

Math: Grade 1, Lesson 17, Less Than

Lesson Focus: Model and compare two-digit numbers to determine which is less.

Practice Focus: Students will focus on practicing comparing two numbers in order to find which is less.

Objective: Students will use drawings to represent and compare two numbers with a focus on which is less.

Key Vocabulary: is less than $<$, less, fewer, least, fewest, tens place, ones place

TN Standards: 1.NBT.B.3

Teacher Materials:

- Snap cubes
- Base 10 blocks
- Place value chart
- Document camera or interactive board
- Markers
- Student practice packet

Student Materials:

- Paper
- Pencil

Teacher Do	Student Do
<p><u>Opening</u> (1 min)</p> <p>Hello! Welcome to Tennessee's At Home Learning Series for math! Today's lesson is for all our 1st graders out there, though all children are welcome to tune in. This lesson is the seventeenth in our series.</p> <p>My name is ____ and I'm a ____ grade teacher in Tennessee schools! I'm so excited to be your teacher for this lesson! Welcome to my virtual classroom!</p> <p>If you didn't see our previous lesson, you can find it on the TN Department of Education's website at www.tn.gov/education. You can still tune in to today's lesson if you haven't seen any of our others. But, it might be more fun if you first go back and watch our other lessons since we'll be talking about things we learned previously.</p> <p>Today we will be learning about how to model and compare two-digit numbers to determine which is less in mathematics! Before we get started, to participate fully in our lesson today, you will need:</p> <ul style="list-style-type: none">• Paper• Pencil• The student packet for Math, Grade 1, Lesson 17 which can be found at www.tn.gov/education	<p>Students get materials ready for the lesson.</p>

<p>Ok, let's begin!</p>	
<p><u>Intro</u> (3 min.)</p> <p>[Teacher lays out two piles of cubes. The piles need to be difficult to visually see how many cubes are in each pile. One pile contains 8 cubes of one color (ex: red); the second pile contains 11 cubes of another color (ex: blue).]</p> <p>I have some cubes here that I need your help comparing. Can you tell me which pile has less, or fewer, amount of cubes? Will it be the red pile or the blue pile?</p> <p>[Pause]</p> <p>What's that?.....</p> <p>[Pause]</p> <p>You're right, it is hard to tell which pile has less, or fewer, amount of cubes. Let me see if I could put the cubes in a new arrangement to make it easier for us to compare.</p> <p>I will arrange the two piles of cubes into two cube trains.</p> <p>One red cube train and one blue cube train.</p> <p>[Teacher rearranges cubes into two cube trains made up of single unifix/snapping cubes. One of length 8 (red) and one of length 11 (blue).]</p> <p>I think this new cube train arrangement helps me better compare the two piles of cubes....don't you?</p> <p>[Pause]</p> <p>Now I am ready to see which pile of cubes has less, or fewer cubes.</p> <p>[Pause]</p> <p>[Stack the two cube trains on top of one another. Red (8) on top; blue (11) underneath.]</p> <p>How do I know which cube train has less cubes?</p> <p>[Pause]</p> <p>You're right. The red cube train is shorter than the blue cube train. That means the red pile of cubes has less cubes than the blue pile of cubes.</p> <p>I can show the red cube train is shorter and has less cubes than the blue cube train by making matches. Watch as I match each cube.</p> <p>[Teacher models using a marker to draw a line from one red to one blue cube. Teacher speaks aloud as he/she draws match lines. Teacher will continue making matches 8 times to create 8 red/blue pairs; 3 blue cubes will have no match.]</p> <p>The red cube train has less cubes than the blue cube train because three (1-2-3) blue cubes do not have a match.</p>	<p>Students get materials ready for the lesson.</p>

<p>Thank you for helping me compare numbers to find which set has fewer, or less, cubes.</p>	
<p><u>Teacher Model</u> (10 mins.) Objective 1: Teacher will model using base 10 blocks to compare two 2-digit numbers.</p> <p>[Teacher posts and reads the problem aloud.]</p> <p>Ron has 19 crackers. Minnie has 13 crackers. Who has fewer crackers? Which number is less, 13 or 19?</p> <p>Ron has 19 crackers. Minnie has 13 crackers. Who has fewer crackers? Which number is less, 13 or 19?</p> <p>I think I will use base 10 blocks to compare the two numbers. I will use a place value chart to help me compare the two numbers. [Teacher models and verbalizes laying out two 2-digit numbers built from base 10 blocks. The number 19 and the number 13. 19 will be stacked on top. 13 will be placed underneath.]</p> <p>First, I will model the number of crackers Ron has. How many crackers does Ron have? [Pause] Yes. Ron has 19 crackers. I will use base 10 blocks and my place value chart to model the number 19. Nineteen has one 10 and 9 ones. [Teacher lays 1 ten and 9 ones stating.] I will put one 10.... [Place in tens column on place value chart.] in the tens column on my place value chart. I will put nine 1s in the ones column on my place value chart. [Place and count.] Count with me...1-2-3-4-5-6-7-8-9.</p> <p>Next, I will model the number of crackers Millie has. How many crackers does Millie have? [Pause] Yes. Millie has 13 crackers. I will use base 10 blocks and my place value chart to model the number 13. Thirteen has one 10 and 3 ones. [Teacher lays 1 ten and 3 ones stating.] I will put one 10.... [Place in tens column on place value chart.] in the tens column on my place value chart.</p>	<p>Objective #1: Students will be observing how to use base 10 blocks to compare two 2-digit numbers. Students will be prompted to activate prior knowledge of the terms more and greater.</p>

I will put three 1s in the ones column on my place value chart. [Place and count.] Count with me...1-2-3.

How can I use my model to find which number is less?

[Pause]

Yes. Both numbers have one group of ten... [Teacher models using a marker to draw one match line between the two 10s.], so I will compare the ones. Watch as I match the 1s.

[Teacher models drawing match lines of 3 pairs of 1s from the number 19 down to the number 13.]

I can compare the ones to see which number has fewer ones. That number will be the least.

The number 13 has less 1s than the number 19. That means 13 is less than 19, so Millie has fewer crackers.

Fantastic! Let's take a look at our next problem.

Objective 2: Teacher will model using a quick draw to compare two 2-digit numbers.

[Teacher posts and reads the problem aloud.]

Which number is less, 22 or 28?

_____ is less than _____.

_____ < _____.

[Teacher will need 1 sheet of paper and marker.]

I will use a quick draw to represent base 10 blocks. I will draw a place value chart to help me model comparing the two numbers.

[Teacher will model drawing a place value chart (with tens and ones).]

I will draw a vertical line down the middle of my paper. I will label the tens column and ones column.

[Teacher models labeling the tens place and ones place.]

Now I will draw the number 22. I will use a line to represent a group of 10 and a circle to represent a one.

[Teacher models drawing the number 22 speaking aloud as he/she draws; 2 lines in the tens place and 2 circles in the ones place.]

Now I will model drawing the number 28.

[Teacher models drawing the number 28 speaking aloud as he/she draws; 2 lines in the tens place and 8 circles in the ones place.]

Objective #2:

Students will be observing how to use quick draws to compare two 2-digit numbers. Students will be prompted to build upon prior knowledge of the terms *fewer* and *less*.

How can we use the drawing to compare the numbers? Will I compare the 10s or the 1s?

[Pause]

The number 22 and 28 both have two 10s. I can compare the ones to see which number has less ones. The number with the fewest number of ones is the least number.

[Teacher models counting 2 ones vs. 8 ones. Use a marker to make match lines between sets of ones.]

The number 22 has 2 ones. 1-2.

[Teacher touches the 2 ones as he/she counts.]

The number 28 has 8 ones 1-2-3-4-5-6-7-8.

[Teacher models counting 8 ones as he/she counts.]

The numbers 22 and 28 have the same number of 10s. The number 22 has fewer ones and is less than 28.

I have shown the number 22 is less than the number 28 because 22 had the same number of 10s and less ones than the number 28.

Now I can complete my number sentence.

[Teacher writes and reads aloud 22 is less than 28.]

22 is less than 28.

There is a symbol we can use to represent less than. The second number sentence uses the less than symbol.

[Teacher points to the less than symbol.]

I will complete the 2nd number sentence.

[Teacher writes and reads aloud 22 < 28 .]

22 is less than 28.

Wonderful. We have now compared two 2-digit numbers with base 10 blocks and a quick draw.

Objective 3: Teacher will model how to determine which strategy, comparing 10s or comparing 1s, is needed to compare two 2-digit numbers.

[Teacher post problem as written and read aloud.]

	Circle the number that is less.	Did tens or ones help you decide?	Write the numbers.
1.	39 36	tens ones	_____ is less than _____. _____ < _____.

Objective 3:

Students will be observing how to determine which strategy, comparing 10s or comparing 1s, is needed to compare two 2-digit numbers. Students will be prompted to build upon prior knowledge of the terms fewer and less.

For this problem, I am asked to circle the number that is less. Here..... [Teacher points to the numbers 39 and 36 in the box.]

I see I need to compare the numbers 39 and 36.

I will use base 10 blocks to build the two numbers.

I will use a place value chart to help me compare the two numbers.

[Teacher models and verbalizes laying out two 2-digit numbers built from base 10 blocks. The number 39 and the number 36. 39 will be stacked on top. 36 will be placed underneath.]

First, I will model the number 39. Thirty-nine has three 10s and 9 ones.

[Teacher lays 3 ten and 9 ones stating.]

I will put three 10s.... [Place in tens column on place value chart.] **in the tens column on my place value chart. 10-20-30.**

I will put nine 1s in the ones column on my place value chart.

[Place and count.] **Count with me...1-2-3-4-5-6-7-8-9.**

Next, I will model the number 36. Thirty-six has three 10 and 6 ones.

[Teacher lays 3 tens and 6 ones stating....]

I will put three 10s.... [Place in tens column on place value chart.] **in the tens column on my place value chart.**

I will put six 1s in the ones column on my place value chart.

[Place and Count.] **Count with me...1-2-3-4-5-6.**

How can I use my model to find which number is less?

[Pause]

Yes. Both numbers have three groups of ten... [Teacher models using a marker to draw three match lines between the three 10s.] so I will compare the ones. Watch as I match the 1s.

[Teacher models drawing match lines of 6 pairs of 1s from the number 39 down to the number 36.]

The numbers 36 and 39 have the same number of 10s. I can compare the ones to see which number has fewer ones. That number will be the least.

The number 36 has less 1s than the number 39. That means 36 is less than 39.

Now we need to complete our chart.

[Teacher points to chart.]

I will circle 36 because 36 is less than 39.

The next column asks, "Did tens or ones help you decide?"

[Teacher points to column 2 directions.]

[Teacher references model to show the comparison on 1s was the strategy used.]

I used 1s to compare my two numbers.

I will circle ones.

Last, I will complete the number sentence.

[Teacher models filling in the blank in the 1st sentence.

36 is less than 39.]

Thirty- six is less than thirty-nine.

Notice, in the 2nd sentence, we are using the symbol for less than. [Teacher points to less than symbol.]

[Teacher models filling in blanks in 2nd sentence.

36 < 39.]

36 is less than 39.

Fantastic!

Tying the learning together: Explicit Instruction, Example(s), Guided Practice

Great job! Thanks for following along with me. So far, we have learned that we can compare numbers using base 10 blocks, model with a quick draw, and write a number sentence using the less than symbol.

Tying the learning together:
Students will listen to the teacher do a think aloud

Guided Practice (13 mins.)

[I Do - A think aloud where the student works alongside the teacher.]

Now let's look at our next problem. I will read the problem aloud.

[Teacher post problem as written and read aloud.]

	Circle the number that is less.	Did tens or ones help you decide?	Write the numbers.
2.	80 94	tens ones	____ is less than ____. ____ < ____.

For this problem, I am asked to circle the number that is less.

Here..... [Teacher points to the numbers 80 and 94 in the box.]

I see I need to compare the numbers 80 and 94.

I will use base 10 blocks to build the two numbers.

I will use a place value chart to help me compare the two numbers.

Students will listen to the teacher do a think aloud to compare two 2-digit numbers from the start of the problem to completing each number sentence.

[Teacher models and verbalizes laying out two 2-digit numbers built from base 10 blocks. The number 80 and the number 94. 80 will be stacked on top. 94 will be placed underneath.]

First, I will model the number 80. Eighty has eight 10s and 0 ones.

[Teacher lays 8 ten and 0 ones stating...]

I will put eight 10s.... [Place in tens column on place value chart.] **in the tens column on my place value chart. Count with me. 10-20-30-40-50-60-80.**

I will put zero ones in the ones column on my place value chart because the number eighty does not have any ones.

[Teacher points to space in one's column on the chart.]

Next, I will model the number 94. Ninety-four has nine 10s and four 1s.

[Teacher lays 9 tens and 4 ones stating...]

I will put nine 10s.... [Place in tens column on place value chart.] **in the tens column on my place value chart. Count with me 10-20-30-40-50-60-70-80-90.**

I will put four 1s in the ones column on my place value chart.

[Place and count.] **Count with me...1-2-3-4.**

How can I use my model to find which number is less?

[Pause]

Yes. I can compare the groups of ten... [Teacher models using a marker to draw 8 match lines between the 10s.], **so I will compare the tens. Watch as I match the 10s.**

[Teacher models drawing match lines of 8 pairs of 10s from the number 80 down to the number 94.].

I do not have the same number of 10s. I can compare the tens to see which number is less.

The number 80 has less 10s than the number 94. That means 80 is less than 94.

Now we need to complete our chart.

[Teacher points to chart.]

I will circle 80 because 80 is less than 94.

The next column asks, "Did tens or ones help you decide?"

[Teacher points to column 2 directions.]

[Teacher references model to show the comparison on 10s was the strategy used.]

I used 10s to compare my two numbers.

I will circle tens.

Last, I will complete the number sentence.

[Teacher models filling in the blank in the 1st sentence.]

80 is less than 94.]

Eighty is less than ninety-four.

Notice, in the 2nd sentence, we are using the symbol for less than. [Teacher points to less than symbol.]

[Teacher models filling in blanks in 2nd sentence.

80 < 94.]

80 is less than 94.

Fantastic!

[We Do - Intentional pauses for student to do work and then receive answers along the way.]

[Teacher will prompt students to model using a quick draw to compare two 2-digit numbers. Teacher will need 1 sheet of paper and marker.]

For our next problem, I would like for you to get your paper and pencil ready.

[Pause]

To get us started let's draw a place value chart.

I will draw a vertical line down the middle of my paper. You draw a vertical line down the middle of your paper.

[Teacher models drawing a vertical line down the middle of her paper.]

Great! Now, I will label the tens column and ones column.

You label the tens column and ones column.

[Teacher models labeling the tens place and ones place.]

OK! Now let's take a look at our problem.

	Circle the number that is less.	Did tens or ones help you decide?	Write the numbers.
3.	57 54	tens ones	_____ is less than _____. _____ < _____.

For this problem, we are asked to circle the number that is less. Here..... [Teacher points to the numbers 57 and 54 in the box.] **I see we need to compare the numbers 57 and 54.**

We will use a quick draw to represent base 10 blocks. We will use a line to represent a group of 10 and a circle to represent a one.

First, I will draw the number 57. You draw along with me.

Students will follow along and draw a model in order to compare two 2-digit numbers from the start of the problem to completing each number sentence.

[Teacher models drawing the number 57 speaking aloud as he/she draws; 5 lines in the tens place and 7 circles in the ones place.]

Great! Did you draw 5 lines and 7 circles?

[Teacher points to his/her drawing as a reference.]

Good job! Now I will model drawing the number 54. You draw along with me.

[Teacher models drawing the number 54 speaking aloud as he/she draws; 5 lines in the tens place and 4 circles in the ones place.]

Did you draw 5 lines and 4 circles?

[Teacher points to his/her drawing as a reference.]

Good job.

How can we use our drawing to compare the numbers? Will we compare the 10s or the 1s?

[Pause]

The number 57 and 54 both have five 10s. We can not use 10s to compare the two numbers. What should we do?

[Pause]

You're right! We will compare the 1s to see which number has less ones. The number with the fewest number of ones is the least number.

I am going to make matches as I count the 1s in my numbers to compare. You make matches and count along with me.

[Teacher models counting 7 ones vs. 4 ones. Use a marker to make match lines between sets of ones.]

I found 4 matches....did you?

[Pause]

There are four matches. 1-2-3-4.

[Teacher models counting 4 matches as he/she counts.]

The number 57 has 3 ones left over.

[Teacher touches the 7 ones as he/she counts.]

That means the number 54 has fewer ones and is less than 57.

We have shown the number 54 is less than the number 57 because 54 and 57 have the same number of 10s and 54 has less ones than the number 57.

[Teacher then models circling 54 in the chart.]

Next, did use 10s or 1s help us decide?

[Teacher points directions in column 2 in the chart.]

Yes...we used the ones to decide because 54 and 57 have the same number of 10s. So, we will circle 1s.

[Teacher models circling ones.]

Now we can complete our number sentence.

[Teacher writes and reads aloud 54 is less than 57.]

54 is less than 57.

We will use the less than symbol to write our 2nd number sentence.

[Teacher points to the less than symbol.]

Let's complete the 2nd number sentence.

[Teacher writes and reads aloud 54 < 57.]

54 is less than 57.

Wonderful. We have now compared two 2-digit numbers with base 10 blocks and a quick draw.

[You Do - The student independently working and then the teacher showing their work and answer.]

Now it is your turn.

[Teacher posts and reads the problem aloud.]

	Circle the number that is less.	Did tens or ones help you decide?	Write the numbers.
4.	61 66	tens ones	<u> </u> is less than <u> </u> . <u> </u> < <u> </u> .

Listen along as I read the problem.

Which number is greater? 61 or 66?

You will use a quick draw to model the problem and complete the two number sentences.

[Teacher pauses to allow students time to work the model problem and complete two number sentences.]

Alright.....I am going to complete my number sentence.

Compare your answer to mine.

[Teacher fills in chart and verbalizes.]

	Circle the number that is less.	Did tens or ones help you decide?	Write the numbers.
4.	61 <u>○</u> 66	tens <u>ones</u>	<u>61</u> is less than <u>66</u> .

Students will independently draw a model in order to compare two 2-digit numbers from the start of the problem to completing each number sentence.

			$\underline{\quad 61 \quad} < \underline{\quad 66 \quad}.$												
<p>Additional Problems (if needed):</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 20%;">Circle the number that is less.</th> <th style="width: 20%;">Did tens or ones help you decide?</th> <th style="width: 55%;">Write the numbers.</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">5.</td> <td style="text-align: center;">81 77</td> <td style="text-align: center;">tens ones</td> <td> $\underline{\quad\quad}$ is less than $\underline{\quad\quad}$. $\underline{\quad\quad} < \underline{\quad\quad}.$ </td> </tr> <tr> <td style="text-align: center;">6.</td> <td style="text-align: center;">44 46</td> <td style="text-align: center;">tens ones</td> <td> $\underline{\quad\quad}$ is less than $\underline{\quad\quad}$. $\underline{\quad\quad} < \underline{\quad\quad}.$ </td> </tr> </tbody> </table>					Circle the number that is less.	Did tens or ones help you decide?	Write the numbers.	5.	81 77	tens ones	$\underline{\quad\quad}$ is less than $\underline{\quad\quad}$. $\underline{\quad\quad} < \underline{\quad\quad}.$	6.	44 46	tens ones	$\underline{\quad\quad}$ is less than $\underline{\quad\quad}$. $\underline{\quad\quad} < \underline{\quad\quad}.$
	Circle the number that is less.	Did tens or ones help you decide?	Write the numbers.												
5.	81 77	tens ones	$\underline{\quad\quad}$ is less than $\underline{\quad\quad}$. $\underline{\quad\quad} < \underline{\quad\quad}.$												
6.	44 46	tens ones	$\underline{\quad\quad}$ is less than $\underline{\quad\quad}$. $\underline{\quad\quad} < \underline{\quad\quad}.$												
<p><u>Independent Practice</u> (3 min.)</p> <p>Great work! Today, we practiced comparing two numbers in order to find which is less. You sure did a great job! After the video, you will have some tasks practicing on your own.</p> <p>I will show you the independent practice tasks now, or you can find them in the student practice for this lesson posted on our website, www.tn.gov/education.</p> <p>[Teacher shows student practice page under document camera or camera zooms in on student practice page.]</p> <p>Good luck and do your best! To get you started, I will read the problems aloud.</p> <p>[Teacher posts student work page.] [Teacher reads directions.]</p> <p>Grade 1: Lesson 17 Students will compare two numbers in order to find which is less.</p> <p>Directions: Model and compare two 2-digit numbers.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 20%;">Circle the number that is less.</th> <th style="width: 20%;">Did tens or ones help you decide?</th> <th style="width: 55%;">Write the numbers.</th> </tr> </thead> <tbody> <tr> <td style="height: 40px;"></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					Circle the number that is less.	Did tens or ones help you decide?	Write the numbers.								
	Circle the number that is less.	Did tens or ones help you decide?	Write the numbers.												

1.	34 36	tens ones	____ is less than ____. ____ < ____.	
2.	75 57	tens ones	____ is less than ____. ____ < ____.	
3.	80 89	tens ones	____ is less than ____. ____ < ____.	
4.	25 52	tens ones	____ is less than ____. ____ < ____.	
<p>5. Use a quick draw to model and compare.</p> <p>Jenny and Cindy went to a farmers market. Jenny bought 25 apples. Cindy bought 18 apples. Who bought fewer apples?</p> <p>_____ bought fewer apples.</p>				
<p><u>Closing</u> (1 min)</p> <p>I enjoyed learning how to compare two numbers in order to find which is less with you today. Thank you for inviting me into your home. I look forward to seeing you in our next lesson in Tennessee's At Home Learning Series!</p>				

Copyright © by Houghton Mifflin Harcourt Publishing Company. All rights reserved. Reproduced by permission of the publisher, Houghton Mifflin Harcourt Publishing Company.

Content is made accessible by a Special School Closing Emergency License that is limited to the 2020 academic year and shall conclude on June 30 2020. Use does not imply affiliation with or endorsement by the third party.