



# Mixtures:

## Homogeneous vs Heterogeneous

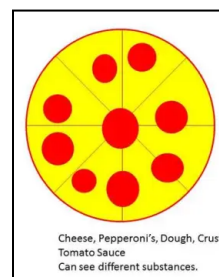
### INTRO:

All matter falls under two categories: pure substances or mixtures. Mixtures are formed when pure elements and compounds are mixed together. For example, a smoothie is a great example of a mixture. You take various fruits and blend them together to form a yummy, nutritious drink.

Mixtures can exist in two forms. A homogeneous mixture occurs when pure substances mix and form a uniform (same) composition throughout its solution. Kool-Aid is the perfect example of this. When water (the solvent) is mixed with the Kool-Aid sugar (the solute) it forms a single-colored sweet drink (the solution).



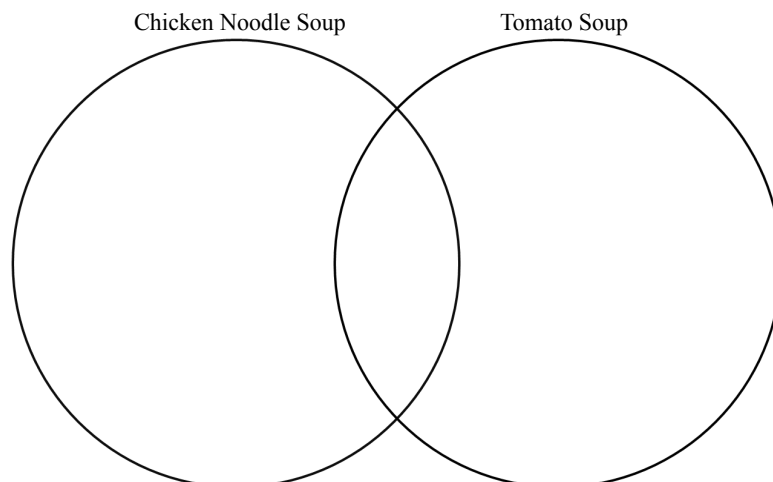
On the other hand, a heterogeneous mixture occurs when pure substances that are mixed DO NOT form a uniform composition. A pizza is the perfect example of this. When ingredients of a pizza are mixed, they do not blend together perfectly. Instead, you can easily see and separate each ingredient.



**PURPOSE:** To visualize the differences between homogeneous and heterogeneous mixtures.

### INSTRUCTIONS:

1. Observe the two soups in their beakers.
2. Construct the following Venn diagram.



3. Compare & contrast the physical characteristics of the two soups.

MATERIALS RECEIPT	
PRICES ARE APPROXIMATE	
Canned Chicken Noodle Soup	\$2.00
Canned Tomato Soup	\$2.00
Glasses/Beakers (2)	N/A
<b>TOTAL</b>	<b>\$4.00</b>

### DISCUSSION QUESTIONS:

1. What was a major difference between the two soups?
2. What was a major similarity between the two soups?
3. Let's look at the ingredients on the nutrition label. Are both the soups mixtures? Explain.
4. Can both the soups be separated into their individual ingredients? Explain.
5. A homogeneous mixture looks the same throughout its composition, while a heterogeneous mixture looks different throughout its composition. Which soup is homogeneous? Which is heterogeneous? Explain.

