NAME **Enrich**  DATE \_\_\_\_\_ PERIOD \_\_

## **Changing Measurements**

Multiplying an expression by a fraction whose numerator and denominator are equivalent does not change its value. This property of multiplication can be used to change measurements.

Suppose you wanted to change 4.5 hours to seconds. Start by multiplying 4.5 by the fraction  $\frac{60 \text{ minutes}}{1 \text{ hour}}$ . This first step changes 4.5 hours to minutes.

 $4.5 \text{ hours} \times \frac{60 \text{ minutes}}{1 \text{ hour}}$  Now, multiply by the fraction  $\frac{60 \text{ seconds}}{1 \text{ minute}}$ .

4.5 hours  $\times \frac{60 \text{ minutes}}{1 \text{ hour}} \times \frac{60 \text{ seconds}}{1 \text{ minute}} = 16,200 \text{ seconds}$ 

## Complete by writing the last factor and the answer. You may need to use a table of measurements to find the factors.

1. Change 5 pints to fluid ounces.

5 pints 
$$\times \frac{2 \text{ cups}}{1 \text{ pint}} \times$$

2. Change 0.8 mile to inches.

0.8 mile 
$$\times \, \frac{5,280 \; {\rm feet}}{1 \; {\rm mile}} \, \times \,$$

3. Change 4 square yards to square inches.

$$4 \text{ yd}^2 \times \frac{9 \text{ ft}^2}{1 \text{ yd}^2} \times$$

4. Change 12 bushels to pints.

$$12 \text{ bushels} \times \frac{4 \text{ pecks}}{1 \text{ bushel}} \times \frac{8 \text{ quarts}}{1 \text{ peck}} \times \frac{1}{1 \text{ peck}}$$

5. Change one-half of an acre to square inches.

$$rac{1}{2}\,\mathrm{acre} imesrac{4,840\ \mathrm{yd}^2}{1\ \mathrm{acre}} imesrac{9\ \mathrm{ft}^2}{1\ \mathrm{yd}^2} imes$$