



Strong Objectives: How to Write Aligned, Specific and Measurable Statements

Overview

Why focus on writing strong objectives?

Objectives refer to a description of observable student knowledge and/or performance. The stronger the objective, the higher the level of understanding the students are able to reach. Objectives guide the activities and assessments we chose to improve and evaluate our students' understanding of concepts. It is important, therefore, that we learn to write strong objectives. Objectives should be the learning related to the standards, meaning, they describe the intended student learning outcome inherent in a standard.

Writing Strong Objectives

What are the components of a strong objective?

A strong objective should be clearly aligned to standards, specific and measurable. It should answer two questions: (1) what is the student going to be able to do and (2) how is the student going to achieve the desired outcome? The objective should tell us explicitly what a student should be able to do fluently by the end of the lesson or unit to demonstrate proficiency of a specific standard or set of standards.

1) What:

- What new pieces of knowledge (such as the description of a concept or the definition of a key term) will students be able to understand and explain?
- What new skill will students be able to perform? This is something each student is going to walk away with inside his or her head that wasn't there before.

2) How:

- What process or strategy will students use to achieve the learning goal?
- What activities will we use to assess student understanding?

The answers to these questions should come from the knowledge and skills within a standard (or set of standards). Standards referenced at the end of each Course Description Document, in addition to the specific numbered standards that make up a course, can serve as a resource for creating objectives. Let's look at a template to get us started thinking about what makes up a strong objective.

Work It Out

Objective Structure

Students will be able to _____, by _____.

What? *How?*

Check the Strength

- Is it clear how this objective connects to a standard or set of standards in my course?
- Is it clear what methods/activities students will use to gain and demonstrate their understanding?
- Is it specific enough to differentiate the distinct pieces of knowledge and/or skills students need?
- Is it measurable? Does it give details on specific activities a proficient student would be able to complete effectively to demonstrate their understanding?



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The Writing Process

The first step in the writing process is to refer to the specific knowledge and skills you are trying to accomplish. These should be based on your specific standard(s). For more information on unpacking standards into knowledge and skills, complete the *Knowledge and Skills: How to Unpack a Standard* worksheet.

The second step is to arrange the knowledge and skills into a “students will be able to” statement, noting the distinct concept(s) you will be covering and also the approach you will be using with your students. Remember to make it specific and measurable.

<p>Make it Specific! A <u>specific</u> objective differentiates the distinct pieces of knowledge and/or skills a student needs to become proficient in a standard. It clearly describes, in detail, exactly what the teacher is going to cover and what the student will know by the end of the lesson/unit.</p>	
Strong	Weak
Demonstrate understanding of the engineering design process by describing what occurs during each step of the 12-step process.	Understand the engineering design process.
<p>Make it Measurable! A <u>measurable</u> objective outlines specific activities students will be using to gain, and demonstrate, an understanding of the concept in the standard. It clearly describes, in detail, what a proficient student would be able to accomplish by the end of the lesson/unit. How a teacher would assess the knowledge/skill should be clear.</p>	
Strong	Weak
Consider the design and function of a glass ketchup bottle, and identify a problem with the design. Then, list the criteria and constraints that were possibly used during the design process that led to the plastic squeezable ketchup bottle.	Evaluate a design solution.

Use the “SWBAT *What by How*” formula to craft your own strong objectives from the knowledge and skills you have already unpacked from your standards. Follow along on the example on the next page to enhance your understanding of the process.

Bridge to Practice

It’s your turn!

Follow the two-step process outlined above with a course of your choosing using the following templates.

- **Step 1:** Unpack the knowledge and skills of a standard, being sure to reference aligned standards.
- **Step 2:** Craft SWBAT statements that are specific and measurable.



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Make sure that your objective clearly communicates and describes the intended learning outcome. Remember, it should answer two questions: 1) What students are going to be able to do and 2) How the student is going to achieve the desired outcome.

You're done!

The writing is complete! These detailed objective statements will be useful when you move on to creating a curriculum map and student outcome-focused lessons.

Questions about this process or need assistance? Please contact CTE.Questions@tn.gov.



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Example Process

Principles of Engineering and Technology

Standard 7

In teams, evaluate an existing large-scale engineering design using the engineering design process. Produce a report on the chosen design, and assume the role of the engineering design team that produced the design. Document constraints that may have been faced by the design team, criteria for measuring effectiveness of the design, and progress through each step of the engineering design process. Create and deliver a presentation appropriate for a career and technical student organization (CTSO) event. (TN Reading 3, 4, 5, 7; TN Writing 2, 4, 9)

Writing Process Step 1: Identify Knowledge and Skills

Standard	Knowledge	Skills
In teams, evaluate an existing large-scale engineering design using the engineering design process. Produce a report on the chosen design, and assume the role of the engineering design team that produced the design. Document constraints that may have been faced by the design team, criteria for measuring effectiveness of the design, and progress through each step of the engineering design process. Create and deliver a presentation appropriate for a career and technical student organization (CTSO) event. (TN Reading 3, 4, 5, 7; TN Writing 2, 4, 9)	<p>Engineering Design Process</p> <ul style="list-style-type: none"> Identify the problem; identify the criteria and specify constraints; brainstorm possible solutions; research and generate ideas; explore alternative solutions; select an approach; write a design proposal; develop a model or prototype; test and evaluate; refine and improve; create or make a product; and communicate results <p>Role (of a design team)</p> <ul style="list-style-type: none"> Team consists of individuals knowledgeable of various perspectives of the final product. <p>Constraints</p> <ul style="list-style-type: none"> Restrictions or limits to the design process. <p>Criteria</p> <ul style="list-style-type: none"> Requirements for the design that are used to determine the most optimal solution. 	<p>Evaluate</p> <ul style="list-style-type: none"> Judge product/design solution to determine its value and alignment to criteria and constraints. <p>Produce a report, document (verb)</p> <ul style="list-style-type: none"> Organized, clear, and complete written communication that includes text and graphic illustrations about the design process and solution, as well as considers the knowledge of the audience. <p>Create and deliver a presentation</p> <ul style="list-style-type: none"> Organized, clear, and complete oral communication that includes text and graphic illustrations about the design process and solution, as well as considers the knowledge of the audience.



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Refer to referenced standards for more details:

TN Reading 3: Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.

TN Writing 4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Writing Process Step 2: Create Specific, Measurable SWBAT Statements

Students will be able to (SWBAT)	Objective
SWBAT	<ul style="list-style-type: none">• Research design teams of well-known innovations and define the various roles of team members.• Create a graphic representation of the steps in the engineering design process, outlining what is involved.• Discuss how and why constraints and criteria are used to evaluate a design solution.• Research and identify common innovations like the cell phone and write a description of the engineering design process that may have led to its creation.• Read a case study of a major design problem, such as raising the shipwrecked Costa Concordia. Then, identify and explain the engineering design process steps in an oral presentation to the class.

Important to note: the objectives provided are written for the standard, not for a single day of instruction. Some standards may take several days of instruction to cover.



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Students will be able to (SWBAT)	Objective
SWBAT	



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SWBAT	