Eureka Math™
Grade 2, Module 2
Student File_A
Contains copy-ready classwork and homework as well as templates (including cut outs)

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10 9 8 7 6 5 4 3 2 1
Use centimeter cubes to find the length of each object.

1. The picture of the fork and spoon is about ________ centimeter cubes long.

2. The picture of the hammer is about ________ centimeters long.

3. The length of the picture of the comb is about ________ centimeters.
4. The length of the picture of the shovel is about _________ centimeters.

5. The head of a grasshopper is 2 centimeters long. The rest of the grasshopper's body is 7 centimeters long. What is the total length of the grasshopper?

6. The length of a screwdriver is 19 centimeters. The handle is 5 centimeters long.
   a. What is the length of the top of the screwdriver?

   b. How much shorter is the handle than the top of the screwdriver?
Lesson 1 Homework

Name __________________________________________ Date ______________

Count each centimeter cube to find the length of each object.

1. [Image of crayon] The crayon is _______ centimeter cubes long.

2. [Image of pencil] The pencil is _______ centimeter cubes long.

3. [Image of clothespin] The clothespin is _______ centimeter cubes long.

4. [Image of marker] The length of the marker is _______ centimeter cubes.

Lesson 1: Connect measurement with physical units by using multiple copies of the same physical unit to measure.
5. Richard has 43 centimeter cubes. Henry has 30 centimeter cubes. What is the length of their cubes altogether?

6. The length of Marisa’s loaf of bread is 54 centimeters. She cut off and ate 7 centimeters of bread. What is the length of what she has left?

7. The length of Jimmy’s math book is 17 centimeter cubes. His reading book is 12 centimeter cubes longer. What is the length of his reading book?
Find the length of each object using one centimeter cube. Mark the endpoint of each centimeter cube as you measure.

1. The picture of the eraser is about ________ centimeters long.

2. The picture of the calculator is about ________ centimeters long.

3. The length of the picture of the envelope is about ________ centimeters.
4. Jayla measured her puppet’s legs to be 23 centimeters long. The stomach is 7 centimeters long, and the neck and head together are 10 centimeters long. What is the total length of the puppet?

5. Elijah begins measuring his math book with his centimeter cube. He marks off where each cube ends. After a few times, he decides this process is taking too long and starts to guess where the cube would end and then mark it.

Explain why Elijah’s answer will be incorrect.
Use the centimeter square at the bottom of the next page to measure the length of each object. Mark the endpoint of the square as you measure.

1. The picture of the glue is about _______ centimeters long.

2. The picture of the lollipop is about _______ centimeters long.

3. The picture of the scissors is about _______ centimeters long.
4. Samantha used a centimeter cube and the mark and move forward strategy to measure these ribbons. Use her work to answer the following questions.

Red Ribbon

Blue Ribbon

Yellow Ribbon

a. How long is the red ribbon? ____________ centimeters long.

b. How long is the blue ribbon? ____________ centimeters long.

c. How long is the yellow ribbon? ____________ centimeters long.

d. Which ribbon is the longest? Red Blue Yellow

e. Which ribbon is the shortest? Red Blue Yellow

f. The total length of the ribbons is _____ centimeters.

Cut out the centimeter square below to measure the length of the glue bottle, lollipop, and scissors.
Name ___________________________________________ Date ________________

Use your centimeter ruler to measure the length of the objects below.

1. The picture of the animal track is about _______ cm long.

2. The picture of the turtle is about _______ cm long.

3. The picture of the sandwich is about _______ cm long.

Lesson 3: Apply concepts to create unit rulers and measure lengths using unit rulers.
4. Measure and label the length of each side of the triangle using your ruler.

   Side A
   ________ centimeters

   Side B
   ________ centimeters

   Side C
   ________ centimeters

a. Which side is the shortest?  Side A    Side B    Side C

b. What is the length of Sides A and B together? ________ centimeters

c. How much shorter is Side C than Side B? ________ centimeters
Measure the lengths of the objects with the centimeter ruler you made in class.

1. The picture of the fish is ____ cm long.

2. The picture of the fish tank is ______ cm long.

3. The picture of the fish tank is ______ cm longer than the picture of the fish.
4. Measure the lengths of Sides A, B, and C. Write each length on the line.

Side A

____ cm

Side B

____ cm

Side C

____ cm

a. Which side is the longest?  Side A  Side B  Side C

b. How much longer is Side B than Side A?  _______ cm longer

c. How much shorter is Side A than Side C?  _______ cm shorter

d. Sides B and D are the same length.  
   What is the length of Sides B and D together?  _______ cm

e. What is the total length of all four sides of this figure?  _______ cm
Name ___________________________ Date ________________

1. Measure five things in the classroom with a centimeter ruler. List the five things and their length in centimeters.

<table>
<thead>
<tr>
<th>Object Name</th>
<th>Length in Centimeters</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td></td>
</tr>
</tbody>
</table>

2. Measure four things in the classroom with a meter stick or meter tape. List the four things and their length in meters.

<table>
<thead>
<tr>
<th>Object Name</th>
<th>Length in Meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td></td>
</tr>
</tbody>
</table>
3. List five things in your house that you would measure with a meter stick or meter tape.

a. ______________________________

b. ______________________________

c. ______________________________

d. ______________________________

e. ______________________________

Why would you want to measure those five items with a meter stick or meter tape instead of a centimeter ruler?

_______________________________________________________________

_______________________________________________________________

_______________________________________________________________

4. The distance from the cafeteria to the gym is 14 meters. The distance from the cafeteria to the playground is double that distance. How many times would you need to use a meter stick to measure the distance from the cafeteria to the playground?
1. Circle cm (centimeter) or m (meter) to show which unit you would use to measure the length of each object.
   a. Length of a marker cm or m
   b. Length of a school bus cm or m
   c. Length of a laptop computer cm or m
   d. Length of a highlighter marker cm or m
   e. Length of a football field cm or m
   f. Length of a parking lot cm or m
   g. Length of a cell phone cm or m
   h. Length of a lamp cm or m
   i. Length of a supermarket cm or m
   j. Length of a playground cm or m

2. Fill in the blanks with cm or m.
   a. The length of a swimming pool is 25 ____________.
   b. The height of a house is 8 ____________.
   c. Karen is 6 ____________ shorter than her sister.
   d. Eric ran 65 ____________ down the street.
   e. The length of a pencil box is 3 ____________ longer than a pencil.
3. Use the centimeter ruler to find the length (from one mark to the next) of each object.

![Diagram showing various shapes: A triangle, B rhombus, C semicircle, D hexagon, and E rectangle.

a. Triangle A is ____ cm long.  
Rhombus B is ____ cm long.  
Semicircle C is ____ cm long.  
Hexagon D is ____ cm long.  
Rectangle E is ____ cm long.

b. Explain how the strategy to find the length of each shape above is different from how you would find the length if you used a centimeter cube.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Name ____________________________ Date ______________

First, estimate the length of each line in centimeters using mental benchmarks. Then, measure each line with a centimeter ruler to find the actual length.

1. _______________________________________________________________________
   a. Estimate: _____ cm  
   b. Actual length: _____ cm

2. _______________________________________________________________________
   a. Estimate: _____ cm  
   b. Actual length: _____ cm

3. _______________________________________________________________________
   a. Estimate: _____ cm  
   b. Actual length: _____ cm

4. _______________________________________________________________________
   a. Estimate: _____ cm  
   b. Actual length: _____ cm

5. _______________________________________________________________________
   a. Estimate: _____ cm  
   b. Actual length: _____ cm
6. Circle the correct unit of measurement for each length estimate.
   a. The height of a door is about 2 (centimeters/meters) tall.
      What benchmark did you use to estimate? _______________
   b. The length of a pen is about 10 (centimeters/meters) long.
      What benchmark did you use to estimate? _______________
   c. The length of a car is about 4 (centimeters/meters) long.
      What benchmark did you use to estimate? _______________
   d. The length of a bed is about 2 (centimeters/meters) long.
      What benchmark did you use to estimate? _______________
   e. The length of a dinner plate is about 20 (centimeters/meters) long.
      What benchmark did you use to estimate? _______________

7. Use an unsharpened pencil to estimate the length of 3 things in your desk.
   a. ____________________ is about _______ cm long.
   b. ____________________ is about _______ cm long.
   c. ____________________ is about _______ cm long.
Name ______________________________ Date ______________

1. Name five things in your home that you would measure in meters. Estimate their length.
   *Remember, the length from a doorknob to the floor is about 1 meter.

<table>
<thead>
<tr>
<th>Item</th>
<th>Estimated Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td></td>
</tr>
</tbody>
</table>

2. Choose the best length estimate for each object.

   a. Whiteboard 3 m or 45 cm
   b. Banana 14 cm or 30 cm
   c. DVD 25 cm or 17 cm
   d. Pen 16 cm or 1 m
   e. Swimming pool 50 m or 150 cm
3. The width of your pinky finger is about 1 cm.

Measure the length of the lines using your pinky finger. Write your estimate.

a. Line A ______________________

Line A is about _________ cm long.

b. Line B _____

Line B is about _________ cm long.

c. Line C ______________________

Line C is about _________ cm long.

d. Line D ______________________

Line D is about _________ cm long.

e. Line E ______________________

Line E is about _________ cm long.
Measure each set of lines in centimeters, and write the length on the line. Complete the comparison sentences.

1. Line A

   Line B

   a. Line A
      Line B
      _____ cm  _____ cm

   b. Line A is about _________ cm longer than Line B.

2. Line C

   Line D

   a. Line C
      Line D
      _____ cm  _____ cm

   b. Line C is about _________ cm shorter than Line D.
3. Line E ________

Line F

Line G

a. Line E ______ cm
   Line F ______ cm
   Line G ______ cm

b. Lines E, F, and G are about_______ cm combined.

c. Line E is about _______ cm shorter than Line F.

d. Line G is about_______ cm longer than Line F.

e. Line F doubled is about _______ cm longer than Line G.

4. Daniel measured the heights of some young trees in the orchard. He wants to know how many more centimeters are needed to have a height of 1 meter. Fill in the blanks.
   a. 90 cm + _____ cm = 1 m
   b. 80 cm + _____ cm = 1 m
   c. 85 cm + _____ cm = 1 m
   d. 81 cm + _____ cm = 1 m
5. Carol’s ribbon is 76 centimeters long. Alice’s ribbon is 1 meter long. How much longer is Alice’s ribbon than Carol’s?

6. The cricket hopped a distance of 52 centimeters. The grasshopper hopped 9 centimeters farther than the cricket. How far did the grasshopper jump?

7. The pencil box is 24 centimeters in length and 12 centimeters wide. How many more centimeters is the length than the width? __________ more cm

   Draw the rectangle and label the sides.

   What is the total length of all four sides? __________ cm
Name ____________________________ Date ________________

Measure each set of lines in centimeters, and write the length on the line. Complete the comparison sentences.

1. Line A ____________________________ Line B ____________________________

   a. Line A is about ________ cm longer than line B.
   b. Line A and B are about ________ cm combined.

2. Line X ____________________________ Line Y ____________________________ Line Z ____________________________

   a. Line X _______ cm   Line Y _______ cm   Line Z _______ cm
   b. Lines X, Y, and Z are about_________ cm combined.
   c. Line Z is about _______ cm shorter than Line X.
   d. Line X is about _______ cm shorter than Line Y.
   e. Line Y is about _______ cm longer than Line Z.
   f. Line X doubled is about _______ cm longer than line Y.
3. Line J is 60 cm long. Line K is 85 cm long. Line L is 1 m long.

   a. Line J is ________ cm shorter than line K.

   b. Line L is ________ cm longer than line K.

   c. Line J doubled is ________ cm more than line L.

   d. Lines J, K, and L combined are ________ cm.

4. Katie measured the seat height of four different chairs in her house. Here are her results:
   
   Loveseat height:  51 cm  
   Highchair height:  97 cm  
   Dining room chair height:  55 cm  
   Counter stool height:  65 cm  

   a. How much shorter is the dining room chair than the counter stool? ________ cm

   b. How much taller is a meter stick than the counter stool? ________ cm

   c. How much taller is a meter stick than the loveseat? ________ cm

5. Max ran 15 meters this morning. This afternoon, he ran 48 meters.

   a. How many more meters did he run in the afternoon?

   b. How many meters did Max run in all?
Lesson 7: Measure and compare lengths using standard metric length units and non-standard length units; relate measurement to unit size.

Name ________________________________ Date ________________

Measure each set of lines with one small paper clip, using mark and move forward. Measure each set of lines in centimeters using a ruler.

1. Line A ________________________________
   Line B ________________________________
   a. Line A
      ______ paper clips ______ cm
   b. Line B
      ______ paper clips ______ cm
   c. Line B is about ______ paper clips shorter than Line A.
   d. Line A is about ______ cm longer than Line B.

2. ________________________________ Line L
   ____________________________ Line M
   a. Line L
      ______ paper clips ______ cm
   b. Line M
      ______ paper clips ______ cm
   c. Line L is about ______ paper clips longer than Line M.
   d. Line M doubled is about ______ cm shorter than Line L.
3. Draw a line that is 6 cm long and another line below it that is 15 cm long. Label the 6 cm line C and the 15 cm line D.

   a. Line C _______ paper clips   Line D _______ paper clips

   b. Line D is about _____ cm longer than Line C.

   c. Line C is about _____ paper clips shorter than Line D.

   d. Lines C and D together are about _____ paper clips long.

   e. Lines C and D together are about _____ centimeters long.


   Line F is about 6 quarters long. Line G is about 8 pennies long. Christina said Line G is longer because 8 is a bigger number than 6.

   Explain why Christina is incorrect.

   __________________________________________________________
   __________________________________________________________

   __________________________________________________________
   __________________________________________________________

______________________________________________________________
Lesson 7 Homework 2+2

Name ________________________________ Date ________________

Use a centimeter ruler and paper clips to measure and compare lengths.

1. ________________________________ Line Z

   a. Line Z

      _____ paper clips _____ cm

   b. Line Z doubled would measure about _____ paper clips or about _____ cm long.

2. ________________________________ Line A

       ____________________________ Line B

   a. Line A

      _____ paper clips _____ cm

   b. Line B

      _____ paper clips _____ cm

   c. Line A is about _____ paper clips longer than Line B.

   d. Line B doubled is about _____ cm shorter than Line A.
3. Draw a line that is 9 cm long and another line below it that is 12 cm long.

Label the 9 cm line F and the 12 cm line G.

a. Line F
   ______ paper clips
b. Line G is about ______ cm longer than Line F.

c. Line F is about ______ paper clips shorter than Line G.

d. Lines F and G are about ______ paper clips long.

e. Lines F and G are about ______ centimeters long

4. Jordan measured the length of a line with large paper clips. His friend measured the length of the same line with small paper clips.

   a. About how many paper clips did Jordan use? ______ large paper clips
   b. About how many small paper clips did his friend use? ______ small paper clips
   c. Why did Jordan’s friend need more paper clips to measure the same line as Jordan?
      __________________________________________________________
      __________________________________________________________
1. A cricket jumped 5 centimeters forward and 9 centimeters back, and then stopped. If the cricket started at 23 on the ruler, where did the cricket stop? Show your work on the broken centimeter ruler.

2. A cricket jumped 5 centimeters forward and 9 centimeters back, and then stopped. If the cricket started at 23 on the ruler, where did the cricket stop? Show your work on the broken centimeter ruler.
3. Each of the parts of the path below is 4 length units. What is the total length of the path?

_______ length units

4. Ben took two different ways home from school to see which way was the quickest. All streets on Route A are the same length. All streets on Route B are the same length.

a. How many meters is Route A? ________ m

b. How many meters is Route B? ________ m

c. What is the difference between Route A and Route B? ________ m
Lesson 8: Solve addition and subtraction word problems using the ruler as a number line.

1. 

   C

   D

   | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |

   a. Line C is _____ cm.

   b. Line D is _____ cm.

   c. Lines C and D are _____ cm.

   d. Line C is _____ cm (longer/shorter) than Line D.

2. An ant walked 12 centimeters to the right on the ruler and then turned around and walked 5 centimeters to the left. His starting point is marked on the ruler. Where is the ant now? Show your work on the broken ruler.
3. All of the parts of the path below are equal length units.

a. Fill in the empty boxes with the lengths of each side.

b. The path is _____ length units long.

c. How many more parts would you need to add for the path to be 21 length units long?  
   _____ parts

4. The length of a picture is 67 centimeters. The width of the picture is 40 centimeters. How many more centimeters is the length than the width?
Lesson 9 Problem Set 2•2

Name __________________________ Date ________________

1. Complete the chart by first estimating the measurement around a classmate’s body part and then finding the actual measurement with a meter strip.

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Body Part Measured</th>
<th>Estimated Measurement in Centimeters</th>
<th>Actual Measurement in Centimeters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Neck</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wrist</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Head</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Which was longer, your estimate or the actual measurement around your classmate’s head? __________

b. Draw a tape diagram to compare the lengths of two different body parts.
2. Use a string to measure all three paths.

Path 1

Path 2

Path 3

a. Which path is the longest? ______

b. Which path is the shortest? ______

c. Draw a tape diagram to compare two of the lengths.
3. Estimate the length of the path below in centimeters.

   a. The path is about _____ cm long.

   Use your piece of string to measure the length of the path. Then, measure the string with your meter strip.

   b. The actual length of the path is _____ cm.

   c. Draw a tape diagram to compare your estimate and the actual length of the path.
1. Mia completed the chart by first estimating the measurement around three objects in her house and then finding the actual measurement with her meter strip.

<table>
<thead>
<tr>
<th>Object Name</th>
<th>Estimated Measurement in Centimeters</th>
<th>Actual Measurement in Centimeters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange</td>
<td>40 cm</td>
<td>36 cm</td>
</tr>
<tr>
<td>Mini Basketball</td>
<td>30 cm</td>
<td>41 cm</td>
</tr>
<tr>
<td>Bottom of a glue bottle</td>
<td>10 cm</td>
<td>8 cm</td>
</tr>
</tbody>
</table>

a. What is the difference between the longest and shortest measurements? ________ cm

b. Draw a tape diagram comparing the measurements of the orange and the bottom of the glue bottle.

c. Draw a tape diagram comparing the measurements of the basketball and the bottom of the glue bottle.
2. Measure the two paths below with your meter strip and string.

Path A

Path B

a. Path A is _________ cm long.

b. Path B is _________ cm long.

c. Together, Paths A and B measure _________ cm.

d. Path A is _________ cm (shorter/longer) than Path B.

3. Shawn and Steven had a contest to see who could jump farther. Shawn jumped 75 centimeters. Steven jumped 9 more centimeters than Shawn.

a. How far did Steven jump? _________ centimeters

b. Who won the jumping contest? _________

c. Draw a tape diagram to compare the lengths that Shawn and Steven jump.
Maura’s ribbon is 26 cm long. Colleen’s ribbon is 14 cm shorter than Maura’s ribbon. What is the total length of both ribbons?

Step 1: Find the length of Colleen’s ribbon.

Step 2: Find the length of both ribbons.
2. Jesse’s tower of blocks is 30 cm tall. Sarah’s tower is 9 cm shorter than Jesse’s tower. What is the total height of both towers?

   Step 1: Find the height of Sarah’s tower.

   Step 2: Find the height of both towers.

3. Pam and Mark measured the distance around each other’s wrists. Pam’s wrist measured 10 cm. Mark’s wrist measured 3 cm more than Pam’s. What is the total length around all four of their wrists?

   Step 1: Find the distance around both Mark’s wrists.

   Step 2: Find the total measurement of all four wrists.
Name __________________________________________ Date ____________

Use the RDW process to solve. Draw a tape diagram for each step. Problem 1 has been started for you.

1. There is 29 cm of green ribbon. A blue ribbon is 9 cm shorter than the green ribbon. How long is the blue ribbon?

Step 1: Find the length of blue ribbon.

\[ \begin{array}{c}
\text{G} & \text{29 cm} \\
\text{B} & ? \\
& 9 \text{ cm}
\end{array} \]

Step 2: Find the length of both the blue and green ribbons.

\[ \begin{array}{c}
\text{G} & \text{29 cm} \\
\text{B} & \text{20 cm} \\
& ?
\end{array} \]

2. Joanna and Lisa drew lines. Joanna’s line is 41 cm long. Lisa’s line is 19 cm longer than Joanna’s. How long are Joanna’s and Lisa’s lines?

Step 1: Find the length of Lisa’s line.

Step 2: Find the total length of their lines.
Cut Out Packet
Lesson 6

A STORY OF UNITS

Template

meter strip

LEGEND
--- CUT
----- ALIGN EDGE