hallmarks of modeling as a mathematical practice (less defined tasks, more of the modeling cycle, etc.).</p> <p><i>There is no additional scope or clarification information for this standard.</i></p>   |
|                     |                             |   |   | <ol style="list-style-type: none"> <li>1. Create equations and inequalities in one variable and use them to solve problems. <i>Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</i></li> <li>2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</li> <li>3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. <i>For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.</i></li> <li>4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. <i>For example, rearrange Ohm's law <math>V = IR</math> to highlight resistance <math>R</math>.</i></li> </ol>  | <p>i) Tasks are limited to linear equations ii) Tasks have a real-world context. iii) Tasks have the hallmarks of modeling as a mathematical practice (less defined tasks, more of the modeling cycle, etc.).</p> <p>ii) Tasks are limited to linear equations ii) Tasks have a real-world context. iii) Tasks have the hallmarks of modeling as a mathematical practice (less defined tasks, more of the modeling cycle, etc.).</p> <p><i>There is no additional scope or clarification information for this standard.</i></p>  |

# Tennessee's State Mathematics Standards - Core Math I

| Algebra   |  | Domain   | Cluster   | Standard   | Scope and Clarifications |
|---|--|--|---|--|--------------------------|
| Reasoning with Equations and Inequalities (A-REI) |  | Solve equations and inequalities in one variable           | 3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.   | <i>There is no additional scope or clarification information for this standard.</i>  |                          |
|   |  |  | 5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.  | <i>There is no additional scope or clarification information for this standard.</i>  |                          |
|   |  | Solve systems of equations                                 | 6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.   | <i>There is no additional scope or clarification information for this standard.</i>  |                          |
|   |  |  | 10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).   | <i>There is no additional scope or clarification information for this standard.</i>  |                          |
|   |  |  | 11. Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$ ; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. ★ | i) Tasks that assess conceptual understanding of the indicated concept may involve any of the function types mentioned in the standard except exponential and logarithmic functions. ii) Finding the solutions approximately is limited to cases where $f(x)$ and $g(x)$ are polynomial. |                          |
|   |  | Represent and solve equations and inequalities graphically | 12. Graph the solutions to a linear inequality in two variables as a halfplane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.  | <i>There is no additional scope or clarification information for this standard.</i>  |                          |

# Tennessee's State Mathematics Standards - Core Math I

| Functions  |  | Domain | Cluster  | Standard  | Scope and Clarifications  |
|--|--|--------|--|---|---|
| Interpreting Functions<br>(F-IF)   | Understand the concept of a function and use function notation         |        |  | 1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$ . The graph of $f$ is the graph of the equation $y = f(x)$ .                            | <i>There is no additional scope or clarification information for this standard.</i> |
|  |  |        |  | 2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.  | <i>There is no additional scope or clarification information for this standard.</i> |
|  | Interpret functions that arise in applications in terms of the context |        |  | 3. Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. <i>For example, the Fibonacci sequence is defined recursively by <math>f(0) = 1, f(n+1) = f(n) + f(n-1)</math> for <math>n \geq 1</math>.</i>   | <i>There is no additional scope or clarification information for this standard.</i> |
| 4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <i>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</i> * |  |        |  | i) Tasks have a real-world context.<br>ii) Tasks are limited to linear functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.<br>The function types listed here are the same as those listed in the Math I column for standards F-IF.6 and F-IF.9. |   |
| Analyze functions using different representations  |  |        | 5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. <i>For example, if the function <math>h(n)</math> gives the number of person-hours it takes to assemble <math>n</math> engines in a factory, then the positive integers would be an appropriate domain for the function.</i> * | i) Tasks have a real-world context.<br>ii) Tasks are limited to linear functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.  |   |
|  |  |        | 6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. *  | i) Tasks have a real-world context.<br>ii) Tasks are limited to linear functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.<br>The function types listed here are the same as those listed in the Math I column for standards F-IF.4 and F-IF.9. |   |
|  |  |        | 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. *   | i) Tasks are limited to linear functions.   |   |
|  |  |        | a. Graph linear and quadratic functions and show intercepts, maxima, and minima.   |   |   |
|  |  |        | 9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). <i>For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.</i>  | i) Tasks have a real-world context.<br>ii) Tasks are limited to linear functions, square root functions, cube root functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.<br>The function types listed here are the same as those listed in the Math I column for standards F-IF.4 and F-IF.6. |   |

# Tennessee's State Mathematics Standards - Core Math I

| Functions  |  | Domain   | Cluster  | Standard | Scope and Clarifications   |
|--|--|--|--|----------|--|
| Building Functions<br>(F-BF)                         | Construct and compare linear, quadratic, and exponential models and solve problems | Build a function that models a relationship between two quantities | 1. Write a function that describes a relationship between two quantities.★<br>a. Determine an explicit expression, a recursive process, or steps for calculation from a context.   |          | i) Tasks have a real-world context.<br>ii) Tasks are limited to linear functions and exponential functions with domains in the integers. |
|  |  |  | 2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.★   |          | <i>There is no additional scope or clarification information for this standard.</i>  |
| Linear, Quadratic, and Exponential Models★<br>(F-LE) | Construct and compare linear, quadratic, and exponential models and solve problems | Build a function that models a relationship between two quantities | 1. Distinguish between situations that can be modeled with linear functions and with exponential functions.<br>a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.<br>b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.<br>c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. |          | <i>There is no additional scope or clarification information for this standard.</i>  |
|  |  |  | 2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).   |          | <i>There is no additional scope or clarification information for this standard.</i>  |
|  |  |  | 3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.  |          | <i>There is no additional scope or clarification information for this standard.</i>  |
|  | Interpret expressions for functions in terms of the situation they model           |  | 5. Interpret the parameters in a linear or exponential function in terms of a context.   |          | <i>There is no additional scope or clarification information for this standard.</i>  |

# Tennessee's State Mathematics Standards - Core Math I

| Domain   | Cluster  | Standard   | Scope and Clarifications  |
|--|--|--|---|
| <p style="text-align: center;"><b>Geometry</b></p> <p style="text-align: center;"><b>Congruence (G-CO)</b></p> | <p style="text-align: center;">Experiment with transformations in the plane</p>    | <ol style="list-style-type: none"> <li>1. Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.</li> <li>2. Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).</li> <li>3. Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.</li> <li>4. Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.</li> <li>5. Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.</li> </ol> | <p><i>There is no additional scope or clarification information for this standard.</i></p> <p><i>There is no additional scope or clarification information for this standard.</i></p> <p><i>There is no additional scope or clarification information for this standard.</i></p> <p><i>There is no additional scope or clarification information for this standard.</i></p> |
|  | <p style="text-align: center;">Understand congruence in terms of rigid motions</p> | <ol style="list-style-type: none"> <li>6. Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.</li> <li>7. Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.</li> </ol>   | <p><i>There is no additional scope or clarification information for this standard.</i></p> <p><i>There is no additional scope or clarification information for this standard.</i></p>   |
|  | <p style="text-align: center;">Prove geometric theorems</p>                        | <ol style="list-style-type: none"> <li>8. Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.</li> <li>9. Prove theorems about lines and angles. <i>Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.</i></li> <li>10. Prove theorems about triangles. <i>Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.</i></li> <li>11. Prove theorems about parallelograms. <i>Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.</i></li> </ol>                                   | <p><i>There is no additional scope or clarification information for this standard.</i></p> <p><i>There is no additional scope or clarification information for this standard.</i></p> <p><i>There is no additional scope or clarification information for this standard.</i></p> <p><i>There is no additional scope or clarification information for this standard.</i></p> |

# Tennessee's State Mathematics Standards - Core Math I

| Statistics and Probability |  | Domain   | Cluster  | Standard   | Scope and Clarifications |
|----------------------------|--|--|--|--|--------------------------|
| (S-ID)                     | Interpreting Categorical and Quantitative Data | Summarize, represent, and interpret data on a single count or measurement variable     | 1. Represent data with plots on the real number line (dot plots, histograms, and box plots).   | There is no additional scope or clarification information for this standard.   |                          |
|                            |  |  | 2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.  | There is no additional scope or clarification information for this standard.   |                          |
|                            |  |  | 3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).  | There is no additional scope or clarification information for this standard.   |                          |
|                            |  | Summarize, represent, and interpret data on two categorical and quantitative variables | 5. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.   | There is no additional scope or clarification information for this standard.   |                          |
|                            |  |  | 6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. <ul style="list-style-type: none"> <li>a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. <i>Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.</i></li> <li>c. Fit a linear function for a scatter plot that suggests a linear association.</li> </ul> | i) Tasks have real-world context.<br>ii) Tasks are limited to linear functions and exponential functions with domains in the integers. |                          |
|                            |  |  | 7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.  | There are no assessment limits for this standard. The entire standard is assessed in this course.                                      |                          |
|                            |  | Interpret linear models  | 8. Compute (using technology) and interpret the correlation coefficient of a linear fit.   | There are no assessment limits for this standard. The entire standard is assessed in this course.                                      |                          |
|                            |  |  | 9. Distinguish between correlation and causation.  | There are no assessment limits for this standard. The entire standard is assessed in this course.                                      |                          |

|               |                    |                    |
|---------------|--------------------|--------------------|
| Major Content | Supporting Content | Additional Content |
|---------------|--------------------|--------------------|

\*Mathematical Modeling is a Standard for Mathematical Practice (MP4) and a Conceptual Category, and specific modeling standards appear throughout the high school standards indicated with a star (\*). Where an entire domain is marked with a star, each standard in that domain is a modeling standard.



## TNReady ELA Resources Walkthrough Notes

|                                      |                                  |
|--------------------------------------|----------------------------------|
| ELA Item Analysis Key Notes          |                                  |
| ELA Writing Types Key Notes          |                                  |
| ELA Blueprint Summary Key Notes      |                                  |
| ELA Blueprint Part I and Part II     |                                  |
| ELA Passage Specifications Key Notes |                                  |
| Instructional Planning Implications  | Curricular Planning Implications |



## TNReady Math Resources Walkthrough Notes

|  |                                  |
|--|----------------------------------|
| Math Item Analysis Key Notes                               |                                  |
| Math Blueprint Summary Key Notes                           |                                  |
| Math Blueprint Part I Key Notes on Major Work of the Grade |                                  |
| Math Blueprint Part II Key Notes                           |                                  |
| Math Calculator Guidance Key Notes                         |                                  |
| Instructional Planning Implications                        | Curricular Planning Implications |



# Tennessee Department of Education

## Spring 2015 Leadership Course

### Contact Information:

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With questions, please contact:

- [TNcore.questions@tn.gov](mailto:TNcore.questions@tn.gov)
- Your facilitators

Your facilitators today were:

Name \_\_\_\_\_ Email: \_\_\_\_\_

Name \_\_\_\_\_ Email: \_\_\_\_\_

Name \_\_\_\_\_ Email: \_\_\_\_\_