# Eureka Math

## 3rd Grade
## Module 2
## Lesson 7

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.

# 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.
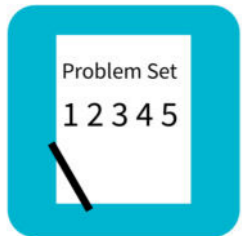
# Icons

**RDW** — 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 7

Objective:  Develop estimation strategies by reasoning about the weight in kilograms of a series of familiar objects to establish mental benchmark measures.

## Suggested Lesson Structure

| | | |
|---|---|---|
| ■ Fluency Practice | (10 minutes) | |
| ■ Application Problem | (3 minutes) | |
| ■ Concept Development | (37 minutes) | |
| ■ Student Debrief | (10 minutes) | |
| **Total Time** | **(60 minutes)** | |
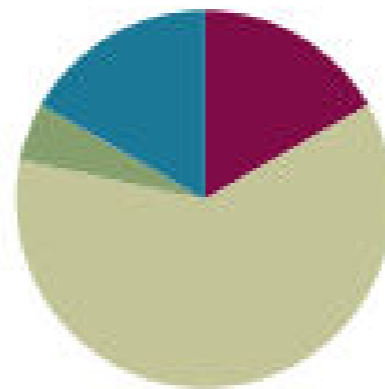
I can estimate by reasoning about the weight in kilograms of familiar objects and use them as benchmark measures.
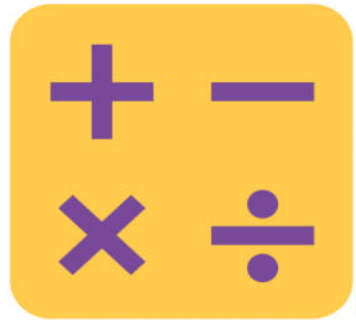
# Group Counting (4 mins.)

- Threes to 30
- Fours to 40
- Sixes to 60
- Sevens to 70
- Eights to 80
- Nines to 90
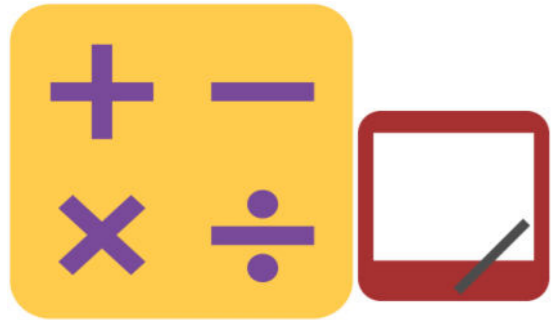
# Decompose 1 kilogram
## (4 mins)

1 kg

100g

900 g

There are 1000 grams in 1 kilogram.
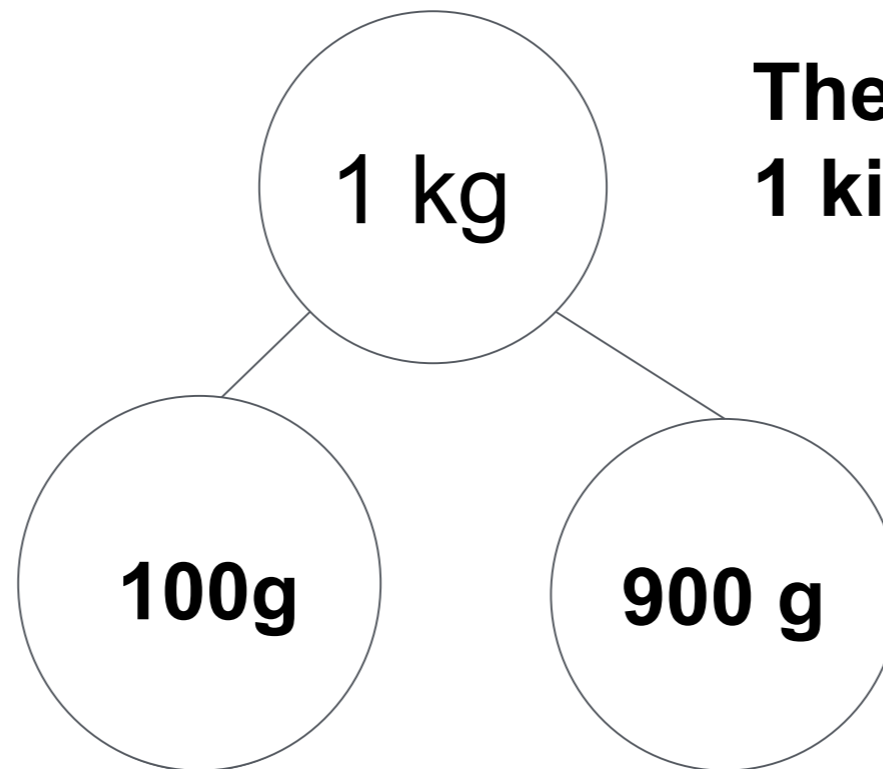
What should we write in the unknown part of our number bond?
 (answer on click)

# Decompose 1 kilogram

1 kg

600g      400 g
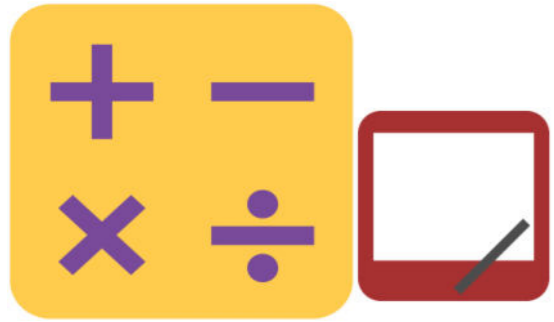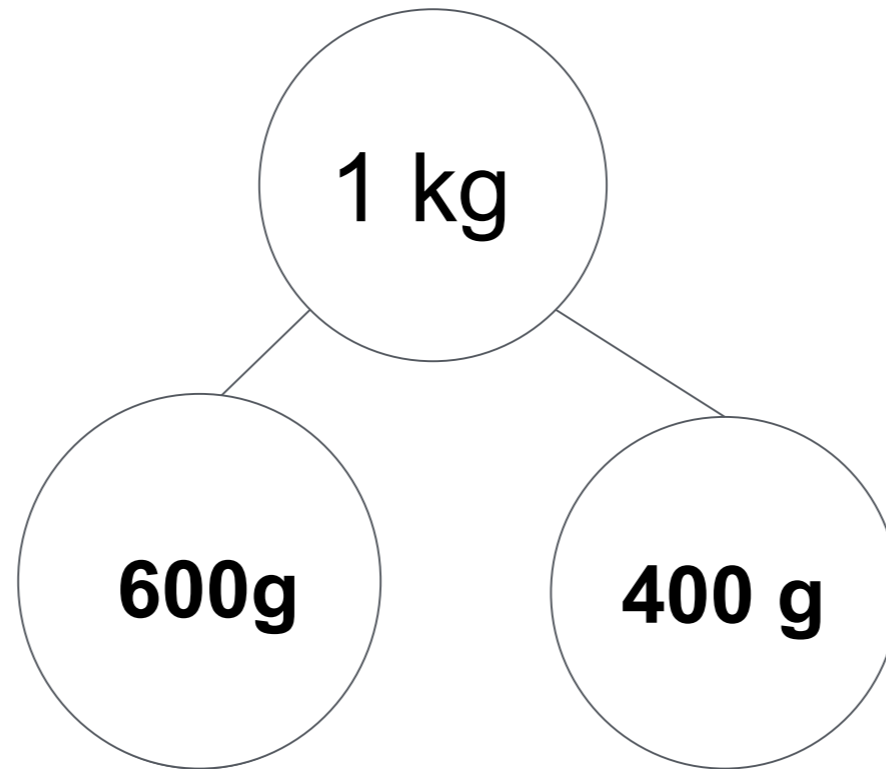
**What should our unknown part be?**
**(answer on click)**

# Decompose 1 kilogram

1 kg

250g     750 g
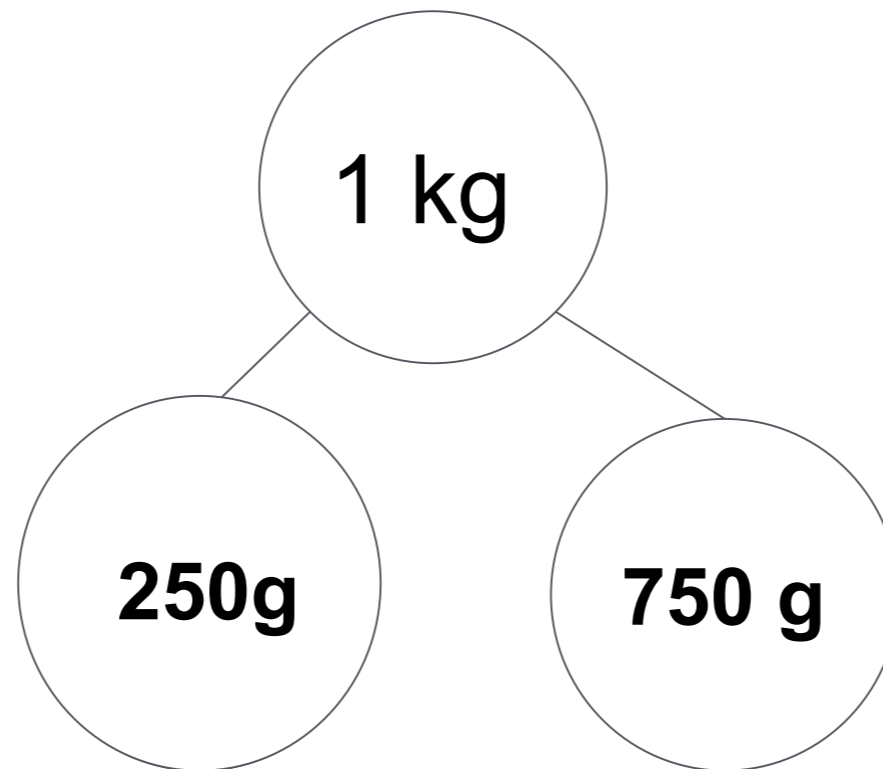
**What should we write in the unknown part of our number bond?**
**(answer on click)**

# Gram Counting (2 mins.)

There are 1000 grams in a kilogram.  Let's count by 100 grams together.

100 grams…, 200 grams,... etc.

## RDW Application Problem (3 mins.)

Justin put a 1-kilogram bag of flour on one side of a pan balance. How many 100-gram bags of flour does he need to put on the other pan to balance the scale?

**Justin put a 1-kilogram bag of flour on one side of a pan balance. How many 100-gram bags of flour does he need to put on the other pan to balance the scale?**

| 100g | ? |
|------|---|

1 kilogram=
1000 grams

**Justin put a 1-kilogram bag of flour on one side of a pan balance. How many 100-gram bags of flour does he need to put on the other pan to balance the scale?**

| 100g | 100g | 100g | 100g | 100g | 100g | 100g | 100g | 100g | 100g |
|------|------|------|------|------|------|------|------|------|------|

**10 bags**

1 kilogram=
1000 grams

# Using Scales

This is a spring scale.

It is used to measure weight.



The scale shows us how many units items weigh.

# Using Scales

This is also a spring scale.

Notice the different scale.

# Using Scales

This is also a spring scale.

Notice the different scale.

# Using Scales

Some spring scales measure in grams. Others measure in kilograms.

This scale shows the weight of some apples.

Each interval represents 1 kilogram.

How much do the apples weigh?

# Using Scales

Talk to your partner. Where would the arrow point if the apples weighed one kilogram?

4 kilograms?

# Using Scales

Look at this scale that is weighing rice.

Each interval on this scale represents 500 grams.

How much does the bag of rice weigh?

# Using Scales

Talk to your partner about how this scale would show 3 kilograms.

What about 5 kilograms?

# Using Scales

On this scale, 5 intervals represent 500 grams.

How much does 1 interval represent?

Let's count grams on this scale to find 1 kilogram.

Where is 1 kilogram on this scale?

200 grams?

# Using Scales

Look at your scales.

How are the intervals labeled on your scale?

Skip count to find out how many grams this scale can measure.

How many grams can this scale measure?

# Using Scales

This scale can measure **2,000** grams.

That means that each tick mark represents **20** grams.

Working with a partner, start at 0 and skip count by **20**s to find the **100**-gram mark on this scale.

Find these marks:

340 g

880 g

1,360 g

# Using Scales

To accurately measure objects that weigh less than 20 grams, we are going to use a digital scale.

Remember from yesterday, to measure weight on this scale, you read the number on the display screen.

There is a *g* next to the display screen which means that this scale measures in grams.

We will use both a spring scale and a digital scale in today's exploration.

# Exploration

Find objects around the room that you think weigh about 1 kilogram.

Compare by holding the 1 kilogram weight in one hand and the object in the other hand.

With your partner, compare weights using these sentences.

- The _____ weighs *more than* one kilogram.
- The _____ weighs *less than* one kilogram.
- The _____ weighs *about the same as* one kilogram.

# Exploration

Now, use your scale to measure the object.

Compare your estimate (more than, less than, about the same as) with the precise measurement.

# Exploration

Find objects around the room that you think weigh about 100 grams.

Compare by holding the 100 gram weight in one hand and the object in the other hand.

With your partner, compare weights using these sentences.

- The _____ weighs *more than* 100 grams.
- The _____ weighs *less than* 100 grams.
- The _____ weighs *about the same as* 100 grams.

# Exploration

Now, use your scale to measure the object.

Compare your estimate (more than, less than, about the same as) with the precise measurement.

# Exploration

Find objects around the room that you think weigh about 10 grams.

Compare by holding the 10 gram weight in one hand and the object in the other hand.

With your partner, compare weights using these sentences.

- The _____ weighs *more than* 10 grams.
- The _____ weighs *less than* 10 grams.
- The _____ weighs *about the same as* 10 grams.

# Exploration

Now, use your scale to measure the object.

Compare your estimate (more than, less than, about the same as) with the precise measurement.

# Exploration

Find objects around the room that you think weigh about 1 gram.

Compare by holding the 1 gram weight in one hand and the object in the other hand.

With your partner, compare weights using these sentences.

- The _____ weighs *more than* 1 gram.
- The _____ weighs *less than* 1 gram.
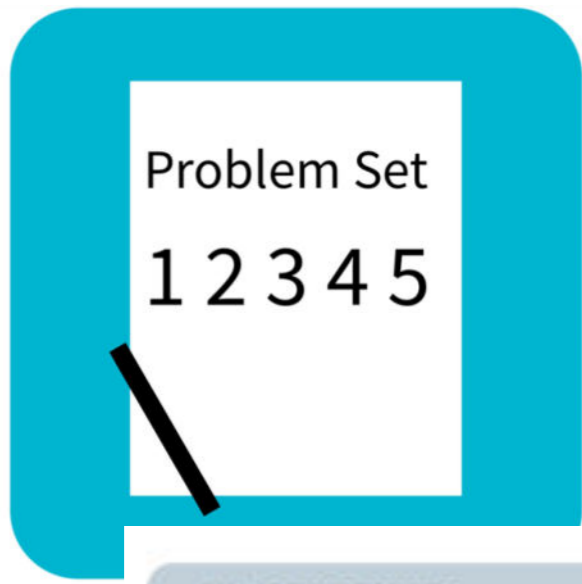- The _____ weighs *about the same as* 1 gram.

# Exploration

Now, use your scale to measure the object.

Compare your estimate (more than, less than, about the same as) with the precise measurement.

# Problem Set

Name _____    Date _____

Work with a partner.  Use the corresponding weights to estimate the weight of objects in the classroom. Then, check your estimate by weighing on a scale.

A.

| Objects that Weigh About **1 Kilogram** | Actual Weight |
|---|---|
| | |
| | |
| | |

B.

| Objects that Weigh About **100 Grams** | Actual Weight |
|---|---|
| | |
| | |
| | |

# Debrief

- **How did you use the 1-kilogram, 100-gram, 10-gram, and 1-gram weights to help you estimate the weights of objects in the classroom?**

- **Today you used a spring scale and a digital scale to measure objects. How are these scales used differently than the pan balance from yesterday's lesson?**

- **Did anyone find an object that weighs exactly 1 kilogram? What object? (Repeat for 100 grams, 10 grams, and 1 gram.)**

- **Look at Problem D. List some of the actual weights you recorded (there should be a huge variation in weights for this problem).**

**Why do you suppose there are a small number of weights very close to 1 gram?**

# Exit Ticket

Name _____     Date _____

1. Read and write the weights below. Write the word *kilogram* or *gram* with the measurement.



140

150

0
500g

250

POTATOES

0
30 kg

15

_____                                    _____