

## Grade 5 Unit 4

Lesson 20

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## Unit 4 Lesson 20: Shipping Trash

### WU Number Talk: Three Factors (Warm up)

#### Student Task Statement

Find the value of each expression mentally.

- $8 \times 4$
- $8 \times 8$
- $8 \times 8 \times 2$
- $8 \times 8 \times 20$

### 1 What a Waste

#### Student Task Statement

1. Estimate the value of each quantity.
  - a. The number of cubic feet that the class recycling bin holds.
  - b. The number of cubic feet that the school recycling bins hold.
2. About how many cubic feet of recyclable materials do you think your school produces in each amount of time? Explain or show your reasoning.
  - a. a day
  - b. a week
  - c. a month
  - d. a year
3. Do you think all of the recyclable materials your school produces in a year could fit in your classroom? Show or explain your reasoning.

### 2 Plastic Palooza

#### Student Task Statement

Your goal is to decide, by estimating, whether it is possible for all of the elementary schools in the country to produce enough recyclable plastic to fill the cargo containers that the United States ships each year.

1. A standard cargo container for a ship measures 20 feet long, 8 feet wide, and 8 feet tall. What is the
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volume of the container?

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2. Each school makes about 40 cubic feet of recyclable plastic each day. How many days would it take for a school to fill one cargo container?
3. In 2018 the United States exported about 210,000 cargo containers of plastic. There are about 70,000 elementary schools in the United States. How many cargo containers does each school need to fill in order to fill all of these containers?
4. Do you think all the schools in the country produce enough plastic recyclables to fill all the cargo containers that the United States ships? Show or explain your reasoning.