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Objective:	To convert a measurement from one unit to another unit.
Measurements:	Volume
1 <sup>st</sup> unit given:	Customary Unit (fl. oz.)
To convert to:	Metric Unit (mL)
2 <sup>nd</sup> unit given:	Metric Unit (mL)
To convert to:	Customary Unit (fl. oz.)
Container used:	Tapatio Hot Sauce



Convert 10 fl. oz. to mL

Measurements from the tables I have been given:

$$1 \text{ mL} = 10^{-3} \text{ L}$$

$$1 \text{ mL} = 0.001 \text{ L}$$

$$1 \text{ L} = 0.26417205 \text{ gal}$$

$$1 \text{ gal} = 128 \text{ fl. oz.}$$

Unity Fraction Method:

$$10 \text{ fl.oz.} \times \frac{\text{gal}}{\text{fl.oz.}} \times \frac{\text{L}}{\text{gal}} \times \frac{\text{mL}}{\text{L}}$$

$$\frac{10 \text{ fl. oz.}}{1} \times \frac{1 \text{ gal}}{128 \text{ fl. oz.}} \times \frac{1 \text{ L}}{0.2641720 \text{ gal}} \times \frac{1 \text{ mL}}{0.001 \text{ L}}$$

$$\frac{10 \text{ mL}}{0.033814016}$$

$$= 295.7353542 \text{ mL}$$

Rounded to the nearest whole number = 296 mL

This confirms the value on the container

Convert 296 mL to fl. oz.

Measurements from the tables I have been given:

$$1 \text{ mL} = 10^{-3} \text{ L}$$

$$1 \text{ mL} = 0.001 \text{ L}$$

$$1 \text{ L} = 0.26417205 \text{ gal}$$

$$1 \text{ gal} = 128 \text{ fl. oz.}$$

Unity Fraction Method:

$$\frac{296 \text{ mL}}{1} \times \frac{\text{L}}{\text{mL}} \times \frac{\text{gal}}{\text{L}} \times \frac{\text{fl. oz.}}{\text{gal}}$$

$$\frac{296 \text{ mL}}{1} \times \frac{0.001 \text{ L}}{1 \text{ mL}} \times \frac{0.26417205 \text{ gal}}{1 \text{ L}} \times \frac{128 \text{ fl. oz.}}{1 \text{ gal}}$$

$$\frac{10.00895063}{1}$$

$$= 10.00895063$$

Rounded to the nearest whole number = 10 fl. oz.

This confirms the value on the container