# EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

During the next three days, our math class will be learning concepts about measuring in centimeters. We will learn how to measure, first by using centimeter cubes, next by using one cube with the **mark and move forward** technique, and finally by creating centimeter rulers in class.

You can expect to see homework that asks your child to do the following:

- Measure pictures of objects by counting centimeter squares (a flat, two-dimensional version of the centimeter cube used in class).

- Measure pictures of objects using the mark and move forward technique.

- Measure pictures of objects using a student-made centimeter ruler, then compare lengths of objects.

SAMPLE PROBLEM *(From Lesson 2)*

Use the centimeter square provided to measure the length of the calculator. Mark the **endpoint** of the square as you measure.
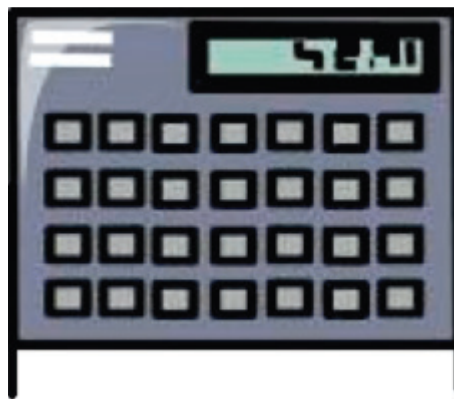
The picture of the calculator is about __6__ cm long.

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

- Our class will not use rulers until Lesson 3 of this module. Until the class completes Lesson 3, invite your child to practice measuring with the centimeter square. Please do not provide a store-bought ruler.

- Remember that measurements made with little fingers may not be perfect. Encourage your child to do her best and focus on the process of measuring rather than on finding an exact measurement.

- Continue to reinforce these strategies from Module 1. Make the Next Ten: Say a number less than 100 (e.g., 47). Invite your child to tell how many more are needed to make the next ten (3). Make Ten: When solving addition problems to 20, encourage your child to "make ten" to help add the numbers. For example, 9 + 3 = 10 + 2.

TERMS

Mark and move forward: A strategy used to avoid overlap when measuring with a tool such as a centimeter cube. For example, "I place my cube down and make a mark right where it ends. Then I lift my cube and put it down again, making sure my cube is right against the line, and make another mark. I keep going until I reach the end of the object."

Endpoint: The point where something begins or ends.

endpoint
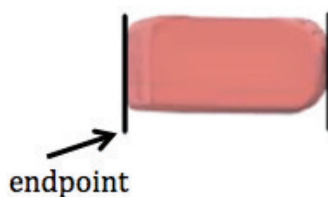
Hash marks: The marks on a ruler or other measurement tool.

hash mark

10 cm

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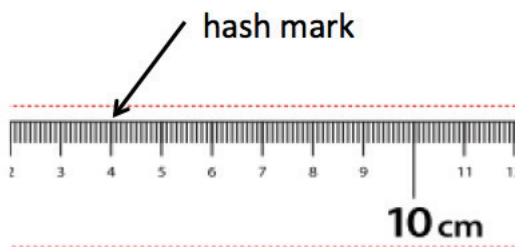
KEY CONCEPT OVERVIEW

During the next few days, students will build on what they learned in Topic A as they continue learning about measurement. We will learn to use different tools (centimeter rulers, meter tapes, and meter sticks) to measure various objects in our classroom. Then, we will learn to **estimate** length using mental **benchmarks.**

You can expect to see homework that asks your child to do the following:

- Choose the correct unit—centimeters or **meters**—for measuring an object.

- Measure objects using a centimeter ruler.

- Estimate the lengths of various objects, using mental benchmarks. For example, a centimeter is about the width of a pinky finger.

SAMPLE PROBLEM *(From Lesson 5)*

Circle the best estimate for each object.

    a.   length of a push pin   (1 cm) or 1 m

    b.   length of a classroom door   100 cm or (2 m)

    c.   length of a pair of scissors   (17 cm) or 42 cm

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HOW YOU CAN HELP AT HOME

- Invite your child to estimate the lengths of different objects and to share her reasoning and benchmarks. For example, "I estimate that the table is about one meter high because it is a little bit lower than the doorknob, which I know is about one meter high!"

- Use your child's handmade centimeter ruler to practice addition up to 30: Partner A calls out two numbers (e.g., 9 and 5). Partner B uses the ruler to add the two numbers by sliding a finger up and down the ruler: "I start at 9, and I slide my finger five spaces. I stop at 14 because 9 + 5 = 14."

- Play "Take Out a Part": Partner A says a total number of tens between 3 tens and 9 tens (e.g., 5 tens). Partner B takes out a part (e.g., 2 tens). Then Partner A identifies the other part needed to make the total (3 tens). Repeat this activity with different numbers of tens. Take turns with your child being Partner A and Partner B.

TERMS

Benchmark: An object whose approximate measurement is known and thus can be used to help estimate the size of something else. For example, the width of a typical child's pinky finger is about a centimeter.

Estimate: To make an approximation, or an educated guess, about a quantity or number. For example, "I estimate that my brother is about a meter tall. He looks about as tall as a meter stick!"

Meter: A unit of measure equal to 100 centimeters.

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KEY CONCEPT OVERVIEW

During the next couple of days, our math class will be learning about using different **length units** (centimeter rulers, along with paperclips, crayons, and other everyday objects) to measure and compare lengths. We will discover the relationship between unit size and measurement; for example, "Centimeters are shorter than **meters,** so it takes more centimeters than meters to measure this table."

You can expect to see homework that asks your child to do the following:

- Measure and compare lengths using centimeters and meters.

- Solve addition and subtraction word problems involving length.

- Measure the same line twice with different measurement tools (such as a centimeter ruler and paperclips). Then, compare different line lengths; for example, "Line A is 6 cm longer than Line B," or "Line B is 2 paperclips shorter than line A."

SAMPLE PROBLEM *(From Lesson 7)*

Christina measured line F with quarters and line G with pennies.
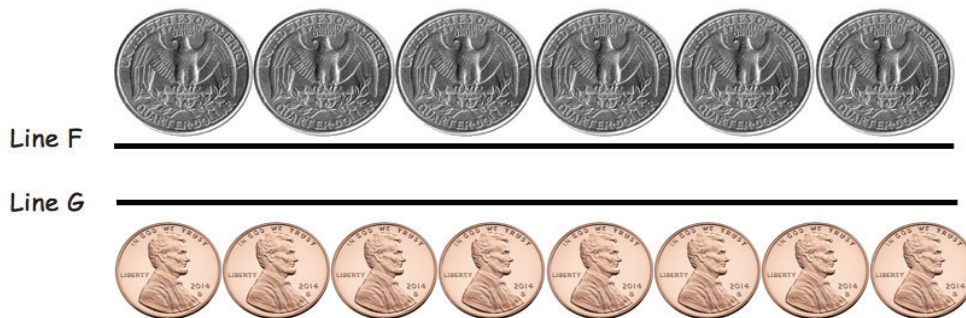
Line F is about 6 quarters long. Line G is about 8 pennies long. Christina said line G is longer because 8 is a bigger number than 6. Explain why Christina is incorrect.

Cristina is incorrect because quarters are bigger than pennies, so there are not as many of them.

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

- Play "Which is Shorter?" with your child. Partner A says two lengths (e.g., 6 centimeters and 10 centimeters). Partner B tells which length is shorter (6 centimeters). For an added challenge, ask your partner to compare different units (e.g., 6 meters and 10 centimeters). Take turns being Partner A and Partner B.

- Count by 10s in centimeters with your child. When you reach 100 centimeters, change to meters and centimeters; for example, " …70 centimeters, 80 centimeters, 90 centimeters, 1 meter, 1 meter 10 centimeters, 1 meter 20 centimeters, 1 meter 30 centimeters, 1 meter 40 centimeters," and so on.

- Look for practical opportunities for your child to use measurement skills at home. For example, ask, "Will the rug fit in this room?" or "How far away should we put the basketball hoop?" Encourage your child to measure by placing nonstandard units, such as shoes, end to end with no gaps or overlaps. As an alternative, your child might use a standard measurement tool such as a ruler or yardstick.

TERMS

Length unit: A standard amount (e.g., centimeter, meter, inch, foot) that can be used to measure distance from end to end.

Meter: A unit of measure equal to 100 centimeters.

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KEY CONCEPT OVERVIEW

During the next week, our math class will continue to explore measurement as students learn to solve addition and subtraction word problems involving length. We will learn about using the ruler as a **number line** and drawing **tape diagrams** to compare lengths.

You can expect to see homework that asks your child to do the following:

- Use a ruler as a number line to solve addition and subtraction word problems.
- Use measurement tools, such as a meter tape and string, to measure and compare lengths.
- Draw tape diagrams to solve word problems involving length.

SAMPLE PROBLEM *(From Lesson 10)*

The red pencil is 17 centimeters long. The green pencil is 9 centimeters shorter than the red pencil. What is the total length of both pencils?

Step One:

R | 17 cm
G | ?
9 cm

Step Two:

$17 - 9 = 8$

R | 17 cm
G | 8 cm
?
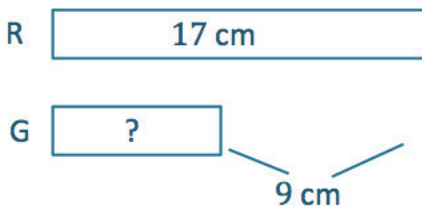
$17 + 8 = 25$

*The total length of both pencils is 25 centimeters.*

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HOW YOU CAN HELP AT HOME

- Play "Tape Measure Addition": Partner A calls out a number on the tape measure (e.g., 32). Partner B uses a finger to locate the number on the tape measure. Then she adds ten by sliding a finger along the strip. Partner B calls out the answer in the form of a number sentence; for example, "Thirty-two plus ten equals forty-two!"

- Practice counting in centimeters with your child. Start at 0 and count by 10 centimeters up to 1 meter, then back down; i.e., "10 centimeters, 20 centimeters, 30 centimeters, 40 centimeters...80 centimeters, 90 centimeters, 1 meter, 90 centimeters, 80 centimeters, 70 centimeters," and so on. Invite your child to teach you the way we count centimeters in class, which is called "Happy Counting" and includes a hand motion.

- As your child draws a tape diagram to solve a word problem, ask questions such as, "How did you label each part of your drawing?" "Which tape is longer?" and "How did you show the difference in lengths (shorter/longer) in your drawing?"

MODELS

Number Line: A line with numbers placed at evenly spaced hash marks. It is useful for addition and subtraction and for seeing the relationships between numbers.
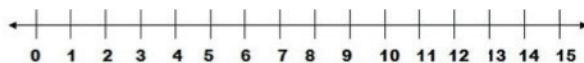
Tape Diagram: A problem-solving model that helps students see the relationships between quantities. For example, Vincent counts 30 dimes and 87 pennies in a bowl. How many more pennies than dimes are in the bowl?
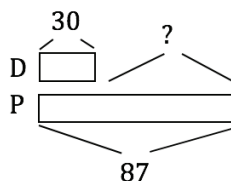
$$87 - 30 = 57$$
There are 57 more pennies than dimes.