

MATH SKILLS TRANSPARENCY MASTER



Finding Percent by Mass

Use with Chapter 3, Section 3.4

Carbon	8.40 g carbon	$\frac{8.40 \text{ g carbon}}{20.00 \text{ g sucrose}} \times 100\% =$ 42.2% carbon
Hydrogen	1.30 g hydrogen	$\frac{1.30 \text{ g hydrogen}}{20.00 \text{ g sucrose}} \times 100\% =$ 6.50% hydrogen
Oxygen	10.26 g oxygen	$\frac{10.26 \text{ g oxygen}}{20.00 \text{ g sucrose}} \times 100\% =$ 51.30% oxygen
Total	20.00 g sucrose	 51.30%

MATH SKILLS TRANSPARENCY WORKSHEET



Finding Percent by Mass

Use with Chapter 3, Section 3.4

1. What percentage of the 20.0 g sample does sugar (sucrose) represent? _____
2. What is the percent by mass of oxygen in sugar? Of carbon? Of hydrogen? _____

3. How many grams of oxygen are in 100 g of sucrose?

4. How many grams of carbon are in 30.0 g of sucrose? Show your work.

5. A sample of baking soda contains 34.48 g of sodium, 1.51 g of hydrogen, 18.02 g of carbon, and 72.00 g of oxygen.
 - a. What is the total mass of the sample?

 - b. What is the mass by percent of each element in baking soda?
Sodium _____
Hydrogen _____
Carbon _____
Oxygen _____
6. Draw a circle graph to represent your answer to question 7.
7. Complete the following statement by underlining the correct words in parentheses. To calculate percent by mass, you first divide (a part, a whole) by (a part, the whole). Then you multiply by 100%.

SEPARATION OF MIXTURES

Name _____

Taking advantage of various physical and chemical properties, how would you separate the following mixtures into their components?

1. Sand and water _____

2. Sugar and water _____

3. Oil and water _____

4. Sand and gravel _____

5. A mixture of heptane (boiling point 98°C) and heptanol (boiling point 176°C)

6. A mixture of iodine solid and sodium chloride (Hint: Iodine is not soluble in water.)

7. A mixture of lead and aluminum pellets _____

8. A mixture of salt and iron filings _____

