

# Eureka Math

## 2nd Grade Module 2 Lesson 5

At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

Directions for customizing presentations are available on the next slide.



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# Customize this Slideshow

## Reflecting your Teaching Style and Learning Needs of Your Students

- When the Google Slides presentation is opened, it will look like Screen A.
- Click on the “pop-out” button in the upper right hand corner to change the view.
- The view now looks like Screen B.
- Within Google Slides (not Chrome), choose FILE.
- Choose MAKE A COPY and rename your presentation.
- Google Slides will open your renamed presentation.
- It is now editable & housed in MY DRIVE.



# Icons



Read, Draw, Write



Learning Target



Personal White Board



Problem Set



Manipulatives Needed



Fluency



Think Pair Share



Whole Class



Individual



Partner



Small Group



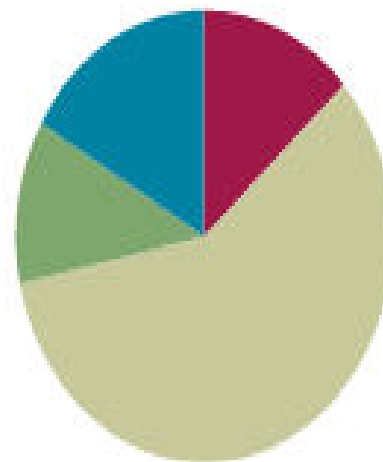
Small Group Time

## Lesson 5

**Objective:** Develop estimation strategies by applying prior knowledge of length and using mental benchmarks.

### Suggested Lesson Structure

■ Fluency Practice	(8 minutes)
■ Application Problem	(7 minutes)
■ Concept Development	(35 minutes)
■ Student Debrief	(10 minutes)
<b>Total Time</b>	<b>(60 minutes)</b>





# Materials Needed:

## Fluency:

- (S) Whiteboard

## Concept Development:

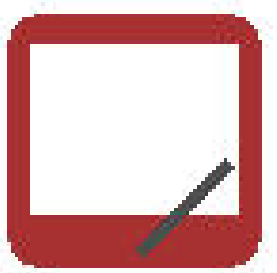
- (T) Meter stick, 3 ring binder
- (S) 1 unused unsharpened pencil, 1 centimeter cube, centimeter ruler from Lesson 3, meter tape, 1 wedge eraser



I can develop estimation strategies by using prior knowledge of length and using mental benchmarks.



# Break Apart by Tens and Ones



If I say 64, you write 6 tens 4 ones. If I say 7 tens 2 ones, you write 72.

5 tens 2 ones

9 tens 9 ones

11 tens

84

10 tens 2 ones

11 tens 5 ones

7 tens 3 ones

10 tens 4 ones

79

104

8 tens 9 ones

10 tens 8 ones



# Take Out a Part

Let's take out 2 tens from each number.

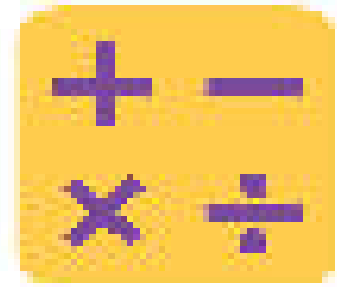
I say 5 tens.

You say,  $2 \text{ tens} + 3 \text{ tens} = 5 \text{ tens}$

5 tens

7 tens





# Take Out a Part

Let's take out 20 from each number.

I say 50.

You say,  $20 + 30 = 50$

50

$$20 + 30 = 50$$

70

$$20 + 70 = 90$$

83

$$20 + 83 = 103$$

52

$$20 + 52 = 72$$



# Take Out a Part

97

$$20 + 97 = 107$$

100

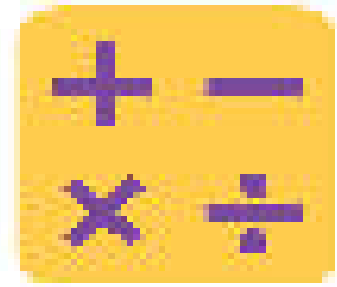
$$20 + 100 = 120$$

105

$$20 + 105 = 125$$

110

$$20 + 110 = 130$$



# Take Out a Part

Let's take out 40 from each number.

I say 60.

You say,  $40 + 20 = 60$

50

$$40 + 10 = 50$$

70

$$40 + 30 = 70$$

81

$$40 + 41 = 81$$

87

$$40 + 47 = 87$$



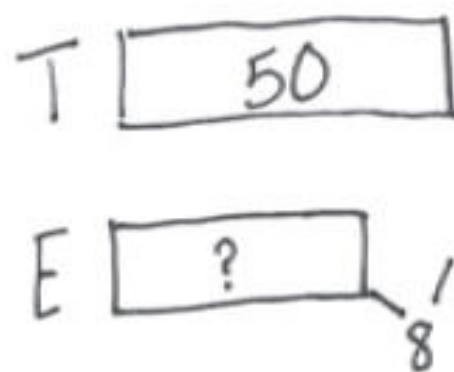
# Application Problem

Ethan has 8 fewer playing cards than Tristan. Tristan has 50 playing cards. How many playing cards does Ethan have?



$$50 - 8 = 42$$

Ethan has 42 playing cards.

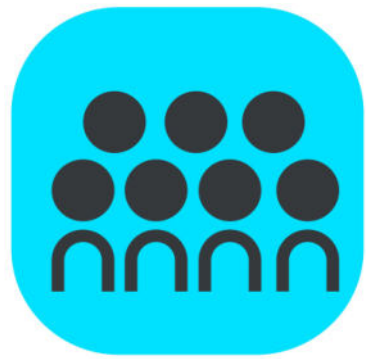


$$\begin{array}{r} 50 - 8 = 42 \\ \swarrow \searrow \\ 40 \quad 10 \end{array}$$

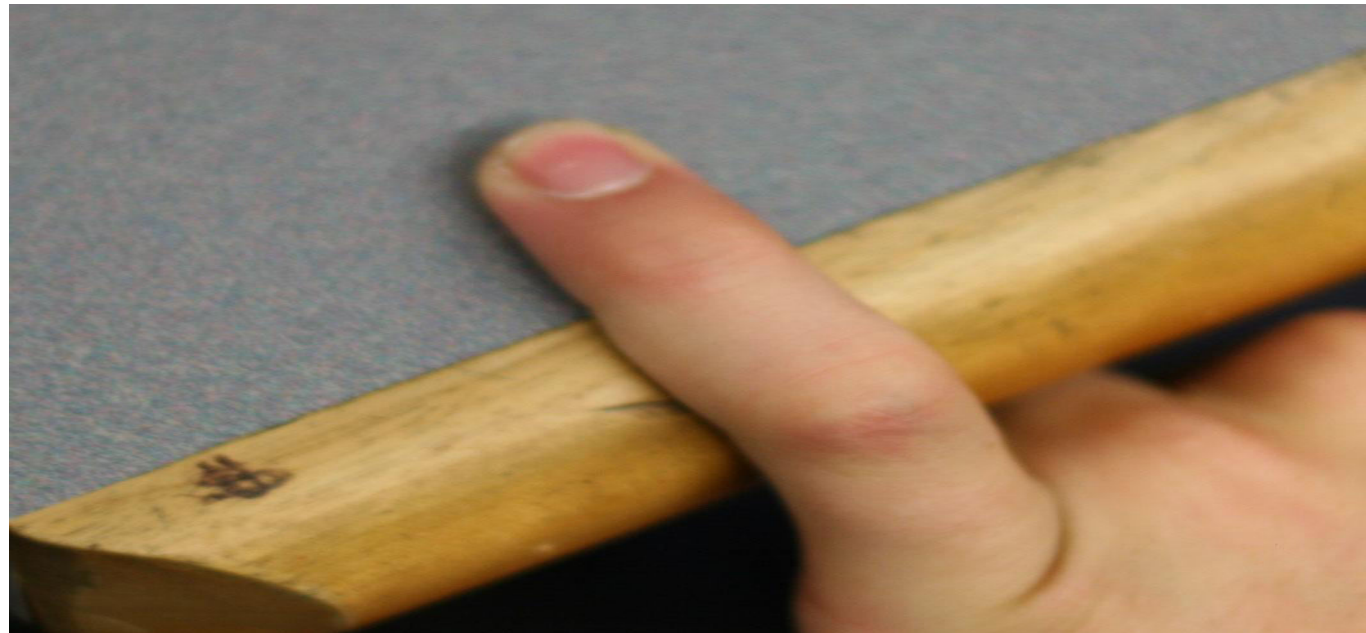
$$10 - 8 = 2$$

$$40 + 2 = 42$$

Ethan has 42 playing cards.

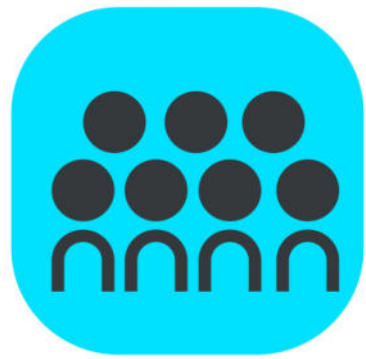


# Concept Development



Put your pinky on your centimeter cube. Would you say it's about the same width as the cube?

How could you use your pinky to estimate length?

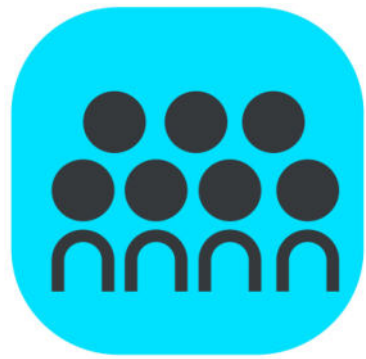


# Concept Development



Let's estimate your eraser  
using your pinky.  
Share your estimate with  
your partner.

Let's measure with the ruler  
to see if your estimate was  
correct.

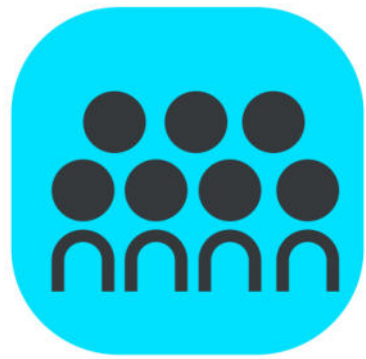


# Concept Development



The distance from the floor to the door knob is about 1 meter. How does this help you estimate the length of your desk?

Let's measure to see which estimate is closer to the real measurement.



# Concept Development

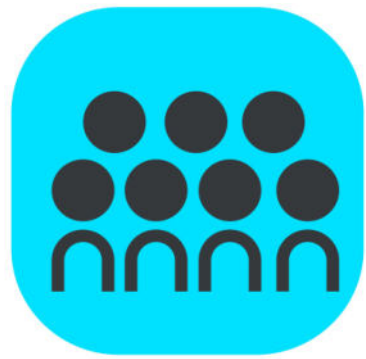


Measure your pencil?

Can that help your estimate  
the length of your math  
book?

Estimate the length of your  
math book, and then  
measure it with your ruler to  
see how close you got.



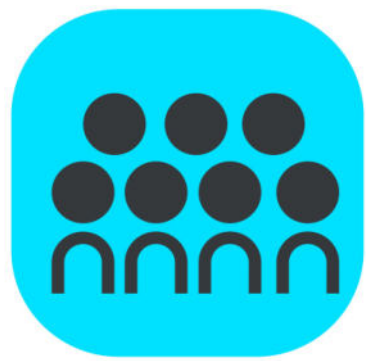


# Concept Development

Picture the meter stick in your mind. Estimate how many meters long the white board is.



Let's check our estimates.

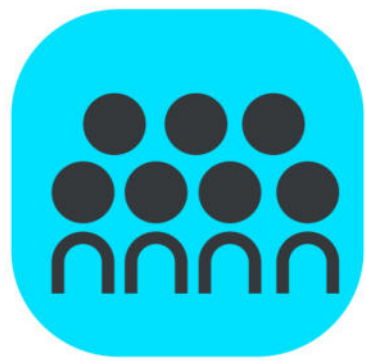


# Concept Development

Look at your binder. What known measurement can we use to estimate the length?



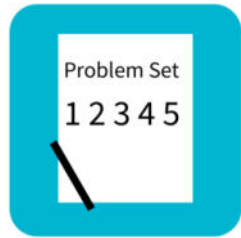
Now that we know how long our binder is, what other lengths can we estimate with this information?



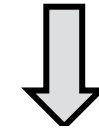
# Concept Development

All of these measurements we use to estimate are called mental **benchmarks**. The pencil is about 20 centimeters. Your pinky is about 1 centimeter. The binder is about 30 centimeters. And, the length of the doorknob to the floor is about 1 meter.

You can use these benchmarks at any time by picturing them in your head to estimate the length of an object.



# Problem Set



Name \_\_\_\_\_

Date \_\_\_\_\_

1. Circle the most reasonable 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 student scissors | 17 cm or 42 cm |

2. Estimate the length of your desk. (Remember, the width of your pinky is about 1 cm.)

My desk is about \_\_\_\_\_ cm long.



# Debrief

- Turn and compare your answers to problems 1, 2, 3, 4, and 5 with your partner.
- Why is it possible to have different estimates? How can we check to see if our estimates are accurate?
- How many mental **benchmarks** can you name?
- How do mental benchmarks help us? When is it a good time to use them?



# Exit Ticket

Name \_\_\_\_\_

Date \_\_\_\_\_

1. Circle the most reasonable 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 student scissors | 17 cm or 42 cm |

2. Estimate the length of your desk. (Remember, the width of your pinky is about 1 cm.)

My desk is about \_\_\_\_\_ cm long.