# EUREKA MATH

## Mathematics Curriculum

# Grade 1 • MODULE 3

Ordering and Comparing Length Measurements as Numbers

# HOMEWORK

Video tutorials: http://embarc.online

Version 3

Table of Contents

# GRADE 1 • MODULE 3

## Ordering and Comparing Length Measurements as Numbers

**NOTE:  Student sheets should be printed at 100% scale to preserve the intended size of figures for accurate measurements.  Adjust copier or printer settings to *actual size* and set page scaling to *none*.**

Name _____    Date _____

Follow the directions.  Complete the sentences.

1.  Circle the **longer** rabbit.
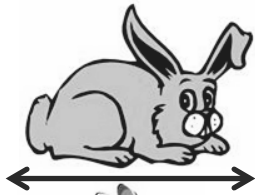
Peter

Floppy

_____ is longer than _____.
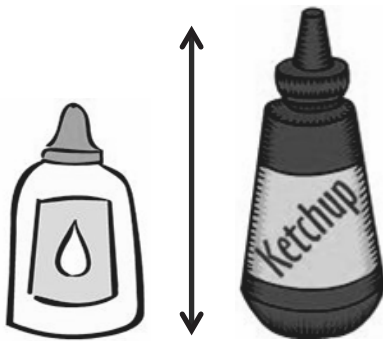
2.  Circle the **shorter** fruit.

A          B

___ is shorter than ___.

Write the words **longer than** or **shorter than** to make the sentences true.

3.

The glue
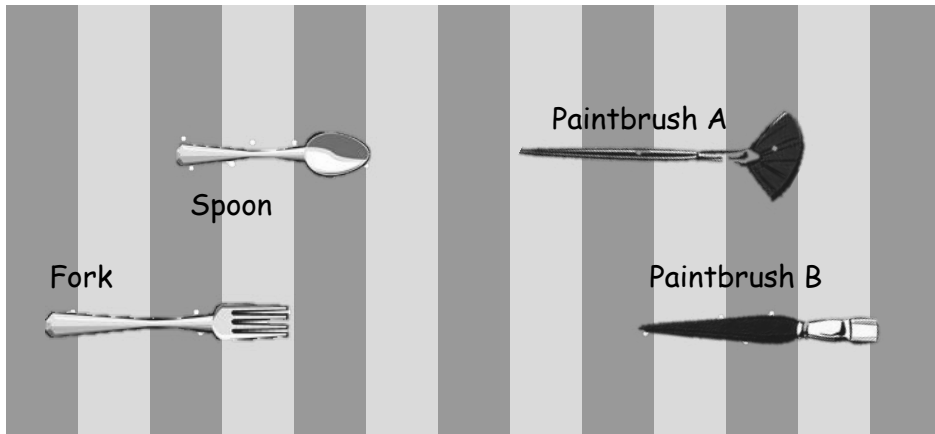
is _____

the ketchup.

4.

The dragonfly's wing span

is _____

the butterfly's wing span.

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Lesson 1:     Compare length directly and consider the importance of aligning endpoints.

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5.  Paintbrush A is _____ Paintbrush B.

6.  The spoon is _____ the fork.

7.  Circle true or false.

    The spoon is shorter than Paintbrush B.   **True**  or  **False**

___

8.  Find 3 objects in your room.  Draw them here in order from shortest to longest.
    Label each object.

**Lesson 1:**   Compare length directly and consider the importance of aligning endpoints.

Name _____     Date _____

Use the paper strip provided by your teacher to measure each **picture**.  Circle the words you need to make the sentence true.  Then, fill in the blank.
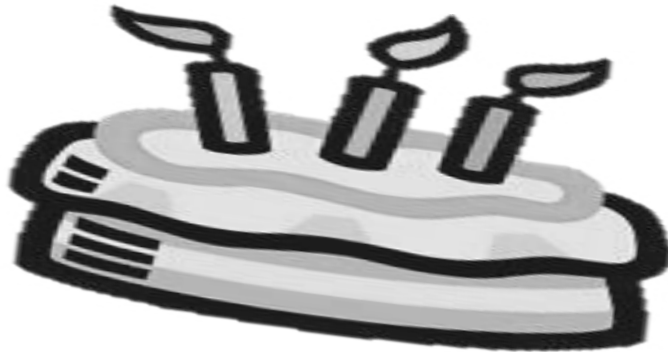
1.

**The sundae is**

| longer than |
| --- |
| shorter than |
| the same length as |

**the paper.**     **The spoon is**

| longer than |
| --- |
| shorter than |
| the same length as |

**the paper.**

The **spoon** is _____ the **sundae**.

2.

The **balloon** is _____ the **cake**.

3.

The **ball** is shorter than the paper.

So, the **shoe** is _____ the **ball**.

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**Lesson 2:**    Compare length using indirect comparison by finding objects *longer than, shorter than,* and *equal in length to* that of a string.

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Use the measurements from the first page.  Circle the word that makes the sentences true.

4.  The spoon is (**longer/shorter**) than the cake.

5.  The balloon is (**longer/shorter**) than the sundae.

6.  The shoe is (**longer/shorter**) than the balloon.

7.  Order these objects from shortest to longest:

  cake, spoon, and paper

_____    _____    _____

Draw a picture to help you complete the measurement statements.  Circle the word that makes each statement true.

8.  Marni's hair is shorter than Wesley's hair.

  Marni's hair is longer than Bita's hair.

  Bita's hair is (**longer/shorter**) than Wesley's hair.

9.  Elliott is shorter than Brady.

  Sinclair is shorter than Elliott.
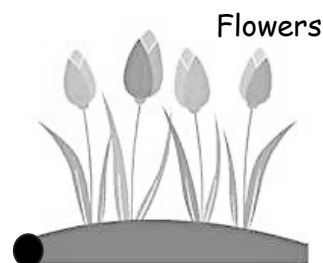
  Brady is (longer/shorter) than Sinclair.

Name _____     Date _____

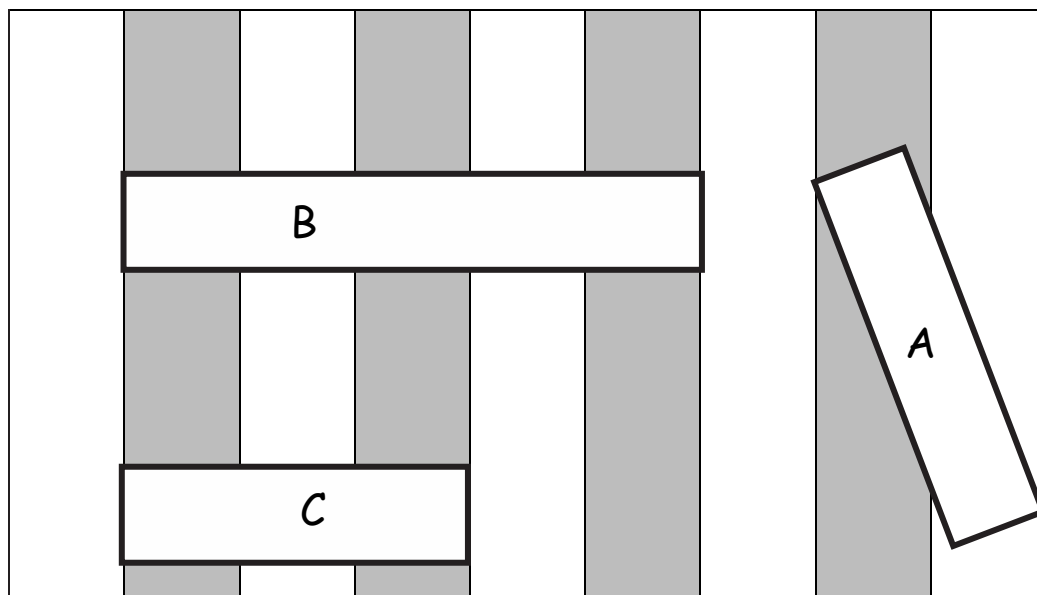1.  The string that measures the path from the garden to the tree is longer than the path between the tree and the flowers.  Circle the shorter path.

**the garden to the tree**

**the tree to the flowers**

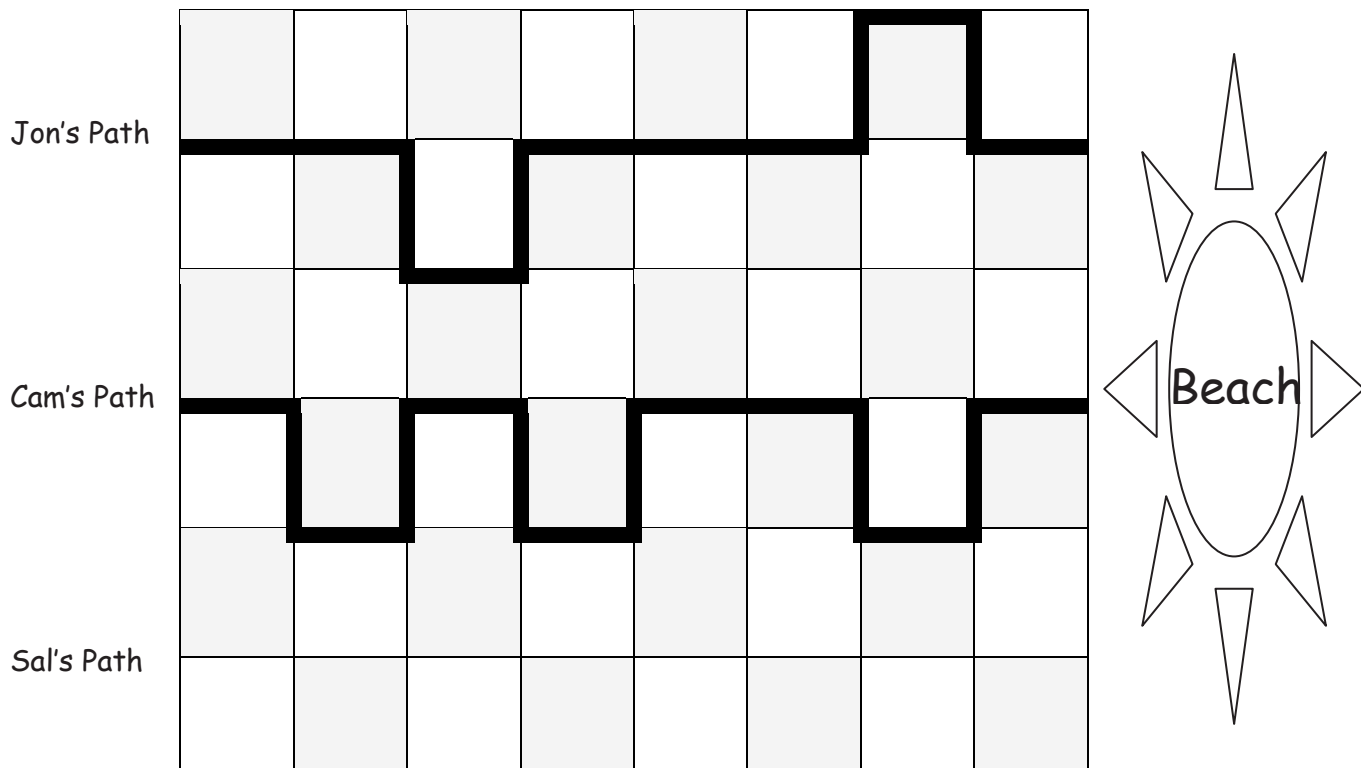Flowers

Garden         Tree

Use the picture to answer the questions about the rectangles.

B

A

C

2.  Which is the longest rectangle? _____

3.  If Rectangle A is longer than Rectangle C, the shortest rectangle is

    _____.

4.  Order the rectangles from shortest to longest.

    _____     _____     _____

Use the picture to answer the questions about the children's paths to the beach.



5.  How long is Jon's path to the beach? _____ blocks

6.  How long is Cam's path to the beach? _____ blocks

7.  Jon's path is longer than Sal's path.  Draw Sal's path.

Circle the correct word to make the statement true.

8.  Cam's path is **longer/shorter than** Sal's path.

9.  Who took the shortest path to the beach? _____

10. Order the paths from shortest to longest.

   _____        _____        _____

**Lesson 3:**        Order three lengths using indirect comparison.

Name _____    Date _____

Measure the length of each picture with your cubes. Complete the statements below.

1.  The lollipop is _____ centimeter cubes long.
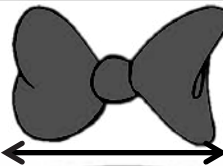
2.  The stamp is _____ centimeter cubes long.

3.  The purse is _____ centimeter cubes long.

4.  The candle is _____ centimeter cubes long.

5.  The bow is _____ centimeter cubes long.

6.  The cookie is _____ centimeter cubes long.

7.  The mug is _____ centimeter cubes long.

8.  The ketchup is about _____ centimeter cubes long.

9.  The envelope is about _____ centimeter cubes long.

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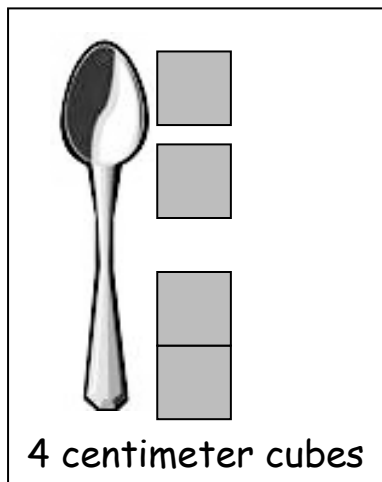
Lesson 4:    Express the length of an object using centimeter cubes as length units to measure with no gaps or overlaps.

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10. Circle the picture that shows the correct way to measure.

A

3 centimeter cubes
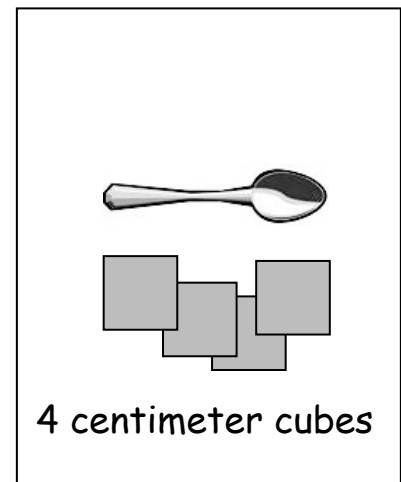
B

4 centimeter cubes

C

4 centimeter cubes

D
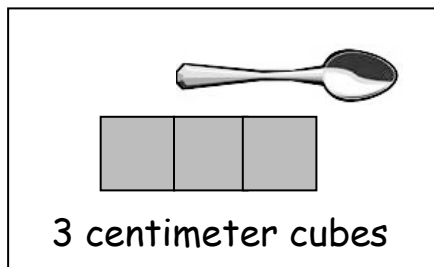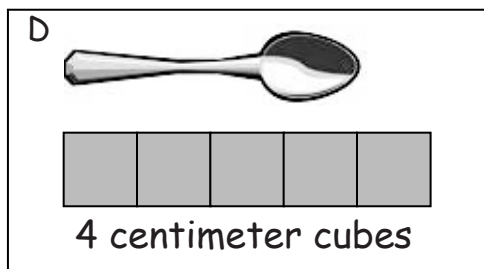
4 centimeter cubes

11. Explain what is wrong with the measurements for the pictures you did NOT circle.

_____

_____

_____

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Lesson 4: | Express the length of an object using centimeter cubes as length units to measure with no gaps or overlaps.

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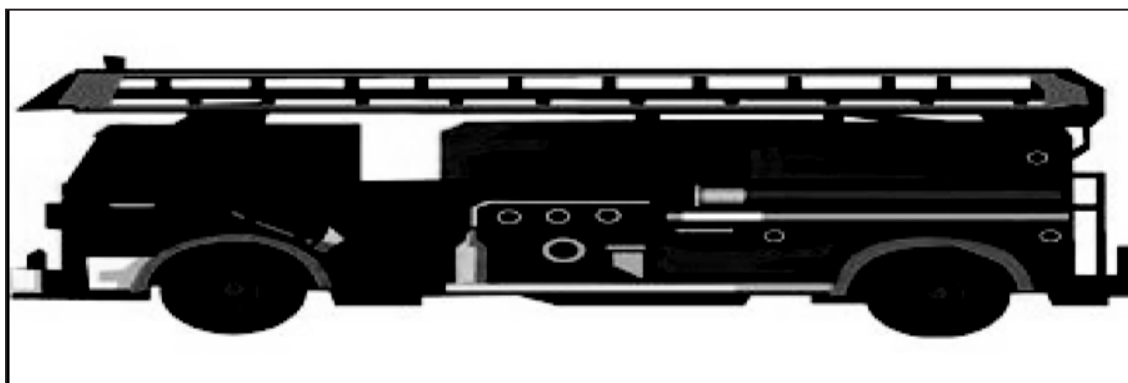
Name _____     Date _____

1.  Justin collects stickers.  Use centimeter cubes to measure Justin's stickers.
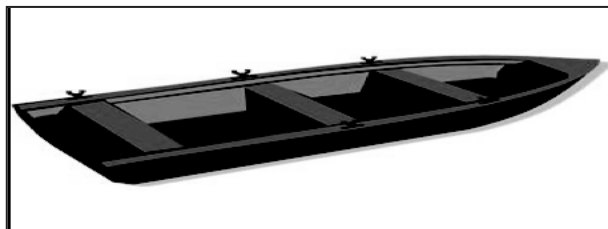    Complete the sentences about Justin's stickers.
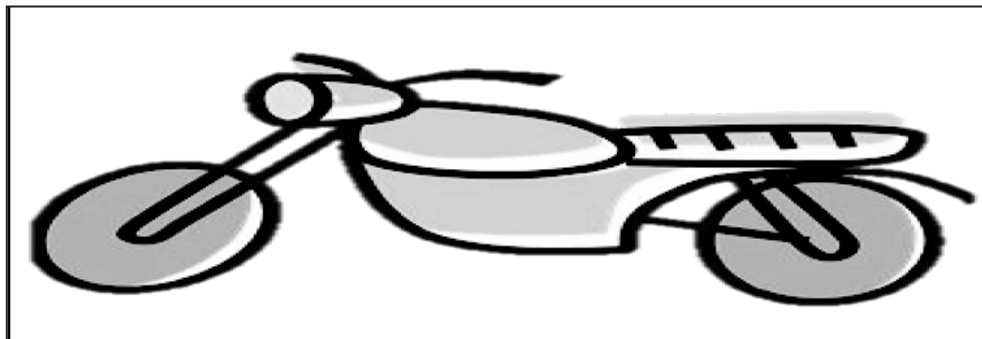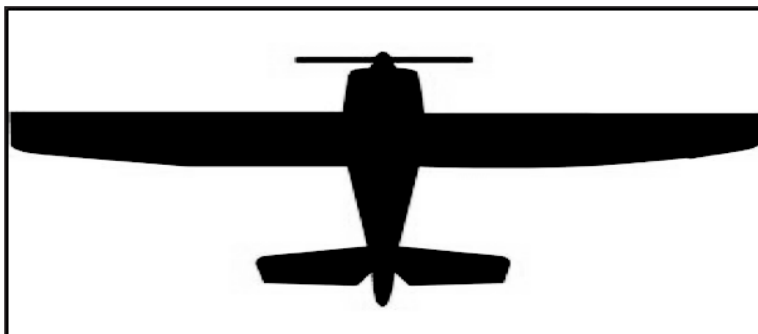
a.  The motorcycle sticker is _____ centimeters long.
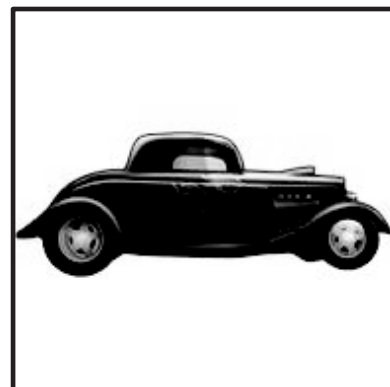
b.  The car sticker is _____
centimeters long.

c.  The fire truck sticker is _____ centimeters long.

d.  The row boat sticker is _____
centimeters long.

e.  The airplane sticker is _____ centimeters long.

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**Lesson 5:**     Rename and measure with centimeter cubes, using their standard
unit name of centimeters.

2. Use the stickers' measurements to order the stickers of the **fire truck**, the **row boat**, and the **airplane** from longest to shortest. You can use drawings or names to order the stickers.

Longest ————————————→ Shortest

3. Fill in the blanks to make the statements true. (There may be more than one correct answer.)

a. The airplane sticker is longer than the _____ sticker.

b. The row boat sticker is longer than the _____ sticker and

shorter than the _____ sticker.

c. The motorcycle sticker is shorter than the _____ sticker and longer

than the _____ sticker.

d. If Justin gets a new sticker that is longer than the row boat, it will also be

longer than which of his other stickers? _____

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Lesson 5:   Rename and measure with centimeter cubes, using their standard
unit name of centimeters.

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Name _____     Date _____

1.  Natasha's teacher wants her to put the fish in order from longest to shortest. Measure each fish with the centimeter cubes that your teacher gave you.
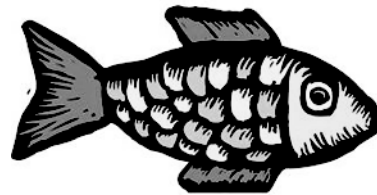
A

B

_____ centimeters

_____ centimeters

D

C

_____ centimeters

_____ centimeters

E

_____ centimeters

2.  Order fish A, B, and C from longest to shortest.

_____     _____     _____

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**Lesson 6:** Order, measure, and compare the lengths of objects before and after measuring with centimeter cubes, solving *compare with difference unknown* word problems.

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3.  Use all of the fish measurements to complete the sentences.

    a.  Fish A is longer than Fish _____ and shorter than Fish _____.

    b.  Fish C is shorter than Fish _____ and longer than Fish _____.

    c.  Fish _____ is the shortest fish.

    d.  If Natasha gets a new fish that is shorter than Fish A, list the fish that the new
        fish is also shorter than.

Use your centimeter cubes to model each length, and answer the question.

4.  Henry gets a new pencil that is 19 centimeters long.  He sharpens the pencil several
    times.  If the pencil is now 9 centimeters long, how much shorter is the pencil now
    than when it was new?

5.  Malik and Jared each found a stick at the park.  Malik found a stick that was 11
    centimeters long.  Jared found a stick that was 17 centimeters long.  How much
    longer was Jared's stick?

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Lesson 6:    Order, measure, and compare the lengths of objects before and after
             measuring with centimeter cubes, solving *compare with difference
             unknown* word problems.

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Name _____     Date _____

Cut the strip of paper clips.  Measure the length of each object with the **large** paper clips to the right.  Then, measure the length with the **small** paper clips on the back.

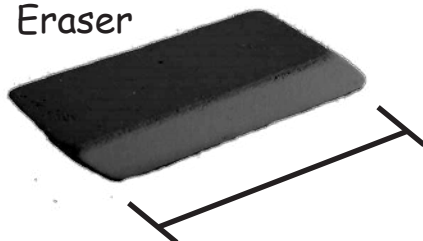1.  Fill in the chart on the back of the page with your measurements.

Paintbrush

Scissors

Glue

Crayon

Eraser

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**Lesson 7:**     Measure the same objects from Topic B with different non-standard units simultaneously to see the need to measure with a consistent unit.
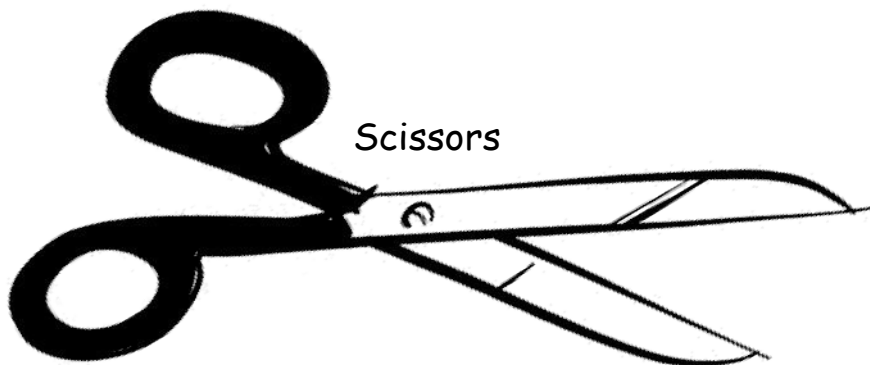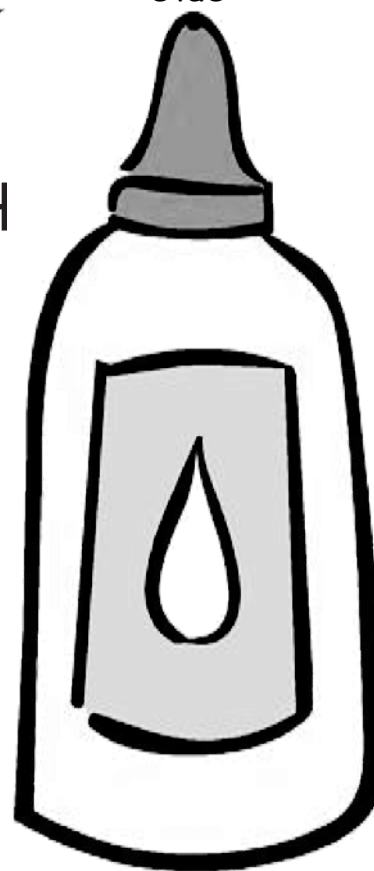
| Name of Object | Length in Large Paper Clips | Length in Small Paper Clips |
|---|---|---|
| a.  paintbrush | | |
| b.  scissors | | |
| c.  eraser | | |
| d.  crayon | | |
| e.  glue | | |

2.  Find objects around your home to measure.  Record the objects you find and their measurements on the chart.

| Name of Object | Length in Large Paper Clips | Length in Small Paper Clips |
|---|---|---|
| a. | | |
| b. | | |
| c. | | |
| d. | | |
| e. | | |

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**Lesson 7:**   Measure the same objects from Topic B with different non-standard units simultaneously to see the need to measure with a consistent unit.

Name _____    Date _____

Circle the length unit you will use to measure.  Use the same length unit for all objects.

Small Paperclips                    Large Paperclips

Toothpicks                         Centimeter Cubes

1.  Measure each object listed on the chart and record the measurement.  Add the names of other objects in your house and record their measurements.

| Home Object | Measurement |
|---|---|
| a.  fork | |
| b.  picture frame | |
| c.  pan | |
| d.  shoe | |

Lesson 8:    Understand the need to use the same units when comparing measurements with others.

| Home Object | Measurement |
|---|---|
| e.  stuffed animal | |
| f. | |
| g. | |

Did you remember to add the name of the length unit after the number?  Yes     No

2.  Pick 3 items from the chart.  List your items from longest to shortest:

a.  _____

b.  _____

c.  _____

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**Lesson 8:**   Understand the need to use the same units when comparing measurements with others.

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Name _____     Date _____

1.  Look at the picture below.  How much **shorter** is Trophy A than Trophy B?



Trophy A is _____ units **shorter** than Trophy B.

2.  Measure each object with centimeter cubes.
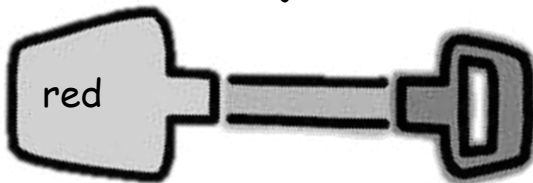


The red shovel is _____      _____.
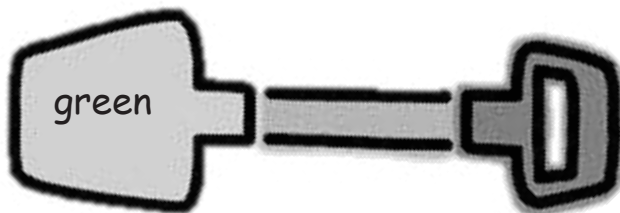


The green shovel is _____      _____.

3.  How much **longer** is the green shovel than the red shovel?

The green shovel is _____ centimeters **longer** than the red shovel.

**EUREKA MATH**™     **Lesson 9:**   Answer *compare with difference unknown* problems about lengths of two different objects measured in centimeters.

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Use your centimeter cubes to model each problem.  Then, solve by drawing a picture of your model and writing a number sentence and a statement.

4.  Susan grew 15 centimeters, and Tyler grew 11 centimeters.  How much **more** did Susan grow than Tyler?

5.  Bob's straw is 13 centimeters long.  If Tom's straw is 6 centimeters long, how much **shorter** is Tom's straw than Bob's straw?

6.  A purple card is 8 centimeters long.  A red card is 12 centimeters long.  How much **longer** is the red card than the purple card?

7.  Carl's bean plant grew to be 9 centimeters tall.  Dan's bean plant grew to be 14 centimeters tall.  How much **taller** is Dan's plant than Carl's plant?

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Lesson 9:   Answer *compare with difference unknown* problems about lengths of two different objects measured in centimeters.

Name _____     Date _____

Students were asked about their favorite ice cream flavor.  Use the data below to answer the questions.

| Ice Cream Flavor | Tally Marks | Votes |
|---|---|---|
| Chocolate | \|\|\|\| | |
| Strawberry | \|\|\| | |
| Cookie Dough | ⅣⅡ ⅣⅡ | |

1. Fill in the blanks in the table by writing the number of students who voted for each flavor.

2. How many students chose cookie dough as the flavor they like **best**?
   _____ students

3. What is the total number of students who like chocolate or strawberry the **best**? _____ students

4. Which flavor received the **least** amount of votes? _____

5. What is the total number of students who like cookie dough or chocolate the **best**?
   _____ students

6. Which two flavors were liked by a **total** of 7 students?

   _____ and _____

7. Write an addition sentence that shows how many students voted for their favorite ice cream flavor.

   _____

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**Lesson 10:**    Collect, sort, and organize data, then ask and answer questions about the number of data points.

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Students voted on what they like to read the most.  Organize the data using tally marks, and then answer the questions.

| comic book | magazine | chapter book | comic book | magazine |
| chapter book | comic book | comic book | chapter book | chapter book |
| chapter book | chapter book | magazine | magazine | magazine |

| What Students Like to Read the Most | Number of Students |
| --- | --- |
| Comic Book | |
| Magazine | |
| Chapter Book | |

8.  How many students like to read chapter books the most?  _____  students

9.  Which item received the **least** amount of votes?  _____

10.  How many more students like to read chapter books than magazines?

_____  students

11.  What is the total number of students who like to read magazines or chapter books?

_____  students

12.  Which two items did a total of 9 students like to read?

_____  and  _____

13.  Write an addition sentence that shows how many students voted.

_____

**Lesson 10:**  Collect, sort, and organize data, then ask and answer questions about the number of data points.

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Name _____    Date _____

Collect information about things you own.  Use tally marks or numbers to organize the data in the chart below.

| How many **pets** do you have? | How many **toothbrushes** are in your home? | How many **pillows** are in your home? | How many **jars of tomato sauce** are in your home? | How many **picture frames** are in your home? |
|---|---|---|---|---|
|  |  |  |  |  |
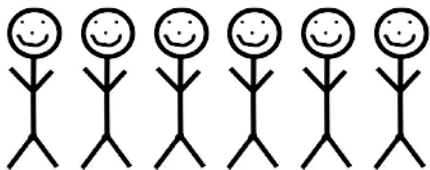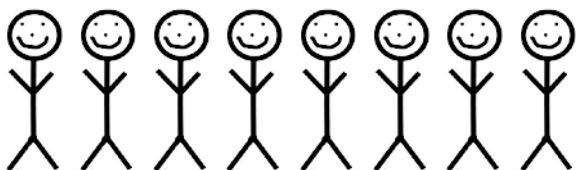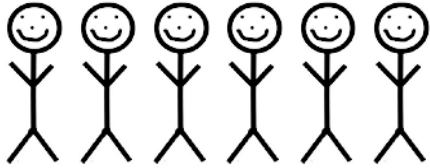
- Complete the question sentence frames to ask questions about your data.
- Answer your own questions.

1. How many _____ do you have?  (Pick the item you have the **most** of.)


2. How many _____ do you have?  (Pick the item you have the **least** of.)


3. **Together**, how many picture frames and pillows do you have?


4. Write and answer two more questions using the data you collected.


   a._____?


   b._____?

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**Lesson 11:**   Collect, sort, and organize data, then ask and answer questions about the number of data points.

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Students voted on their favorite type of museum to visit.  Each student could only vote once.  Answer the questions based on the data in the table.

| | |
|---|---|
| Science Museum | ☺☺☺☺☺☺ |
| Art Museum | ☺☺☺☺☺☺☺☺ |
| History Museum | ☺☺☺☺☺☺ |

5. How many students chose art museums?  _____ students

6. How many students chose the art museum or the science museum?

    _____ students

7. From this data, can you tell how many students are in this class?  Explain your thinking.

Lesson 11:   Collect, sort, and organize data, then ask and answer questions about the number of data points.

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Name _____     Date _____

The class has 18 students.  On Friday, 9 students wore sneakers, 6 students wore sandals, and 3 students wore boots.  Use squares with no gaps or overlaps to organize the data.  Line up your **squares** carefully.

## Shoes Worn on Friday

Number of Students

| Shoes | |
|---|---|
|  | |
|  | |
|  | |

1.  How many more students wore sneakers than sandals? _____ students

2.  Write a number sentence to tell how many students were asked about their shoes on Friday.

    _____

3.  Write a number sentence to show how many fewer students wore boots than sneakers.

    _____

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**Lesson 12:**    Ask and answer varied word problem types about a data set with three categories.

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Our school garden has been growing for two months.  The table below shows the numbers of each vegetable that have been harvested so far.

## Vegetables Harvested

| beets | carrots | corn |
|---|---|---|

Number of Vegetables

4.  How many total vegetables were harvested?

_____ vegetables

5.  Which vegetable has been harvested the most?

_____

6.  How many more beets were harvested than corn?

_____ more beets than corn

7.  How many more beets would need to be harvested to have the same amount as the number of carrots harvested?

_____

**Lesson 12:**     Ask and answer varied word problem types about a data set with three categories.

Name _____     Date _____

Use the table to answer the questions.  Fill in the blank, and write a number sentence.

## School Lunch Order

😊 = 1 student

| hot lunch | sandwich | salad |
|---|---|---|
| 😊😊😊😊😊😊😊 | 😊😊😊😊😊😊 | 😊😊😊😊 |

1. How many more hot lunch orders were there than sandwich orders?

   _____ more hot lunch orders

2. How many fewer salad orders were there than hot lunch orders?

   _____ fewer salad orders

3. If 5 more students order hot lunch, how many hot lunch orders will there be?

   _____ hot lunch orders

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Lesson 13:    Ask and answer varied word problem types about a data set with three categories.

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Use the table to answer the questions.  Fill in the blanks, and write a number sentence.

### Favorite Type of Book

||| = 5 students

| fairy tales | 卌 卌 \| |
| --- | --- |
| science books | 卌 \|\|\| |
| poetry books | 卌 卌 卌 |

4. How many more students like fairy tales than science books?

_____ more students

5. How many fewer students like science books than poetry books?

_____ fewer students

6. How many students picked fairy tales or science books in all?

_____ students

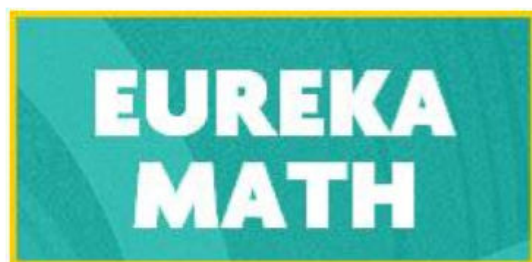7. How many more students would need to pick science books to have the same number of books as fairy tales?

_____ students

8. If 5 more students show up late and all pick fairy tales, will this be the most popular book?  Use a number sentence to show your answer.

Video tutorials:   http://embarc.online