A: Representing Percents Continued

You must be able to answer questions about percentages based on their numerical value.

Examples:

1. Why would a percentage greater than 100% be used to describe the growth pattern of a tree?

   If its height has increased more than 100 times over the course of its life span a percentage greater than 100 would be used to describe this growth. For example A tree's height at 30 years is 180% its height at 2 years.

2. Why is the amount of fluoride contained in toothpaste less than one percent?

   There is a very small amount of fluoride in toothpaste much more of the ingredients in toothpaste must be something other than fluoride. The small amount could be due to health concerns associated with larger amounts.

3. A 500 mL can of pop contains 85% of the recommended daily value of sugar. Use a hundred grid to show how many cans of pop to the nearest hundredth you would need to drink to get 100% of the daily value of sugar.

$$\frac{1\ can}{x} = \frac{85\%}{100\%}$$

Cross Multiply. Get rid of the units if they confuse you!

$$\frac{1}{x} \diagdown \frac{85}{100}$$

$$85x = 100$$

$$\frac{85x}{85} = \frac{100}{85}$$

Divide by 85 on both sides to solve for x.

85 cancels out

$$x = 1.18\ cans$$

You would need to shade 1 full hundred grid and 18 squares of the second 100 grid!

See front screen for grid solution

4. If 200 squares were used instead of 100 squares to represent 100%, how would you show 0.75%?

$\dfrac{0.75\%}{x} = \dfrac{100 \text{ squares}}{200 \text{ squares}}$ Cross Multiply. Get rid of the units if they confuse you!

$\dfrac{0.75}{x} \diagup\diagup \dfrac{100}{200}$

$100x = 150$ Divide by 100 on both sides to solve for x.

$\dfrac{100x}{100} = \dfrac{150}{100}$ 100 cancels out

$x = 1.5\%$

You would need to shade 1 full square and half a square on the 200 square grid!

See front screen for grid solution

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