Name _____ Date _____

Measuring Mass

Draw

1. Draw a picture of the lab. Include the two main variables and the materials you will use.

2. Before you collect data, how can you tell that your two-pan balance is ready?

Measuring Mass **SAB · Grade 2 · Unit 8 · Lesson 4** **403**

Student Activity Book - Page 403

Student Activity Book

Measuring Mass (SAB pp. 403–410)
Questions 1–11

1.* See Figure 3 in Lesson 3 for a sample picture.
2.* We must zero the balance.
3.* See Figure 4 in Lesson 3 for a sample data table.
4.* See Figure 5 in Lesson 3 for a sample graph.
5–9.* Answers will vary.

Name _____ Date _____

Collect

K	20 g	10 g	5 g	1 g	M
eraser	1	1	2	3	43 g

20 + 10 + 5 + 5 + 1 + 1 + 1 = 43 g

3. Record the mass of 4 small objects and one object that is about 100 grams. Check the results with your partner.

Measuring Mass

K Kind of Object	20 Grams	10 Grams	5 Grams	1 Gram	M Total Mass (In _____) unit

Graph

4. Make a bar graph of the data on the graph paper on the next page. Label the vertical (↕) and horizontal (↔) axes.

404 **SAB · Grade 2 · Unit 8 · Lesson 4** **Measuring Mass**

Student Activity Book - Page 404

Name _____ Date _____

Explore

5. A. Which of your objects has the least mass?

   _____

   B. If you had four of these objects, would their combined mass be more than 100 grams?

   _____

   Tell how you know.

6. A. Which of your objects has the most mass?

   _____

   B. John has three objects. Each has a mass of 40 grams. Which has more mass, John's three objects or your heaviest object? Show or tell how you know.

   40 g   40 g   40 g

Measuring Mass **SAB · Grade 2 · Unit 8 · Lesson 4** **407**

Student Activity Book - Page 407

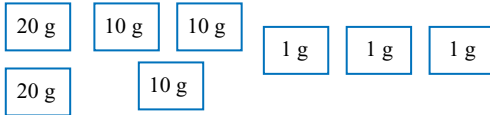*Answers and/or discussion are included in the lesson.

10. Object A is between 48 and 49 grams.

11. A. 20 + 10 + 10 + 10 + 5 + 5 + 5 + 5 + 1 1 + 1 = 73 grams

B. Solutions may vary. Possible solutions:

20 g	10 g	5 g	1 g
2	3	0	3

20 + 10 + 10 + 10 + 5 + 5 + 5 + 5 + 1 + 1 + 1 = 73 grams

20 g	10 g	10 g

| 1 g | 1 g | 1 g |

20 g	10 g

C. Possible solutions:

20 g	10 g	5 g	1 g
1	4	1	8

20 + 10 + 10 + 10 + 10 + 5 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 = 73 grams

---

Name _____ Date _____

7. A. Add the mass of your lightest object to the mass of your heaviest object. What is the mass of the objects together? Write a number sentence.

B. Put these two objects in one balance pan. Find their total mass using the balance. Did you get the same answer as in Question 7A? Why or why not?

_____

_____

_____

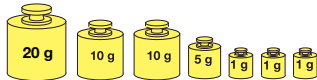**8.** How many more grams is your heaviest object than your lightest object?

_____

9. Frank's objects are each 11 grams. About how many of Frank's objects must go into the pan to equal your heaviest object?

11g — Your Heaviest Object
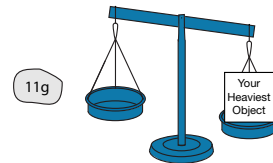
Student Activity Book - Page 408

Name _____ Date _____

10. Mark uses these masses:

20 g, 10 g, 10 g, 5 g, 1 g, 1 g, 1 g

The balance looks like this.

Then Mark uses these masses.

20 g, 10 g, 10 g, 5 g, 1 g, 1 g, 1 g, 1 g
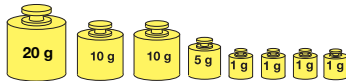
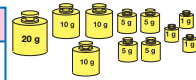Now the balance looks like this.
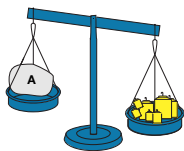
Estimate the mass of Object A. _____ grams

Student Activity Book - Page 409

Name _____ Date _____

11. Irma used these gram masses to measure the mass of her rock.

20 g	10 g	5 g	1 g
1	3	4	3

A. Write a number sentence to show the mass of Irma's rock.

Number sentence _____

B. Frank measured the mass of the same rock and said, "I used different masses." What masses could Frank have used to get the same total mass? Draw a picture and fill in the table.

20 g	10 g	5 g	1 g

Number sentence _____

C. Is there another way Frank could have gotten the same total? Show it.

20 g	10 g	5 g	1 g

Number sentence _____

Student Activity Book - Page 410
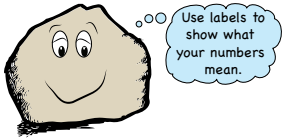
Name _____ **Date** _____

Pet Rock

Use counters, *a 200 Chart*, and number lines to solve the problems about your pet rock.

My Pet Rock's name is _____ .

My Rock is _____ grams.

1. **A.** Draw the gram masses you need to mass your rock. Write a number sentence.

   Use labels to show what your numbers mean.

   Number sentence _____

   B. Show or tell another way to get the same total.

   Number sentence _____

2. What if your rock had a mass twin? What would their total mass be? _____

   Number sentence _____

Student Activity Book - Page 413

Name _____ **Date** _____

3. What if your rock belonged to a set of mass triplets? What would their total mass be? _____

   Number sentence _____

4. What if your rock was broken into four equal parts? What would the mass of each part be? _____

   Number sentence _____

Student Activity Book - Page 414

Pet Rock (SAB pp. 413–414)
Questions 1–4

* Answers for Questions 1–4 will vary.

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

Teacher Guide

Find a Pet Rock (TG)
Homework
Students will find a rock with a mass of about 50 g.

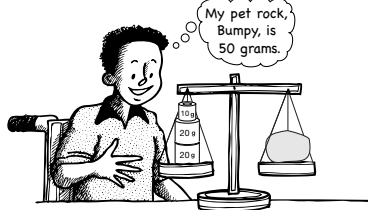Name _____ Date _____

Find a Pet Rock

Homework

Dear Family Member:
Your child is learning to measure the mass of an object by using a two-pan balance. Please help him or her find a small rock or rocks to bring to school. Each rock should be about 50 grams or about 5 nickels, 20 pennies, or a chunky eraser. Students will use a two-pan balance and standard masses to find the mass of the rock.

Thank you.

- Find a rock that you think has a mass of about 50 grams. You do not need to measure it—just estimate.
- Try to think of a name for your rock. _____
- Bring the rock to school by _____ .
                                    (date)
- You can bring more than one rock to school to share if you like.
- On the above date, you will find the exact mass of your rock and compare its mass to another rock's mass.

My pet rock, Bumpy, is 50 grams.

Homework Master   **TG · Grade 2 · Unit 8 · Lesson 4**

Teacher Guide

Name _____ Date _____

Find the Total Mass

Homework

Dear Family Member:
Your child has been measuring the mass of objects, composing and decomposing numbers, applying properties of addition, and solving addition and subtraction problems involving mass. This assignment involves addition problems with multiple addends. When composing the numbers below, encourage your child to start adding with the largest gram mass.
For example, $50 + 10 + 10 + 5 + 5 + 5 + 1 = 86$.

Thank you.

The picture shows the masses used to balance each object. What is the total mass of each object? Write number sentences.

1. Eraser _____

2. 3 Markers _____

3. Flat _____

4. Graduated Cylinder _____

Teacher Guide - **Page 1**

Find the Total Mass (TG pp. 1–2)
Homework
Questions 1–7

Strategies students choose will vary.

1. 38 grams

2. 109 grams

3. 100 grams

4. 33 grams

Solution methods will vary.

5. $38 = 30 + 8$
$\underline{+\ 33 = 30 + 3}$
             $60 + 11 = 71$ grams

6. $\overset{1}{1}09$
$\underline{+\ 33}$
   142 grams

7. 38
$\underline{+\ 100}$
        8
       30
$\underline{+\ 100}$
      138 grams

Name _____ Date _____

Write the mass of each object in Questions 1–4 in the table. Use this information to solve each problem. Show or tell your solution.

Mass in Grams

Eraser	Markers	Flat	Graduated Cylinder

5. How much mass do the eraser and the graduated cylinder have altogether?

6. How much mass do the graduated cylinder and the markers have altogether?

7. How much mass do the eraser and the flat have altogether?

Teacher Guide - **Page 2**