Background: To determine how much of an element is in a given sample of a compound we need to determine the element's mass percent composition for that compound. The element's mass percent composition is constant for each compound no matter the amount of the compound that is available. For example, if you have a teaspoon of H_2O or a whole bath of H_2O, the percent of hydrogen and oxygen present in the teaspoon and in the bath is the same.

You Try: Write the definition for "mass percent composition": **The mass percent composition or mass percent of an element is the element's percentage of the total mass of the compound.**

Part 1: Percentages of Whole in Everyday Life.

Guided example (Determining the percentage of a whole): If there are 15 girls and 5 boys in lab, what is the percentage of girls in lab?

1. Determine the total number of students in lab	15 + 5 = 20
2. Determine the fraction of girls in lab by dividing the amount of girls in lab by the total number of students	$\dfrac{15}{20}$
3. Percentage means per hundred, so take the fraction from step 2 and have it equal to X/100 and solve for X	$\dfrac{15}{20} = \dfrac{X}{100}$ $0.75 = \dfrac{X}{100}$ $0.75 \times 100 = X$ $75\% = X$ **75% of the students in lab are girls**

You Try: If there are 65 cows, 30 sheep, and 25 goats on the farm, what percentage of the farm animals are sheep?

1. Determine the total number of animals on the farm	65 + 30 + 25 = 120
2. Determine the fraction of sheep on the farm by dividing the amount of sheep on the farm by the total number of animals	$\dfrac{30}{120}$
3. Percentage means per hundred, so take the fraction from step 2 and have it equal to X/100 and solve for X	$\dfrac{30}{120} = \dfrac{X}{100}$ $0.25 = \dfrac{X}{100}$ $0.25 \times 100 = X$ $25\% = X$ **25% of the animals on the farm are sheep**