

# Lesson 11-3

Tuesday, February 25, 2020 1:18 PM

Name \_\_\_\_\_



## Lesson 11-3 Convert Customary Units of Weight

### Solve & Share

Maria adopted 4 dogs. All together they eat  $1\frac{3}{4}$  pound of food each day. One pound is equal to 16 ounces. How many ounces of food will the dogs eat in 5 days? *Solve this problem any way you choose.*

**Use Appropriate Tools** You can use drawings or equations to solve the problem. *Show your work!*



$$1\frac{3}{4} \times 16 \times 5 = 0$$

or

$$1\frac{3}{4} \times 5 \times 16 = 0$$

$$\frac{7}{4} \times \frac{5}{1} \times 16$$

$$\frac{35}{4} \times \frac{16}{1} = \frac{140}{1}$$

140 oz.

**Look Back!** **MP.8 Generalize** Which is the larger unit of weight, an ounce or a pound? How can you use this relationship to find the number of ounces in 5 pounds?

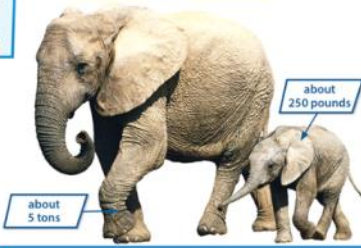
Pound, to go from pounds to ounces you multiply.  
Multiply 16 oz x 5 lb. = 80 oz.

# How Can You Convert Units of Weight?

An adult African elephant weighs about 5 tons. A baby African elephant weighs about 250 pounds. How many pounds does the adult elephant weigh? How can you convert 250 pounds to tons?

1 ton (T) = 2,000 pounds (lb)  
1 pound (lb) = 16 ounces (oz)

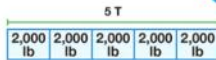
To convert from one unit of weight to another, you can use multiplication or division.



**B** To convert from larger units to smaller units, **multiply**.

$5 \text{ T} = \square \text{ lb}$

1 ton equals 2,000 pounds.

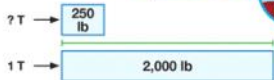


Find  $5 \times 2,000$ .  
 $5 \times 2,000 = 10,000$   
So, 5 tons = 10,000 pounds.

**C** To convert from smaller units to larger units, **divide**.

$250 \text{ lb} = \square \text{ T}$

2,000 pounds equals 1 ton.



Find  $\frac{250}{2,000}$ .  
 $250 \div 2,000 = \frac{250}{2,000} = \frac{1}{8}$   
So, 250 pounds =  $\frac{1}{8}$  ton.

**Convince Me!** **MP.8 Generalize** When you convert 16 pounds to ounces, do you multiply or divide? Explain.

$$\begin{array}{r} 14 \text{ lb cat} \\ 14 \text{ lb} \\ \times 16 \text{ oz} \\ \hline 84 \\ +140 \\ \hline 224 \text{ oz} \end{array}$$

Multiply a larger unit to a smaller unit.  $16 \text{ lb} \times 16 \text{ oz} = 256 \text{ oz}$

### Guided Practice

#### Do You Understand?

1. Would it be best to measure the weight of an egg in tons, pounds, or ounces? Explain.

*oz, eggs are small.*

2. What types of tools do people select to measure weight? Explain your example.

*Scale*

#### Do You Know How?

In 3–6, convert each unit of weight.

3. 2,000 lb =      T    4. 48 oz =      lb

5. 6,500 lb =      T    6. 13 1/2 oz =      lb

In 7 and 8, compare. Write >, <, or = for each .

7. 2 T  45,000 lb    8. 4 lb  64 oz

*2T x 2,000 = 4,000lb    4lb x 16oz = 64oz*

### Independent Practice

In 9–14, convert each unit of weight.

9. 15 oz =      lb    10. 7 1/10 T =      lb    11. 14,000 lb =      T

*240oz : 16oz = 15*

*7 1/10 x 2,000 = 14,000*

12. 4 oz =      lb    13. 250 lb =      T    14. 1 T =      oz

Will your answer be greater than or less than the number you started with?



In 15–17, compare. Write >, <, or = for each .

15. 5,000 lb  3 T    16. 24 lb  124 oz    17. 64,000 oz  2 T

In 18 and 19, complete each table to show equivalent measures.

18.

pounds	1/2		5
ounces		32	

19.

tons	1/2	2	
pounds			12,000

*Complete 9, 10, 25, & 26*

\*For another example, see Set C on page 689.

## Math Practices and Problem Solving

20. **MP.6 Be Precise** The perimeter of the rectangular playground shown below is 160 feet. What is the area of the playground?



50 ft

21. **Math and Science** Humans exploring space have left behind bags of trash, bolts, gloves, and pieces of satellites. There are currently about 4,000,000 pounds of litter in orbit around Earth. Julia says that this amount using number names is four billion. Do you agree? Explain your thinking.

In 22–25, use the table.

22. What would be the most appropriate unit to measure the combined weight of 4 horses?
23. About how much would 4 horses weigh? Write the weight two different ways.
24. How many more ounces does the sheep weigh than the ape?
25. **Higher Order Thinking** What is the difference in weight between the horse and the combined weight of the dolphin and the ape? Write your answer in tons.



### Common Core Assessment

#### 26. Part A

The world's heaviest lobster weighed 44 pounds 6 ounces. Write the lobster's weight in ounces in the box below.

44 lb 6 oz = \_\_\_\_\_ ounces

#### Part B

Describe the steps you took to find your answer.

First you multiply 44 lb by 16 oz to get 704 oz. Then add the extra 6 oz to 704 oz to get 710 oz.

654

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$$\begin{array}{r} 2 \\ 44 \\ \times 16 \\ \hline 264 \\ +440 \\ \hline 704 \end{array}$$

$$44 \times 16 = 704$$

$$704 + 6 = 710 \text{ oz}$$

$$\begin{aligned} &1,500 - (400 + 100) \\ &1,500 - 500 = 1,000 \\ &1,000 \div 2,000 = \frac{1,000}{2,000} = \frac{1,000}{1,000} = \frac{1}{2} \end{aligned}$$

$\frac{1}{2} T$