

Question: How many milligrams are in 1.5 g? Conversion formula: 1000 mg = 1 g (mg = g × 1000).

- A. Move the decimal place: 1.5 g = 1,500 mg
- B. Verify with a DA equation. Identify required elements of the DA equation as shown below.

1. Desired Answer 2. Conversion Formula 3. Original Factors to Be Converted 4. Answer

? mg	$\frac{1000 \text{ mg}}{1 \text{ g}}$	× 1.5 g
	Place desired answer units in numerator of conversion formula.	Cancel units. Stop and check. Multiply.

This is how the completed equation will be written:

$$\text{mg} = \frac{1000 \text{ mg}}{1 \text{ g}} \times 1.5 \text{ g} = 1500 \text{ mg}$$

See Chapter 2 for a more extensive review of DA equations.

FAQs and Answers derived from actual questions asked by students in the classroom anticipate students' concerns and offer clearly stated solutions.

FAQ | How can I decide whether to divide or multiply in order to move the decimal point to the left or the right of a number for metric equivalents?

ANSWER: You know that *m* stands for *milli-*, or 0.001. The (memorized) conversion formula (e.g., 1000 mg = 1 g) reveals the direction in which to move the decimal point. Converting milligrams to grams requires division. Converting grams to milligrams requires multiplication. Write out the relevant conversion formulas when taking a test so that they are in front of you for reference until the conversions become automatic.

- 1 How many places would I move decimals to change mg to g? to the left or to the right?

Q: Ask Yourself

A: My Answer

RAPID PRACTICE 3-8 Milligram and Gram Equivalents

Estimated completion time: 10-20 minutes Answers on page 000

Directions: Determine the direction in which the decimal place is to be moved, note the prefix, and move the decimal point accordingly to convert milligrams to grams and grams to milligrams. Insert leading zeros and eliminate trailing zeros when necessary. Label the answer using correct notation. It would be helpful to write out the relevant conversion formula.

Milligrams	Grams	Grams	Milligrams
150	_____	3.5	_____
500	_____	0.25	_____
2000	_____	0.6	_____
250	_____	0.125	_____
100	_____	0.04	_____
1500	_____	2	_____
375	_____	0.3	_____
60	_____	0.75	_____
175	_____	5	_____
400	_____	0.006	_____