GRADE K • MODULE 3
Comparison of Length, Weight, Capacity, and Numbers to 10

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Lesson 1: Compare lengths using taller than and shorter than with aligned and non-aligned endpoints.

Name ____________________________ Date ____________

In each pair, circle the taller one. Imagine the paper strips are lying flat on a table.

Draw a flower that is taller than the vase.

Draw a tree that is taller than this house.
In each pair, circle the shorter one.

Draw a bookmark that is shorter than this book.

Draw a crayon that is shorter than this pencil.
Lesson 1 Homework

Name ___________________________ Date ____________

Draw 3 more flowers that are shorter than these flowers. Count how many flowers you have now. Write the number in the box.

![Flowers](image1.png)

Draw 2 more ladybugs that are taller than these. Count how many ladybugs you have now. Write the number in the box.

![Ladybugs](image2.png)

On the back of your paper, draw something that is taller than you. Draw something that is shorter than a flag pole.
**Longer or Shorter**

These objects are **longer than** my string:

These objects are **shorter than** my string:
Name ____________________________  Date _____________

Cut out the picture of the string at the bottom of the page. Compare the string with each object to see which is longer. Use the line next to each object to help you compare. Color objects shorter than the string green. Color objects longer than the string orange.

Draw something longer than, shorter than, and the same length as the picture of the string on the back of your paper. Color objects shorter than the string green. Color objects longer than the string orange.
Using the piece of string from class, find three items at home that are shorter than your piece of string and three items that are longer than your piece of string. Draw a picture of those objects on the chart. Try to find at least one thing that is about the same length as your string, and draw a picture of it on the back.

<table>
<thead>
<tr>
<th>Shorter than</th>
<th>Longer than</th>
</tr>
</thead>
</table>

Name __________________________  Date __________
Name ________________________________  Date __________

Directions: Pretend that I am a pirate who has traveled far away from home. I miss my house and family. Will you draw a picture as I describe my home? Listen carefully and draw what you hear.

- Draw a house in the middle of the paper as tall as your finger.
- Now draw my daughter. She is shorter than the house.
- There’s a great tree in my yard. My daughter and I love to climb the tree. The tree is taller than my house.
- My daughter planted a beautiful daisy in the yard. Draw a daisy that is shorter than my daughter.
- Draw a branch lying on the ground in front of the house. Make it the same length as the house.
- Draw a caterpillar next to the branch. My parrot loves to eat caterpillars. Of course, the length of the caterpillar would be shorter than the length of the branch.
- My parrot is always hungry and there are plenty of bugs for him to eat at home. Draw a ladybug above the caterpillar. Should the ladybug be shorter or longer than the branch?
- Now draw some more things you think my family would enjoy.
- Show your picture to your partner and talk about the extra things that you drew. Use longer than and shorter than words when you are describing them.
Lesson 3: Make series of longer than and shorter than comparisons.

Date: 7/31/13

Home is where the heart is, matey.
Lesson 3: Make series of longer than and shorter than comparisons.

Date: 7/31/13

Name ___________________________  Date ______________

Take out a new crayon. Circle objects with lengths shorter than the crayon blue. Circle objects with lengths longer than the crayon red.

On the back of your paper, draw some things shorter than and longer than the crayon. Draw something that is as long as the length of the crayon.
Lesson 3 Homework

Longer than...

Shorter than...
Lesson 3: Make series of longer than and shorter than comparisons.

Date: 7/31/13
Circle the shorter stick.

![Cube sticks](image1)

How many linking cubes are in the shorter stick? Write the number in the box.  

How many linking cubes are in the shorter stick? Write the number in the box.

Circle the longer stick.

![Cube sticks](image2)

How many linking cubes are in the longer stick? Write the number in the box.

How many linking cubes are in the longer stick? Write the number in the box.
Draw a stick **shorter** than my 5-stick.

[Diagram of 5 sticks]

Draw a stick **longer** than mine.

[Diagram of 6 sticks with one stick cut off]

Draw a stick **shorter** than mine.

[Diagram of 6 sticks with two sticks cut off]
Lesson 4: Compare the length of linking cube sticks to a 5-stick.

Name ___________________________ Date ____________

Use a red crayon to circle the sticks that are shorter than the 5-stick.

Use a blue crayon to circle the sticks that are longer than the 5-stick.

On the back, draw a 7-stick. Draw a stick longer than it. Draw a stick shorter than it.
Lesson 4: Compare the length of linking cube sticks to a 5-stick.

<table>
<thead>
<tr>
<th>Shorter than my 5-stick:</th>
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</thead>
<tbody>
<tr>
<td>Longest than my 5-stick:</td>
</tr>
</tbody>
</table>

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Circle the stick that is shorter than the other.

Circle the stick that is longer than the other.

My _____ stick is longer than my _____ stick.

My _____ stick is shorter than my _____ stick.
Lesson 5: Determine which linking cube stick is taller than or shorter than the other.

Date: 7/31/13

My _____ stick is longer than my _____ stick.

My _____ stick is shorter than my _____ stick.

On the back of your paper, draw a 6-stick.

Draw a stick longer than your 6-stick.

Draw a stick shorter than your 6-stick.

OR

On the back of your paper, draw a 9-stick.

Draw a stick longer than your 9-stick.

Draw a stick shorter than your 9-stick.
Lesson 5 Homework

Name ___________________________________ Date ______________

Circle the stick that is shorter than the other.

My ____ stick is shorter than my ____ stick.

My ____ stick is longer than my ____ stick.

On the back of your paper, draw a 7-stick.

Draw a stick that is longer than that.

Draw a stick this is shorter than that.
Circle the stick that is longer than the other.

My ______ stick is shorter than my ______ stick.

My ______ stick is longer than my ______ stick.

On the back of your paper, draw a stick that is between a 4- and a 6-stick.

Draw a stick that is longer than that.

Draw a stick this is shorter than that.
Lesson 5: Determine which linking cube stick is taller than or shorter than the other.

Date: 7/31/13
Name ___________________________  Date ______________

In the box, write the number of cubes there are in the pictured stick. Draw a green circle around the stick green if it is longer than the object. Draw a blue circle around the stick blue if it is shorter than the object.
Make a 3-stick. In your classroom, select a crayon and see if your crayon is longer than or shorter than your stick.

Trace your 3-stick and your crayon to compare their lengths.

In your classroom, find a marker and make a stick that is longer than your marker.

Trace your stick and your marker to compare their lengths.

Make a 5-stick. Find something in the classroom that is longer than your 5-stick.

Trace your 5-stick and the object to compare their lengths.
Color the cubes to show the length of the object.
Lesson 7: Compare objects using the same as.

Date: 7/31/13

Name ____________________________ Date ________________

Color 2 cubes red. Color 3 cubes green.

How many cubes did you color? __________

Is this stick the same length as the gray stick? YES NO

Together 2 cubes and 3 cubes are the same length as 5.

Color 1 cube red and the rest green.

How many cubes did you color? __________

Is this stick the same length as the gray stick? YES NO

Together 1 cube and 4 cubes are the same length as ________.
Trace a 6-stick. Find something the same length as your 6-stick.

Draw a picture of it here.

Trace a 7-stick. Find something the same length as your 7-stick.

Draw a picture of it here.

Trace an 8-stick. Find something the same length as your 8-stick. Draw a picture of it here.
Color 2 cubes green. Color 3 cubes blue.
Together my 2 green and 3 blue stick are the same length as 5.

Color 3 cubes blue. Color 2 cubes green.
Together my 3 blue and 2 green stick are the same length as ____.
Color 1 cube green and 4 cubes blue.

How many did you color in all? __________

Color 4 cubes green and 1 cube blue.

How many did you color in all? __________

Color 2 cubes yellow. Color 2 cubes blue.

Together my 2 yellow and 2 blue are the same as_____.
Lesson 7: Compare objects using the same as.

My 5:

My _____:

My _____:

Together my _____ and my _____ are the same as my 5.
Lesson 8:
Compare using heavier than and lighter than with classroom objects.

Name ___________________________ Date ______________

Which is heavier? Circle the object that is heavier than the other.

Which is lighter? Circle the object that is lighter than the other.

On the back, draw 3 objects that are lighter than your chair.
Name ________________________________ Date ______________

Draw an object that would be lighter than the one in the picture.

1. Soccer ball
2. Pineapple
3. Table
4. Backpack
Lesson 9: Compare objects using *heavier than*, *lighter than*, and *the same as* with balance scales.

<table>
<thead>
<tr>
<th>Lighter</th>
<th>Heavier</th>
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</tbody>
</table>
Lesson 9: Compare objects using heavier than, lighter than, and the same as with balance scales.

Name ____________________________ Date ____________

Draw something inside the box that is heavier than the object on the balance.

Draw something lighter than the object on the balance.
Lesson 9

Objective: Compare objects using *heavier than, lighter than, and the same as* with balance scales.

Suggested Lesson Structure

- Fluency Practice (14 minutes)
- Application Problem (5 minutes)
- Concept Development (25 minutes)
- Student Debrief (6 minutes)

Total Time (50 minutes)

**Fluency Practice (14 minutes)**

- Hidden Numbers  **K.OA.3** (5 minutes)
- 5-Group Hands  **K.CC.2** (4 minutes)
- Roll and Draw 5-Groups  **K.OA.3** (5 minutes)

**Hidden Numbers (5 minutes)**

Conduct activity as described in GK–M3–Lesson 3, but this time guide students to find hidden numbers within a group of 8.

**5-Group Hands (4 minutes)**

Materials:  **(T) Large 5-group cards (5–7)**

T: (Show the 6 dot card.) Raise your hand when you know how many dots are on top. (Wait until all hands are raised, then signal.) Ready?

S: 5.

T: Bottom?

S: 1.

T: We can show this 5-group on our hands. 5 on top, 1 on the bottom, like this (demonstrate on hands, one above the other).

S: (Show 5 and 1 on hands, one above the other.)

T: Push your hands out as you count on from 5, like this. 5 (extend the top hand forward), 6 (extend the bottom hand forward). Try it with me.

A student demonstrates 7 as 5 on top, and 2 on the bottom.
Lesson 9: Compare objects using heavier than, lighter than, and the same as with balance scales.

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S: 5 (extend the top hand forward), 6 (extend the bottom hand forward).

Continue with 5, 6, 7, steadily decreasing guidance from the teacher, until students can show the 5-groups on their hands with ease.

Note: This maintenance activity develops flexibility in seeing the 5-groups vertically or horizontally, and adds a kinesthetic component.

Roll and Draw 5-Groups (5 minutes)

Conduct activity as outlined in GK–M3–Lesson 7.

Note: Observe to see which students erase completely and begin each time from one rather than draw more or erase some to adjust to the new number. By drawing 5-groups, students see numbers as having length in relationship to the five.

Application Problem (5 minutes)

Put the following sentence frame on the board, then read it to the students:

I am lighter than __________, but I am heavier than ______________.

Draw two things on your paper that would make this sentence true for you. Show your pictures to your partner. Does she agree with you? How much do you think you weigh?

Note: This problem will bridge the relative weight comparisons in yesterday’s exercise to today’s more precise focus using a balance. It will help them to recall times when they themselves have been weighed, for example, at the doctor’s office. It will also allow the teacher to see what general perceptions the students have about the measurement of weight.

Concept Development (25 minutes)

Materials: (T) Recording sheet affixed to the white board (S) Simple balance scale and assortment of objects from yesterday’s lesson such that each small group of students will have at least three things to compare (include some objects that will be the same weight) per set of students; recording sheet

T: Sometimes when we are comparing the weights of things that are almost the same, it is hard to tell which is lighter and which is heavier. Can you give me an example from yesterday? Was it sometimes hard to tell which thing was heavier?

S: When we compared the marker and the eraser. The balloon and the cotton ball.
Lesson 9: Compare objects using heavier than, lighter than, and the same as with balance scales.

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T: We have a special tool that can help us find out which object is lighter and which is heavier or if they are the same weight. It is called a balance scale or a balance. (Display the balance scale. Ask students what they know about the balance.)

T: If I were to put the cotton balls on this side (point to one side of the balance) and the eraser on the other side (point), what would happen?

S: The eraser side would go down. → The side that is heavier will be lower.

T: Let’s test your guess. (Demonstrate.) You were right! The balance scale shows us that the eraser is heavier than the cotton balls. It shows us that the cotton balls are lighter than the eraser. I will draw the cotton balls and the eraser in the right places on this recording sheet. (Demonstrate.) (Repeat with other pairs of objects until the students are comfortable with the technique of predicting and then experimenting. Draw each pair of items on the recording sheet.)

T: In your small groups, you will be comparing the weights of several pairs of things. You will take turns.

1. Student A chooses two things to compare.
2. Test them first by just holding them and silently guessing which will be heavier.
3. Pass them around so your friends get a chance to guess, too!
4. Student A puts the objects in the balance to test the guesses.
5. All of you will record the results on your own recording sheet.
6. Then it will be the next student’s turn to choose. (Allow ample time for experimentation and recording. Circulate to ensure accurate use of the materials and recording of the results.)

T: Put your balances away. Would anyone like to share something their group discovered? Were there any surprises? Did anyone find some objects that were the same weight? How did you know? (Allow time for discussion.)

Problem Set (10 minutes)

In this lesson, the Problem Set will be replaced with the Recording Sheet to be used during the Concept Development.
Lesson Objective: Compare objects using heavier than, lighter than, and the same as with balance scales.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their Recording Sheets. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Recording Sheet and process the lesson. You may choose to use any combination of the questions below to lead the discussion.

- Why is a balance scale helpful?
- Which objects did you record to be heavier than? Which ones were lighter than?
- Did you find any objects that were about the same weight?
- Were you surprised by anything you discovered in the activity?
- Explain to your friend which objects you recorded as being lighter or heavier. Did you have the same answer?
Lesson 9:
Compare objects using heavier than, lighter than, and the same as with balance scales.

Lighter

Heavier
Name ________________________________  Date ________________

Draw something inside the box that is heavier than the object on the balance.

Draw something lighter than the object on the balance.
Lesson 10

Objective: Compare the weight of an object to a set of unit weights on a balance scale.

Suggested Lesson Structure

- Fluency Practice (11 minutes)
- Application Problem (5 minutes)
- Concept Development (27 minutes)
- Student Debrief (7 minutes)
- Total Time (50 minutes)

Fluency Practice (11 minutes)

- Green Light, Red Light  K.CC.2  (3 minutes)
- Make It Equal  K.CC.6  (4 minutes)
- Double 5-Groups  K.CC.2  (4 minutes)

Green Light, Red Light  (3 minutes)

Conduct activity as described in GK–M3–Lesson 7, gradually building up to teen numbers counting the Say Ten way. Listen carefully for hesitation or errors, and repeat and break down certain sequences as needed.

Make It Equal  (4 minutes)

Materials:  (S) Bags of beans, foam or laminated paper work mat, dice

1. Teacher introduces the term equal as meaning the same number.
2. Both partners roll dice, and put that many beans on their mat.
3. Partner A has to make their beans equal to their partner’s by taking off or putting on more beans.
4. Partner B counts to verify.
5. Switch roles and play again.

Double 5-Groups  (4 minutes)

Materials:  (T) Large 5-group cards

T: You’re getting so good at 5-groups now we’ll start using two cards! (Display the 10 dot card above the 1 dot card). This is the top card (gesture to indicate the entire 10 dot card, not just the top row.
of dots). How many dots are on the top card? (Wait for all hands to go up, and then give the signal.) Ready?
S: 10!
T: This is the bottom card (gesture to indicate the entire 1 dot card). How many dots are on the bottom card? (Wait for all hands to go up, and then give the signal.) Ready?
S: 1!
T: Do you remember how many dots were on the top card?
S: Yes, 10.
T: Do we really need to go back and count them again?
S: No.
T: That’s right, we can take the shortcut! Count on from 10, like this, 10 (wave hand over the top card), ten 1 (crisply point to the dot on the bottom card). Try it.
S: 10, ten 1.
T: (Display the 10 dot card above the 2 dot card). How many dots are on the top card? (Wait for all hands to go up, and then give the signal.) Ready?
S: 10!
T: How many dots are on the bottom card? (Wait for all hands to go up, and then give the signal.) Ready?
S: 2!
T: Count on from 10.
S: 10, ten 1, ten 2.
Continue to ten 3.

Note: Introducing Say Ten counting now lays the foundation for later work with decomposing teen numbers.

Application Problem (5 minutes)

Imagine that you were on a seesaw with a little kitten on the other end. Draw a picture of yourself and the kitten on the seesaw. Which end of the seesaw would be closer to the ground? How do you know? Talk about your picture with your partner. Do your seesaws look the same?

Note: This problem provides students with an opportunity to think about a practical application of a balance and to represent it and explain it to their friend. Listen for phrases such as heavier than and lighter than and encourage precision in the discussion. The activity bridges the heavier and lighter than emphasis in yesterday’s balance activity with today’s more precise use of the tool.
Concept Development (27 minutes)

Materials: (T) Balance scale, pencil, marker, bag of 30 pennies, recording sheet affixed to the white board  
(S) Simple balance scale, bag of 30 pennies, bag of objects to weigh (including a pencil, an eraser,  
a marker, a small child’s scissors, a linking cube, and a small block or toy) per pair or small group;  
recording sheet

T: I have nothing on my balance. What do you notice? 
S: It is even.  → It’s straight across.  → It looks the same on both sides. 
T: (Place a pencil on one side and a marker on the other side of the balance.)  Which is heavier, this  
pencil or this marker?  How do you know? 
S: The marker.  → The side with the marker is lower. 
T: (Remove marker and replace it with the eraser.)  Which is heavier, the pencil or the eraser?  
S: The eraser! That side is lower. 
T: I want to find something that is the same weight as my pencil.  How would I know if it were the same  
weight?  How would my balance look? 
S: It would be the same on both sides.  → It would be even! 
T: Yes, I would know something weighed the same as the  
pencil if the balance looked even.  It would look like  
this.  (Demonstrate.  If there is an equilibrium marker  
on the balance, use this opportunity to show the  
students how to use the marker.) 
T: (Remove eraser and replace it with a penny.)  Which is  
heavier, the pencil or the penny? 
S: The pencil. 
T: (Add another penny.)  Which is heavier, the pencil or  
two pennies? 
S: The pencil is still heavier than two pennies! 
T: (Continue adding pennies, one at a time, until  
balanced.) 
S: It is even!  → They are the same! 
T: Let’s count the pennies on our balance again.  
S: 1, 2, 3, 4, 5.  (Answers may vary.) 
T: The pencil is as heavy as a set of five of the pennies!  I’m going to show that on my recording sheet.  
(Demonstrate.)  Student A, would you please come up to help me test something else?  (Empty  
balance and place marker on one side.)  
T: I wonder how many pennies would be as heavy as the marker?  (Various responses.)  Student A,  
would you help find out?  Count with Student A.

NOTES ON MULTIPLE MEANS OF REPRESENTATION:  
In addition to your model, scaffold the  
lesson for students who are below  
grade level by using pictures of what a  
balance scale looks like when one  
object is heavier or lighter than the  
pennies used on the other side, or  
when the scale is balanced and the  
objects are the same weight as the  
pennies.  Your students will be able to  
refer to the visual as an aid.
Lesson 10

You and your partner are going to compare the weight of pennies with other things in our classroom. Choose one of the objects from your bag. Guess how many pennies will be just as heavy as your object. Use your balance to test your guess. On your recording sheet, draw a picture of your object and then count and write how many pennies weigh the same as your object. (Allow time for experimentation and recording of results.)

Put your things away. Would someone like to share what they discovered? (Allow time for discussion.) Which object was the heaviest? Which object was the lightest? Were any of them the same weight? (Allow time for discussion.)

Problem Set (10 minutes)

In this lesson, the Recording Sheet will serve as the Problem Set for the Concept Development.

Student Debrief (7 minutes)

Lesson Objective: Compare the weight of an object to a set of unit weights on a balance scale.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their Recording Sheets. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to process the lesson.

You may choose to use any combination of the questions below to lead the discussion.

- What did you notice as you weighed the objects?
- When you guessed how many pennies each object would weigh, how close were you?
- How did you know when to stop adding pennies to the scale?
- Were you surprised by anything that happened in the activity today?
- Show your Recording Sheet to your friend. Did she make some of the same discoveries?
- What new (or significant) math vocabulary did we use today to communicate precisely?
Lesson 10: Compare the weight of an object to a set of unit weights on a balance scale.

Date: 7/31/13

Name ___________________________ Date ___________

? is as heavy as _________ pennies.

is as heavy as _________ pennies.

is as heavy as _________ pennies.

is as heavy as _________ pennies.

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Lesson 10: Compare the weight of an object to a set of unit weights on a balance scale.

Date: 7/31/13

Name ____________________________ Date _______________

The golf ball is as heavy as _______ pennies.

The toy train is as heavy as _______ pennies.

Draw in the pennies so the carrot is as heavy as 5 pennies.

Draw in the pennies so the book is as heavy as 10 pennies.

On the back of your paper, draw a balance scale with an object. Write how many pennies you think the object would weigh. If you can, bring in the object tomorrow. We will compare it to see if it weighs as many pennies as you thought.
Draw a line from the balance to the linking cubes that weigh the same.
Lesson 11 Homework

Name ___________________________ Date ____________

Draw linking cubes so each side weighs the same.

[Diagram of balance scales with linking cubes on each side to be balanced]
Lesson 12: Compare the weight of an object with sets of different objects on a balance scale.

Name ___________________________________ Date __________________

My ________________________________ is as heavy as a set of ______________________________

My ________________________________ is as heavy as a set of ______________________________

My ________________________________ is as heavy as a set of ______________________________

My ________________________________ is as heavy as a set of ______________________________
The book is as heavy as _______ pennies.

The book is as heavy as _______ tennis balls.

The book is as heavy as _______ cubes.

The book is as heavy as _______ counting bears.
I found out that this container held the most rice.

It had the biggest capacity.

I found out that this container held the least rice.

It had the smallest capacity.
Talk to your partner about which container might have more or less capacity. Which might have about the same capacity? What happens if the containers are not filled up to the top? Can we tell that they are filled completely by the pictures?
Lesson 13 Homework

Name ___________________________  Date ____________

In class we have been working on volume and capacity. Encourage your child to explore with different size containers to see which ones have the most and least capacity. Children could experiment by pouring liquid from one container to another in the sink or bathtub.

The homework you will see for the next few days will all be a review of fluency work from Module 1.

Each rectangle shows 6 objects. Circle 2 different sets within each. The first one is done for you.
Lesson 13: Compare volume using *more than*, *less than*, and *the same as* by pouring.

Date: 7/31/13
Lesson 13: Compare volume using *more than*, *less than*, and *the same as* by pouring.

Date: 7/31/13
Lesson 13: Compare volume using more than, less than, and the same as by pouring.

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Lesson 13: Compare volume using more than, less than, and the same as by pouring.

Date: 7/31/13
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Date: 7/31/13
Lesson 13:

Compare volume using more than, less than, and the same as by pouring.

Date: 7/31/13
Lesson 13:

Compare volume using more than, less than, and the same as by pouring.

Date: 7/31/13
Lesson 14: Explore conservation of volume by pouring.

Name ___________________________ Date ________________

My cup of rice looks like:

Now it looks like:

Now it looks like:

Now it looks like:

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Within each rectangle, make one set of 6 objects. The first one is done for you.
Name ___________________________  Date ________________

**We've Got the Scoop!**

_____ scoops is the same as ________ scoops.

is the same as ________ scoops.

is the same as ________ scoops.

_____ scoops is the same as

is the same as ________ scoops.

______ scoops is the same as
Circle 2 sets within each set of 7. The first one is done for you.

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<tbody>
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<td><img src="image2" alt="Block Set" /></td>
</tr>
<tr>
<td><img src="image3" alt="Smiley Set" /></td>
<td><img src="image4" alt="Diamond Set" /></td>
</tr>
<tr>
<td><img src="image5" alt="Triangle Set" /></td>
<td><img src="image6" alt="Moon Set" /></td>
</tr>
<tr>
<td><img src="image7" alt="Circle Set" /></td>
<td><img src="image8" alt=" Pentagon Set" /></td>
</tr>
<tr>
<td><img src="image9" alt="Shape Set" /></td>
<td><img src="image10" alt="Oval Set" /></td>
</tr>
</tbody>
</table>
Lesson 15: Compare using the same as with units.

Date: 7/31/13
Compare using the same as with units.
Compare using the same as with units.
Lesson 15:
Compare using the same as with units.

7/31/13
Compare using the same as with units.
Lesson 15: Compare using the same as with units.

Date: 7/31/13
Lesson 15: Compare using the same as with units.

Date: 7/31/13
Lesson 15: Compare using the same as units.

7/31/13
Lesson 15: Compare using the same as with units.

Date: 7/31/13
Lesson 16: Make informal comparison of area.

Date: 7/31/13

My square.

My square covered with a circle.

My square covered with little squares.

My square covered with beans.
Name ______________________________ Date ______________

Cover the shape with squares. Count how many and write the number in the box.

Squares

Cover the shape with beans. Count how many and write the number in the box.

Beans
Trace your hand. Have an adult at home trace their hand. Cover the hand you just traced with pennies.* Cover the adult’s hand with pennies. Whose hand is bigger? How did you know that?

*Note: You can use another coin instead of pennies or pasta, beans, or the same size buttons. You may want to do this activity twice using different materials to cover the hands and talk about why one was more or less.
Name __________________________ Date ____________

Draw a straight line with your ruler to see if there are enough flowers for the butterflies.

On the back, draw some plates. Draw enough apples so each plate has one.
Name ________________________________  Date ____________

Draw a straight line with your ruler to see if there are enough shovels for the pails.
Lesson 17: Compare to find if there is enough.

Make sure there is a fork for every plate. Draw a straight line with a ruler from each plate to a fork. If there aren't enough forks, draw one.

You have 4 fish. On the back of your paper, draw enough fishbowls so you can put 1 fish in each fishbowl.
Lesson 17: Compare to find if there is enough.
Date: 7/31/13
Compare to find if there is enough.

Date: 7/31/13
Lesson 17: Compare to find if there is enough.

Date: 7/31/13
Compare to find if there is enough.

Date: 7/31/13
Lesson 17: Compare to find if there is enough.

Date: 7/31/13

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Lesson 17: Compare to find if there is enough.

Date: 7/31/13
Lesson 17: Compare to find if there is enough.

Date: 7/31/13
Lesson 17: Compare to find if there is enough.
Date: 7/31/13
Draw a straight line with your ruler to see if there are enough hats for the scarves.

Are there more 🧕 or 🧢?

Put an X on 2 🧢. Talk to your partner about what you notice now.

Draw more leaves than ants.
Lesson 18: Compare using more than and the same as.

Are there more or ?
Write the number of .

Are there the same number of as ? Yes or no.
Count the objects. Circle the set that has fewer.

Draw more ladybugs so there is the same number of ladybugs as leaves.

Count the objects. Circle the set that has fewer.

Draw more watermelon slices so there is the same number of watermelon slices as peaches.

On the back, draw fewer suns than stars.
Lesson 19: Compare using fewer than and the same as.

Draw another bird so there is the same number of birds as birdcages.

On the back of your paper draw 5 dogs.

Draw doghouses so there are fewer doghouses than dogs.

Draw bones so that there are the same number as dogs.

Name ___________________________ Date ______________
Compare using fewer than and the same as.

Date: 7/31/13
Lesson 19: Compare using fewer than and the same as.

Date: 7/31/13
Lesson 19: Compare using fewer than and the same as.

Date: 7/31/13
Lesson 19: Compare using fewer than and the same as.

Date: 7/31/13
Lesson 19: Compare using fewer than and the same as.

Date: 7/31/13

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Lesson 19: Compare using fewer than and the same as.

Date: 7/31/13
Lesson 19: Compare using fewer than and the same as.

Date: 7/31/13
Lesson 19: Compare using fewer than and the same as.
Date: 7/31/13
Lesson 19: Compare using fewer than and the same as.

Date: 7/31/13
Lesson 20
Relate more and less to length.

Date: 7/31/13

Name ____________________________ Date ____________

Count the dots on the die. Color as many beads as the dots on the die. Circle the longer chain in each pair.

Roll the die. Write the number you roll in the box and color that many beads. Roll the die again and do the same on the next set of beads. Circle the chain with fewer beads.

On the back, make more chains by rolling the die. Write the number you rolled and then make a chain with the same number you rolled.
Name _________________________________ Date ______________

On the first line, color the first 3 beads blue.
On the next line, color more than 3 beads red.
How many beads did you color red? Write the number in the box.

_____ is more than 3.

On the first line, color the first 5 beads green.
On the next line, color fewer than 5 beads yellow.
How many beads did you color yellow? Write the number in the box.

_____ is less than 5.

Color 2 beads brown in the first column.
Color more than 2 beads blue in the second column.
How many beads did you color in the second column? Write the number in the box.

_____ is more than 2.
Color 9 beads red in the first column.

Color fewer than 9 beads green in the second column.

How many beads did you color in the second column? Write the number in the box.

_____
is less than 9.

Draw a chain with more than 3 beads, but fewer than 10 beads.

Draw a chain that has fewer than 10 beads, but more than 4 beads.
Lesson 21: Compare sets informally using more, less, and fewer.

Draw a shape to make the sentence true.

There are more ________ than ________.

There are fewer ________ than ________.

There are fewer ________ than ________.
Color the shapes. Count how many of each shape is in the shape robot. Write the number next to the shape.

red

yellow

green

orange
Lesson 21 Problem Set

Look at the robot. Color the shape that has more.

Are there more \[\square\] or \[\bigcirc\] ?

Are there more \[\bighexagon\] or \[\bigtriangleup\] ?

Are there more \[\square\] or \[\bighexagon\] ?

Look at the robot. Color the shape that has fewer.

Are there fewer \[\square\] or \[\bigtriangleup\] ?

Are there fewer \[\bighexagon\] or \[\bigcirc\] ?

Are there fewer \[\bigcirc\] or \[\bigtriangleup\] ?
Name _____________________________ Date ________________

Which has more? The 🎈 or 🚴‍♂️? Circle the set that has more.

Which has fewer? The 🐧 or 🧐? Circle the set that has fewer.

Which has fewer? The ⭐️ or 🌕? Circle the set that has fewer.

On the back of your paper draw a set of 5 books. Draw some apples. Are there fewer apples or fewer books?
Count the objects in the box. Then, draw the same number of circles in the empty box.
Draw a set of objects in the first box. Switch papers with a partner. Have your partner draw the same number of objects in the next box.
Count the birds. In the next box, draw the same number of nests as birds.

Count the houses. In the next box, draw the same number of trees as houses.

Count the monkeys. In the next box, draw the same number of bananas as monkeys.

On the back of your paper, draw some pencils. Then, draw a crayon for each pencil.
<table>
<thead>
<tr>
<th>Question</th>
<th>Draw 1... and 1 more.</th>
<th>How many...?</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many snails?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How many pterodactyls?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How many squirrels?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How many pigs?</td>
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</tr>
</tbody>
</table>

Reason to identify and make a set that has 1 more.
Roll the die. Draw the number of dots in the first box. Then, draw a set of objects that has 1 more. Write the number in the box.
How many cats? □

Draw a ball for every cat and 1 more.

How many balls? □

How many elephants? □

Draw a peanut for every elephant and 1 more peanut.

How many peanuts? □
Name __________________________________________ Date ____________

As you work, use your math words *less than*.

<table>
<thead>
<tr>
<th>How many kites?</th>
<th>Draw a set of suns that has 1 less. How many suns?</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Kites" /></td>
<td><img src="image" alt="Suns" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How many hot air balloons?</th>
<th>Draw a set of clouds that has 1 less. How many clouds?</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Hot air balloons" /></td>
<td><img src="image" alt="Clouds" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How many octopi?</th>
<th>Draw a set of sharks that has 1 less. How many sharks?</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Octopi" /></td>
<td><img src="image" alt="Sharks" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How many chicks?</th>
<th>Draw a set of worms that has 1 less. How many worms?</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Chicks" /></td>
<td><img src="image" alt="Worms" /></td>
</tr>
</tbody>
</table>
Roll the die. Draw the number of dots in the first box. Then, make a set of objects that has 1 less. Write the number in the box.
Count the set of objects and write how many in the box.
Draw a set of circles that has 1 less and write how many in the box.
As you work, use your math words *less than*.
Topic G

Comparison of Numerals

K.CC.6, K.CC.7, K.CC.4c

Focus Standard: K.CC.6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (Include groups with up to ten objects.)

K.CC.7 Compare two numbers between 1 and 10 presented as written numerals.

Instructional Days: 4

Coherence - Links from: GPK–M4 Comparison of Length, Weight, and Capacity
- Links to: G1–M3 Ordering and Comparing Length Measurements as Numbers

Topic G is a bridge that enables students to compare numerals by connecting number to length. In Lessons 25 and 26, they work with linear configurations to match and count to see that “7 is more than 3, 3 is less than 7, and 5 is equal to 5.”

In Lesson 26, students look for and find strategies to compare sets of objects in all different configurations. Finally, in Lessons 27 and 28, they visualize as they compare numerals without using materials, a skill which will be fine-tuned throughout the balance of the kindergarten year.

A Teaching Sequence Towards Mastery of Comparison of Numerals

Objective 1: Match and count to compare a number of objects. State which quantity is more. (Lesson 25)

Objective 2: Match and count to compare two sets of objects. State which quantity is less. (Lesson 26)

Objective 3: Strategize to compare two sets. (Lesson 27)

Objective 4: Visualize quantities to compare two numerals. (Lesson 28)
Lesson 25: Match and count to compare a number of objects. State which quantity is more.

Count the objects in each line. Write how many in the box. Then, fill in the blanks below. Use your words *more than* to compare the numbers.

1. _______ is more than _______.

2. _______ is more than _______.

3. _______ is more than _______.

4. _______ is more than _______.

5. _______ is more than _______.

Date: 7/31/13
Roll a die and draw a set of objects to match the number rolled.
Write the number in the box. Roll the die again and do the same in the next box.

_________ is more than _________.

_________ is more than _________.

_________ is more than _________.

_________ is more than _________.
Count the objects in each line. Write how many in the box. Then, fill in the blanks below.

1. __________ is more than __________.

2. __________ is more than __________.

3. __________ is more than __________.
Lesson 26 Problem Set

Name ___________________________ Date ________________

Count the objects in each line. Write how many in the box. Then, fill in the blanks below. Use your words less than out loud as you work.

1. _______ is less than _________.

2. _______ is less than _________.

3. _______ is less than _________.

4. _______ is less than _________.

5. _______ is less than _________.

6. _______ is less than _________.

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Lesson 26: Match and count to compare two sets of objects. State which quantity is less.

Date: 7/31/13

Roll a die and draw a set of objects to match the number rolled. Write the number in the box. Roll the die again and do the same in the next box.

1. _______ is less than ________.

2. _______ is less than ________.

3. _______ is less than ________.
Count the objects in each line. Write how many in the box. Then, fill in the blanks below.

_________ is less than_________.

_________ is less than __________.

_________ is less than __________.

_________ is less than __________.
Lesson 27 Problem Set

Draw a tower with more cubes.
_____ is more than ______.

Draw a train with fewer cubes.
_____ is less than ______.

Draw a tower with more cubes.
_____ is more than ______.

Draw a train. Draw another train with fewer cubes.
_________ is more than __________.
_________________ is less than __________.

On the back, draw a tower and then make another tower with fewer cubes.
<table>
<thead>
<tr>
<th>Draw a tower with more cubes.</th>
<th>Draw a tower with fewer cubes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ is more than _____.</td>
<td>_____ is more than ___.</td>
</tr>
<tr>
<td>_____ is less than ______.</td>
<td>_____ is less than ______.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Draw a train with more cubes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ is more than ___.</td>
</tr>
<tr>
<td>_____ is less than ______.</td>
</tr>
</tbody>
</table>

On the back draw a tower. Draw another tower that has more cubes.

| _____ is more than ______. |
| _____ is less than ______. |
Visualize the number in Set A and Set B and fill in the sentence.

Set A

3

Set B

5

__________ is more than ______________.

__________ is less than ______________.

Set A

7

Set B

6

__________ is more than ______________.

__________ is less than ______________.
Lesson 28: Visualize quantities to compare two numerals.

Set A

8

Set B

6

___________ is more than _____________.

___________ is less than _____________.

Set A

9

Set B

10

___________ is more than _____________.

___________ is less than _____________.

Roll a die twice and write both numbers on the back. Circle the number that is more than the other.
Lesson 28: Visualize quantities to compare two numerals.

Date: 7/31/13

Visualize the number in Set A and Set B and fill in the sentence.

**Set A**

7

**Set B**

4

____________ is more than ______________.

____________ is less than ______________.

**Set A**

9

**Set B**

10

____________ is more than ______________.

____________ is less than ______________.
Lesson 28: Visualize quantities to compare two numerals.

Set A: 8
Set B: 6

___________ is more than ________________.

___________ is less than ________________.

Set A: 4
Set B: 5

___________ is more than ________________.

___________ is less than ________________.

Ask a family member to give you 2 numbers. Write the numbers on the back and circle the number that is more than the other.
Lesson 29: Observe cups of colored water of equal volume poured into a variety of container shapes.

Date: 7/31/13
Lesson 29: Observe cups of colored water of equal volume poured into a variety of container shapes.

Date: 7/31/13

Draw a line from the container to the word that describes the amount of liquid the container is holding.

- Full
- Not Full
- Empty
Lesson 30:
Use balls of clay of equal weights to make sculptures.

Name ___________________________    Date ____________

Clay Shapes
In class we used balls of clay that weigh the same amount on the balance scale to make different sculptures. Students see that the same amount of clay can take various forms without changing the weight.

Today’s homework is a review of fluency work from Module 3.
Lesson 30

Use balls of clay of equal weights to make sculptures.

Name ________________ Date ________________

Color 4 apples.
I colored ____ apples.
I need to color _____ more to make 10.

Color 2 apples.
I colored ____ apples.
I need to color _____ more to make 10.

Color 7 apples.
I colored ____ apples.
I need to color _____ more to make 10.

Color 1 apple.
I colored ____ apples.
I need to color _____ more to make 10.

Color 9 apples.
I colored ____ apples.
I need to color _____ more to make 10.

Color 3 apples.
I colored ____ apples.
I need to color _____ more to make 10.
Use balls of clay of equal weights to make sculptures.

Date: 7/31/13
Name ____________________________  Date ____________

Listen to the directions and draw the imaginary animal inside the box.

Draw a rectangle body as long as a 5-stick.
Draw 4 rectangle legs each as long as your thumb.
Draw a circle for a head as wide as your pinky.
Draw a line for a tail shorter than your pencil.
Draw in eyes, a nose, and a mouth.
Read the following directions to your student to make a castle.

Draw a rectangle as long as a spoon.
Draw another rectangle on each side of the rectangle you just made.
Draw a triangle on top of each rectangle to make towers shorter than your hand.
Draw 1 rectangle flag pole as long as your finger.
Draw 1 square flag as long as your pinky.
Draw a door as long as your thumb.
Draw 2 hexagon windows each as long as your fingernail.
Draw a prince or princess in your castle.
Lesson 32: Culminating task—describe measurable attributes of single objects.

Date: 7/31/13

Name ___________________________  Date _______________
Lesson 32 Homework

Name ____________________________     Date ______________

The homework is a review of fluency skills from Module 3. Circle a group of dots, then fill in the blanks to make a number sentence.

\[
\begin{align*}
\text{\underline{2} and \underline{4} is \underline{6}} \\
\end{align*}
\]

\[
\begin{align*}
\text{\underline{?} and \underline{?} is \underline{\_\_\_\_}.} \\
\text{\underline{?} and \underline{?} is \underline{\_\_\_\_}.} \\
\end{align*}
\]

\[
\begin{align*}
\text{\underline{?} and \underline{?} is \underline{\_\_\_\_}.} \\
\text{\underline{?} and \underline{?} is \underline{\_\_\_\_}.} \\
\end{align*}
\]

On the back, make your own 6 dot cards. Circle some dots and then say, “\underline{\_\_\_\_} and \underline{\_\_\_\_} is \underline{\_\_\_\_\_\_\_\_}.”
Student Name _________________________

**Topic A: Comparison of Length and Height**

Rubric Score: ___________ Time Elapsed ____________

Materials: (S) 6- and 9-inch pieces of string

Cover string so that each has 3 inches showing out from a piece of paper. Let them be parallel to each other.

1. Some of each string is hiding under the paper. Can we tell which one is longer? Why or why not?
2. (Uncover them.) Compare this string to this string. Use the words *longer than*.
3. Move the strings so that they line up on one end.
4. Compare these strings now. Use the words *shorter than*.
5. What about the strings are we comparing right now?

<table>
<thead>
<tr>
<th>What did the student do?</th>
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<td>5)</td>
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</tbody>
</table>
## Topic B: Comparison of Length and Height of Linking Cube Sticks Within 10

Rubric Score: ___________ Time Elapsed ___________

Materials: (S) Linking cube sticks of 5 and 7, 9-inch piece of string

1. (Present the 5-stick and the 7-stick.) Compare the length of these two sticks. Use the words *longer than*.
2. Compare the length of your 5-stick to the length of this string. (Show the 9-inch string from Topic A.) Use the words *shorter than*.
3. Break this 5-stick into two parts. Compare the length of your 5-stick to the length of the two sticks you are holding now.

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</table>
### Topic C: Comparison of Weight

Rubric Score: ___________ Time Elapsed ____________

Materials: (S) Balance scale, balance, pennies, centimeter cubes, 1 light and 1 heavy book

1. Compare the weight of this book to the weight of this book. Use the words *heavier than*.
2. Put the scissors and the ruler on the balance scale. Use the words *lighter than* to compare their weights.
3. Use the scale to show how many cubes are the same weight as the marker. How many cubes are the same weight as the marker?
4. Use the scale to show how many pennies are the same weight as the marker. How many pennies are the same weight as the marker? Tell me anything else you notice.
5. What about the marker and book are we comparing right now?

<table>
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</tbody>
</table>
**Topic D: Comparison of Volume**

Rubric Score: ___________ Time Elapsed ___________

Materials: 1 small container (⅛ cup), 1 plastic cup with ½ cup of rice in it, 1 small bowl filled with rice, tub for pouring the rice from the bowl into the cup to prove the bowl holds more

1. Compare the volume of this bowl and this cup. Use the words *more than*. (The student may want to pour to assess or will simply observe to make the comparison.)

2. How many small containers of rice are the same as this large container? (Watch to see what the student does. Ask her to use the small container to prove her answer if she does not use it without prompting.)

3. What about the cup are we measuring and comparing right now?

<table>
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<td>3)</td>
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</tbody>
</table>
Student Name _________________________

**Topic E: Is There Enough?**

Rubric Score: ___________ Time Elapsed ____________

Materials: 7 spoons, 8 bowls, 6 1" × 1" squares, 1 2" × 3" square piece of paper

1. Is there enough space on this paper for all these squares? Show me how you know.
2. Are there enough spoons for the bowls? Show me how you know.
3. Can you use the words *more than* to compare the spoons and bowls?
4. Can you use the words *less than* to compare the spoons and bowls?

<table>
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</tbody>
</table>
Topic F: Comparison of Sets Within 10

Rubric Score: ___________ Time Elapsed ____________

Materials: (S) 1 set of 6 linking cubes, 1 set of 4 linking cubes, additional linking cubes

1. Which set has more cubes? (Show the set of 6 and the set of 4.)
2. Can you make a set that has the same number of cubes as this one? (Present the set with 4 cubes.) Tell me what you are doing.
3. Can you make a set that has 1 more cube than this set? (Present the set with 6 cubes.)
4. Can you make a set that has 1 less cube than this set? (Present a set with 10.)

<table>
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</table>
Topic G: Comparison of Numerals

Rubric Score: ___________ Time Elapsed ____________

Materials: (T) Loose linking cubes

1. (Present a set with 7 cubes and a set with 5 cubes.) Put these objects in lines to match and compare them.
2. Tell me about which number is more? Is less?
3. (Write the numerals 8 and 4.) Use the words more than to compare these two numerals.

<table>
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**Topic H: Clarification of Measurable Attributes**

Rubric Score: ___________ Time Elapsed ____________

Materials: (T) Empty juice box with the top cut off, linking cube stick of 7, balance scale, many additional cubes, a tub with the empty juice box full of rice, student scissors

1. Compare the length of this juice box to the length of this stick. Use your words.
2. Compare the weight of this juice box to this pair of scissors. Use your words.
3. Compare the weight of this juice box to the weight of the cubes. How many cubes weigh the same as the juice box? Use your words. (If the student doesn’t use the balance scale but makes a thoughtful guess, encourage use of the scale to confirm the estimate.)
4. Compare the volume of this juice box to this cup.

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<th>What did the student do?</th>
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