

Messing With Mixtures

Name _____

Part A: Hit The Trail!

(1) Look at the mixture in Bag A. What do you see?

(2) Would this mixture be classified as a heterogeneous or homogeneous mixture? Give a reason for your answer.

(3) What is the total mass of your mixture? Be sure to subtract the mass of the ziploc bag. Record this amount in the "Mass of Mixture" column of the chart.

(4) Separate the parts of the mixture and find the mass of each group. Use the formula provided to calculate the percentage for each part of the mixture. Record your data in the chart.

Name	Mass (g)	Mass of Mixture (g)	% of Mixture
FORMULA → Mass of substance (g) ÷ Mass of mixture (g) x 100 Round final percentages to the nearest hundredth!			Total =

Part B: Tasty Solutions

(5) Read the steps below, then obtain 3 pieces of M&M candy from your teacher. You will need 3 pieces for each group member.

➡ Step 1: Place one piece of candy in your mouth and allow it to dissolve without using your tongue or teeth to help! Record the time (in seconds) it takes for the candy shell to dissolve.

➡ Step 2: Place another piece of candy in your mouth and allow it to dissolve using only your tongue to move it around. Record the time (in seconds) it takes for the candy shell to dissolve.

➡ Step 3: Place another piece of candy in your mouth and allow it to dissolve using your tongue and teeth. Record the time (in seconds) it takes for the candy shell to dissolve.

Piece of Candy	Dissolving Time (s)
1st	
2nd	
3rd	

(6) In your solution, what was the solute and the solvent?

Solute = _____ Solvent = _____

(7) Explain the results of your experiment in terms of dissolving rate or the time it takes for a substance to dissolve.

(8) Identify the solute(s) and solvent in each solution. Underline the solute and circle the solvents. Remember that a SOLUTE dissolves in a SOLVENT!

Ocean water - Salt and water

Kool-Aid - Powder, sugar, and water

Antifreeze - Water and ethylene glycol

Lemonade - Water, lemon juice, and sugar

Soda Pop - Syrup, water, and CO₂ gas

Air - Nitrogen, oxygen, and other gases

Gold jewelry - Gold and copper

Sterling Silver - Silver and copper

(9) What liquid is called the "universal solvent"?

(10) Which would have the most SOLUTE: a glass of very sweet Kool-Aid or a glass of barely sweet Kool-Aid? Give a reason for your answer.