

# The Best “Weigh” to Bake Bread

## Purpose

Students will recognize the need for a fixed unit of weight by exploring the complications of using variable units.

## Materials

*For the teacher:* 3 small candles, 3 medium-size rocks, 3 large-size rocks, bag of flour, 3 clear containers to measure flour

*For each group of students:* balance scale, bathroom scale, kitchen or postal scale, other scales (optional), variety of objects (large and small), copy of Black Line Master (BLMs) *Baker Brown* and *Baker Brown (continued)*

## Activity

### A. Pre-Activity Preparation

1. Measure out flour that weighs the same as the three medium-size rocks.
2. Place the scales in appropriate places around the room with objects that the students can weigh during the Group Activity.

### B. Introduction

1. Ask the students if they know how much they weigh.
2. Ask the students what unit we use to measure our weight.
3. Discuss instances where we might use ounces to measure rather than pounds.
4. Use the kitchen or postal scale to demonstrate measuring smaller objects.
5. Ask the students why they think we use pounds instead of rocks or another object to measure our weight.

### C. Classroom Discussion

Read the story on the BLMs *Baker Brown* and *Baker Brown (continued)*, stopping where indicated to demonstrate and discuss results.

(continued)



## connecting across the curriculum

### Science

Bring in a variety of objects for weight comparison. Write observations about the weight comparisons. Include some objects that are the same size but of different weight (such as a cotton ball and a rubber ball).



## MEETING INDIVIDUAL NEEDS

For students who would enjoy a greater challenge, have them create their own unit of measure based on an object or number of objects and name it (e.g. “marble”). Allow them to use the balance scale to weigh a variety of objects with their new unit and write down how much of that unit each object weighs.

## Standards Link 2.1.11

## Activity (continued)

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### D. Group Activity


1. Divide the class into three or four groups.
2. Have each group take turns using the different scales to weigh a variety of objects.
3. Have the students record the weight of objects.
4. At the balance scale station, have students compare the weight of objects and record the weight of objects in non-standard units.


## Questions for Review


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### Basic Concepts and Processes


During the activity, discuss the following questions with your students to gauge their understanding of the Standard Indicator:

 Why did the scale balance when Baker Brown's rocks and his flour were on either end?

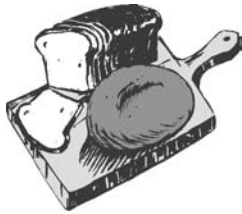
 Why was there too little flour when Storekeeper Sue used the candles to measure the flour?

 Why do we measure weight in pounds and ounces?

 Show me how you weigh an object on a standard scale.

 Where do you look to find the weight of the object?

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# Baker Brown

Baker Brown had a problem. He needed to make bread for a large party that weekend and he had just used the last of his flour. He couldn't make bread without flour. His secret recipe called for three rocks of flour. He had zero rocks of flour.

## Stop Reading:

1. Place the three medium-size rocks on one side of the scale and the flour on the other side of the scale.
2. Discuss the weight of the rocks and the flour.
3. Continue the story.

Baker Brown went to the store to buy flour for his bread. He asked Storekeeper Sue if she could sell him three rocks of flour. She said she didn't think it was a problem and disappeared into the back of the store. When she got back there, Sue realized that she didn't have any rocks, but she did have a few candles that were about the same size as rocks. Sue weighed the flour with the candles and sold it to Baker Brown.

## Stop Reading:

1. Show the students the three small candles.
2. Ask them if they think Baker Brown got enough flour.
3. Place the three small candles on one side of the scale.
4. Measure out flour to balance the scale and compare to the original flour.
5. Discuss results.
6. Continue the story.

Baker Brown took his flour and went home. He mixed the flour into the recipe and knew that something was wrong. He wondered if Sue had given him too little flour on purpose or if she had just made a mistake. He always used three rocks of flour and had never had a problem before, but this dough was far too soupy. Baker Brown went back to Storekeeper Sue. "Sue," he said, "I paid you for three rocks of flour, but I don't think you gave me enough. My dough is far too soupy. Are you sure you didn't make a mistake?" Sue thought for a moment and said, "Well, Baker Brown, I used three candles to measure the flour instead of rocks. That could be the problem. This time, I'll use rocks." So this time, when Sue went to the back of the store, she got three rocks from outside the back door. She measured the flour with the rocks, and gave Baker Brown the flour. She apologized and gave him a candy bar for his trouble.

*(continued)*

# Baker Brown

## Teacher Directions

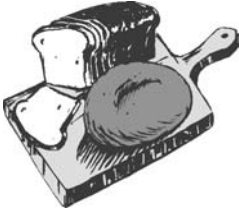
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As you read the story, stop in the indicated places and ask the questions listed.

## Answer Key

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Not applicable.



## Baker Brown (continued)

### Stop Reading:

1. Show the students the three large rocks.
2. Tell them that these are the rocks that Sue used to measure the flour.
3. Ask the students if they think Baker Brown got the right amount of flour.
4. Place the rocks on one side of the scale and measure enough flour on the other side to balance the scale.
5. Compare this flour to the original amount.
6. Continue the story.

Baker Brown took home his flour. “This is better,” he thought to himself, “I know that this is enough flour.” He mixed the flour into the recipe and knew that something was wrong. This dough was far too dry. He wondered what could’ve gone wrong. How could Sue have made another mistake? How could he make sure that Sue measured the same amount of flour as he did with the three rocks he had at home? He thought about it and knew exactly what he must do.

### Stop Reading:

1. Ask the students if they know what Baker Brown is going to do.
2. After listening to a few responses, finish the story.

This time, when Baker Brown went to visit Storekeeper Sue, he took his three rocks from home with him. Sue measured the flour with the same rocks that Baker Brown used and gave Baker Brown exactly the amount of flour that he needed.

### Stop Reading:

1. Discuss the impracticality of carrying rocks to assure accurate weight measure.
2. Relate that impracticality to the need for a fixed unit of measure.

# Baker Brown (continued)

## Teacher Directions

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As you read the story, stop in the indicated places and ask the questions listed.

## Answer Key

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Not applicable.