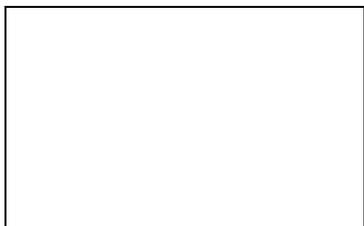


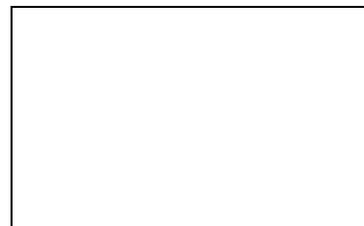
## Visualizing Concepts

**Instructions:** Use squares ( □ ) to represent atoms of zinc and circles ( ○ ) to represent atoms of sulfur. Draw Pictures with the boxes to represent how the atoms would be arranged in the following.

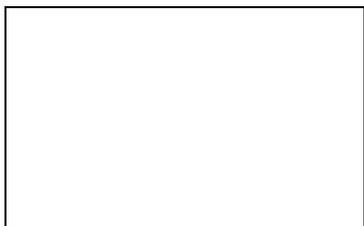
Liquid sulfur



Gaseous zinc



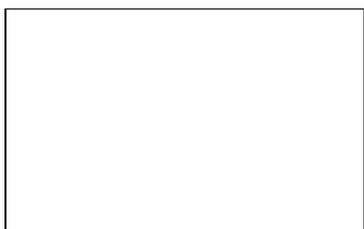
A homogenous mixture of solid sulfur and zinc



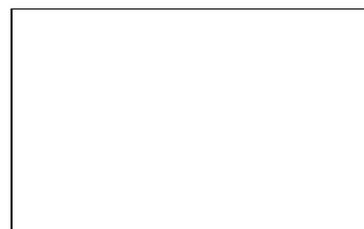
A heterogeneous mixture of solid sulfur and zinc



A compound of zinc and sulfur with formula ZnS



Solid sulfur



## Classifying Properties

**Instructions:** Classify the following as Physical or chemical properties and as intensive or extensive properties.

Property	Chemical ( C ) or Physical ( P )	Intensive ( I ) or extensive ( E )
Water boils at 100 degrees Celcius.		
Diamonds are capable of cutting glass.		
Water can be separated by electrolysis into hydrogen and oxygen.		
Sugar is capable of dissolving in water.		
Vinegar will react with baking soda.		
Yeast acts on sugar to form carbon dioxide and ethanol.		
Wood is flammable.		
A soda bottle holds 2 liters		
Ammonia is a gas at room temperature.		
Bromine has a red color.		

## Classifying Properties

**Instructions:** Identify whether the following are physical or chemical changes. If they are chemical identify one property that changed between the old substance(s) and the new ones

<b>Change</b>	<b>Chemical ( C ) or Physical ( P )</b>	<b>Changed Property</b>
Iron rusts in a damp environment.		
Dry ice, solid carbon dioxide, is sublimed at room temperature.		
Gasoline burns in the presence of oxygen		
Hydrogen peroxide decomposes to water and oxygen.		
Frying an Egg		
Dissolving sodium hydroxide into water.		
Distilling crude oil to separate the gasoline.		
Digestive fluids breaking down food.		

## Classifying Properties

Circle the words in the following lists that are evidence of a chemical change:

Change in Smell

Color change

Production of gas

Production of heat

Change in size

Change in shape

Change in phase

Production of light

Formation of a precipitate

## Conservation of Mass

In an engine, octane combines with oxygen to form carbon dioxide and water. If 22.8 grams of octane combine completely with 80 grams of oxygen to form 70.4 grams of carbon dioxide, what mass of water is formed?