

# Estimate, Measure & Compare the Mass

Module 1  
Session 6

# Today's Activities

- Practicing and estimating mass again

# Finding Mass

- What would you need to do find the mass of the pencil?
  - How could you use the balance and the 1 gram plastic cubes or metric measure to find the mass of a pencil?

# Metric Weights

- Show students the pan balance scale, metric weights, and 25 plastic cubes
  - Examine the metric weights and discuss with a partner how to use them with the pan balance scales. Share with the class.
- Using the metric weights to balance the scale
  - Place one 10 gram and one 5 gram weight on one side of the balance
  - How many gram cubes should be placed on the other side?
  - Have a student add gram cubes to the other side until it balances. If needed, use the clips to balance the scale.

# Estimate, Measure & Compare the Mass

- We will use several objects. For each object, you will estimate its mass and record your estimate.
- Then, we will find the actual mass of the object in grams, and record it in the middle column.
- Next, you will find the difference between your estimate and the actual mass and record the difference in the last column.

Unit 4 Module 1 | Session 6

NAME \_\_\_\_\_

DATE \_\_\_\_\_



## Estimate, Measure & Compare the Mass page 1 of 2

- 1 In the table below:
  - a Write the name of an item in the first column. Estimate the mass and record it in the second column.
  - b Find the actual mass of the item and record the measurement. Round your measurement to the nearest gram.
  - c Find the difference between your estimate and the actual measurement. Record the difference in the last column.
  - d On the second page, continue estimating, finding the mass, and finding the difference for all the items. Use what you know about the mass of the first item to estimate the others.

| Item   | Your Estimate<br>(in grams) | Actual Measure<br>(in grams) | The Difference<br>(in grams) |
|--------|-----------------------------|------------------------------|------------------------------|
| Pencil |                             |                              |                              |
| Rock   |                             |                              |                              |
|        |                             |                              |                              |
|        |                             |                              |                              |

# Estimate, Measure & Compare the Mass

- Item #1: Pencil
  - Pass out new, unsharpened pencils
  - Take turns holding the pencil in your hand, estimate the mass, and record it on your sheet
  - Share a few estimations
  - Have a pair of students use the pan balance to find the actual mass. Record the results on the sheet
  - Calculate the difference between their estimation and the actual



Unit 4 Module 1 | Session 6

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## Estimate, Measure & Compare the Mass page 1 of 2

1 In the table below:

- Write the name of an item in the first column. Estimate the mass and record it in the second column.
- Find the actual mass of the item and record the measurement. Round your measurement to the nearest gram.
- Find the difference between your estimate and the actual measurement. Record the difference in the last column.
- On the second page, continue estimating, finding the mass, and finding the difference for all the items. Use what you know about the mass of the first item to estimate the others.

| Item   | Your Estimate<br>(in grams) | Actual Measure<br>(in grams) | The Difference<br>(in grams) |
|--------|-----------------------------|------------------------------|------------------------------|
| Pencil |                             |                              |                              |
| Rock   |                             |                              |                              |
|        |                             |                              |                              |
|        |                             |                              |                              |

# Estimate, Measure & Compare the Mass

- Item #2: Rock
  - Pass out rocks
  - Take turns holding the rock in your hand and estimate the mass
  - Think about how you can find the actual mass using the pan balance
  - Are there objects we can use to help find the mass of the rock?



Unit 4 Module 1 | Session 6

NAME \_\_\_\_\_

DATE \_\_\_\_\_



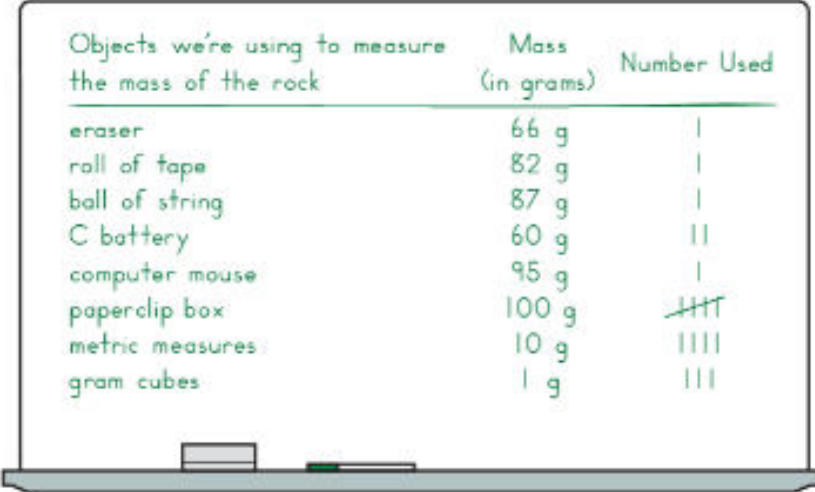
## Estimate, Measure & Compare the Mass page 1 of 2

- 1 In the table below:
  - a Write the name of an item in the first column. Estimate the mass and record it in the second column.
  - b Find the actual mass of the item and record the measurement. Round your measurement to the nearest gram.
  - c Find the difference between your estimate and the actual measurement. Record the difference in the last column.
  - d On the second page, continue estimating, finding the mass, and finding the difference for all the items. Use what you know about the mass of the first item to estimate the others.

| Item   | Your Estimate<br>(in grams) | Actual Measure<br>(in grams) | The Difference<br>(in grams) |
|--------|-----------------------------|------------------------------|------------------------------|
| Pencil |                             |                              |                              |
| Rock   |                             |                              |                              |
|        |                             |                              |                              |
|        |                             |                              |                              |

# Measuring the Mass of the Rock

- Measure the mass of the suggested objects one at a time. Record the mass of each object on the board.
- Which objects should we place in the pan to balance the rock?
- We will make a tally mark next to its mass on the whiteboard.



| Objects we're using to measure<br>the mass of the rock | Mass<br>(in grams) | Number Used     |
|--|--------------------|-----------------|
| eraser   | 66 g               |                 |
| roll of tape   | 82 g               |                 |
| ball of string   | 87 g               |                 |
| C battery  | 60 g               |                 |
| computer mouse   | 95 g               |                 |
| paperclip box  | 100 g              | <del>    </del> |
| metric measures  | 10 g               |                 |
| gram cubes   | 1 g                |                 |



# Measuring the Mass of the Rock

- Once the scale is balance, how do we find the mass of the rock? Discuss with your partner.
- How did you determine the mass of the rock?
- Is that more or less than a kilogram?
- How much more or less?
- About how many paperclip boxes would you need to equal the mass of the rock?
- About how many rolls of tape would you need to equal the mass of the rock?
- How many of the gram cubes would you need to equal the mass of the rock?
- Can you think of other items that have a mass of about a kilogram?

# Estimate, Measure & Compare the Mass

- Item #2: Rock
  - Record the actual mass of the rock on your sheet
  - Determine the difference between your estimate and the actual mass
- Complete the rest of the page with your basket of items to measure. Don't forget to calculate the differences between your estimates and your actual measurements



Unit 4 Module 1 | Session 6

NAME \_\_\_\_\_

DATE \_\_\_\_\_



## Estimate, Measure & Compare the Mass page 1 of 2

- 1 In the table below:
  - a Write the name of an item in the first column. Estimate the mass and record it in the second column.
  - b Find the actual mass of the item and record the measurement. Round your measurement to the nearest gram.
  - c Find the difference between your estimate and the actual measurement. Record the difference in the last column.
  - d On the second page, continue estimating, finding the mass, and finding the difference for all the items. Use what you know about the mass of the first item to estimate the others.

| Item   | Your Estimate<br>(in grams) | Actual Measure<br>(in grams) | The Difference<br>(in grams) |
|--------|-----------------------------|------------------------------|------------------------------|
| Pencil |                             |                              |                              |
| Rock   |                             |                              |                              |
|        |                             |                              |                              |
|        |                             |                              |                              |

# Closing

- Get out your journals
- Explain to another class how to go about finding the mass of a ruler

# Home Connection

Measuring Mass & Weight pages 65 - 66

# Optional

Complete Grams & Kilograms on page 114 in your student book.