Student Activity Book

Number Sentences (SAB pp. 487–489)
Questions 1–4

1. Responses will vary. Possible responses:

   A.* two 20-gram masses;
   $4 \times 5 + 2 \times 10 = \underline{2 \times 20}$

   B. four 10-gram masses, one 5-gram mass, and three 1-gram mass;
   $3 \times 10 + 3 \times 5 + 3 \times 1 =$
   $\underline{4 \times 10 + 1 \times 5 + 3 \times 1}$

   C. five 10-gram masses and nine 1-gram masses;
   $1 \times 20 + 2 \times 10 + 3 \times 5 + 4 \times 1 =$
   $\underline{5 \times 10 + 9 \times 1}$

   D. four 20-gram masses;
   $5 \times 10 + 5 \times 5 + 5 \times 1 = \underline{4 \times 20}$

2. **A.** 5 **B.** 5
   C. 31 **D.** 30
   E. 5 **F.** 3

3. Possible response: I took one away from the 46 to make 45 and added it to the 29 to make 30.

4.* Objects measured will vary.

Name _____ Date _____

Number Sentences

1. Use a two-pan balance and a set of standard masses. The table shows the number and type of masses to put in Pan 1. Decide which masses to put into Pan 2 in order to balance the pans. Complete the true number sentence.

   Follow the example.

Masses in Pan 1	Masses in Pan 2	Number Sentence
Ex. One 10-gram Four 5-gram	Three 10-gram	(1 × 10) + (4 × 5) = (3 × 10)
A. Four 5-gram Two 10-gram		(4 × 5) + (2 × 10) =
B. Three 10-gram Three 5-gram Three 1-gram		(3 × 10) + (3 × 5) + (3 × 1) =
C. One 20-gram Two 10-gram Three 5-gram Four 1-gram		(1 × 20) + (2 × 10) + (3 × 5) + (4 × 1) =
D. Five 10-gram Five 5-gram Five 1-gram		(5 × 10) + (5 × 5) + (5 × 1) =

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Name _____ Date _____

2. Complete the number sentences. Use a two-pan balance and masses to show that your number sentence is true. If it is not, correct it.

   A. 3 × 5 = 10 + ☐

   B. 7 × 5 = 3 × 10 + ☐

   C. 27 + 34 = 30 + ☐

   D. 46 + 29 = 45 + ☐

   E. 8 × 5 + ☐ = 45

   F. 17 + 36 = 33 + 17 + ☐

3. Explain a way to solve Question 2D without using the balance.

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Name _____ Date _____

4. Use a two-pan balance and a set of standard masses to measure four small objects. Choose items you have not measured before.
   - Predict if each object's mass is greater than, equal to, or less than 20 grams.
   - Weigh the object and record its actual mass.
   - Write a number sentence comparing the mass of your object to 20 grams.
   - Use these symbols: > greater than = equal to < less than
   - Put a star (★) next to your prediction if it was correct.

   Follow the example.

Object	Prediction: My object is greater than, equal to, or less than 20 grams	Actual Mass (in grams)	Number Sentence
glue stick	★ Less than 20 grams	6 grams	6 < 20

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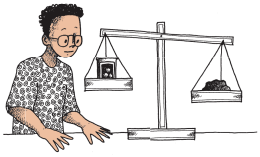
***Answers and/or discussion are included in the lesson.**

Name _____ Date _____

Balancing Masses

Use the information in the Mass of Objects table below to answer the questions. Remember to use labels in your explanations.



Mass of Objects

Object	Mass (in g)
Bolt	10 g
Washer	1 g
Hex nut	8 g

1. Levi has a rock with a mass of 87 grams in one pan of his balance and a can with a mass of 59 grams in the other pan. How much mass does he need to add to the pan with the can to make the balance level? Write a number sentence.

2. **A.** Kim is using bolts and washers for standard masses. How many bolts and washers would it take to balance a box with a mass of 53 g? Write a number sentence to explain your answer.

   Number of bolts _____

   Number of washers _____

   Number sentence _____

   B. Is there another possible answer for Question 2A? If so, give another answer. Write a number sentence.

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Balancing Masses (SAB pp. 490–491) Questions 1–4

1. 28 grams (87 g − 59 g = 28 g)
2. **A.** 5 bolts and 3 washers; 5 bolts have a mass of 50 grams (5 × 10 = 50); 3 washers have a mass of 3 grams. 50g + 3g = 53g

   B. Yes. One of many possible solutions is: 4 bolts (40 grams) and 13 washers (13 grams). 40 g + 13 g = 53 g
3. 6 hex nuts (48 grams) and 5 washers (5 grams); (6 × 8 g = 48 g and 5 × 1 g = 5 g, 48 g + 5 g = 53 g)
4. Answers will vary. Possible anwer: Kim's is easier. It is based on ten. It is usually easier to count by tens.

Mass at the Grocery (SAB pp. 493–494) Questions 1–4

1–4. Answers will vary. Encourage students to share their work with a partner.

Name _____ Date _____

3. Josh is using hex nuts and washers for standard masses. How many hex nuts and how many washers would it take to balance a box with a mass of 53 g? Write a number sentence to explain your answer.

   Number of hex nuts _____

   Number of washers _____

   Number sentence _____

4. Kim used bolts and washers and Josh used hex nuts and washers to measure the mass of an object. Which set of standard masses do you think is easier to use, Kim's or Josh's? Explain.

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Name _____ Date _____

Mass at the Grocery Store

Homework

Dear Family Member:

Your child is learning about mass, the amount of matter in an object. As homework, your child will find the number of grams of mass in various food packages. If there are not enough items in your home, take your child with you to the supermarket. Your child should record the information he or she gathers in a two-column data table.

Thank you.

Look at the labels on eight food containers at home or in the store. Find the mass of the contents in grams. Put your data in the first table on the back of this page.

Mass of Packaged Foods

B Brand Name	*M* Mass (in g)
100% Bran Cereal	482
Chunk White Tuna	173

1. What is the largest mass you found? _____
2. What is the smallest mass you found? _____
3. Which two items' masses are closest together? How did you figure this out?

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