

Another Example!

How many grams of apples are needed to make 1 liter of apple juice?

1 kilogram = 1,000 grams

2 kilograms = $2 \times 1,000$ grams
= 2,000 grams

2,000 grams of apples make 1 liter of apple juice.

Mass is the amount of matter that something contains.



2 kilograms of apples makes 1 liter of apple juice.

★ Guided Practice ★

Do You Understand?

1. **Make Sense and Persevere** Margot has 8 kilograms of apples. How many liters of apple juice can Margot make? Explain.

Do You Know How?

For 2–3, convert each unit.

2. 6 grams = _____ milligrams
3. 9 liters = _____ milliliters

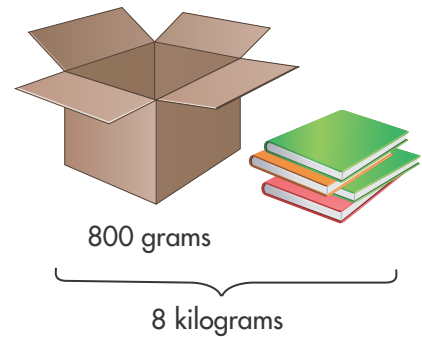
★ Independent Practice ★

For 4–11, convert each unit.

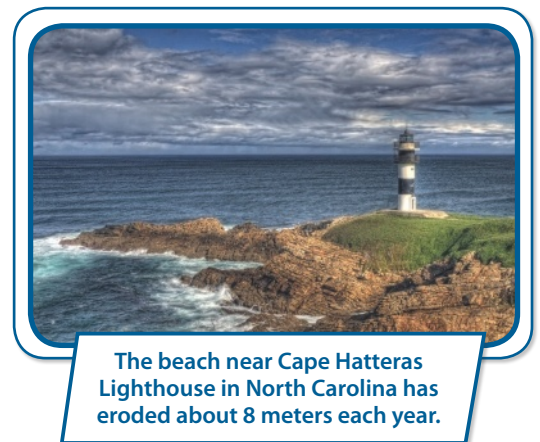
4. 5 kilograms = _____ grams
5. 2 liters = _____ milliliters
6. 4 grams = _____ milligrams
7. 9 kilograms = _____ grams
8. 7 liters = _____ milliliters
9. 1 gram = _____ milligrams
10. 3 liters = _____ milliliters
11. 4 kilograms = _____ grams

Problem Solving

12. **Reasoning** A cardboard box has a mass of 800 grams. When 4 books of equal mass are put into the box, the filled box has a mass of 8 kilograms. What is the mass of each book in grams? Explain.



13. **Math and Science** The Cape Hatteras Lighthouse was a kilometer from the shore in 1870. How far was the lighthouse from the shore in 1970? Explain.



14. The mass of 4 large zucchini is about 2 kilograms. About how many grams will 1 large zucchini have?

15. **Higher Order Thinking** A small sofa has a mass of 30 kilograms. A pillow on the sofa has a mass of 300 grams. How many pillows would it take to equal the mass of the sofa?

✓ Assessment

16. Which shows a correct comparison?

- (A) 5 milliliters $>$ 50 liters
- (B) 2 liters $<$ 200 milliliters
- (C) 100 liters = 1,000 milliliters
- (D) 3,000 milliliters = 3 liters

17. Which shows a correct comparison?

- (A) 1 kilogram $>$ 2,000 grams
- (B) 9,000 milligrams = 9 grams
- (C) 900 grams $>$ 1 kilogram
- (D) 9 milligrams = 9 grams