Question 1

A. Define matter

B. List the 3 states of matter and draw a particle diagram for each state.

Question 2

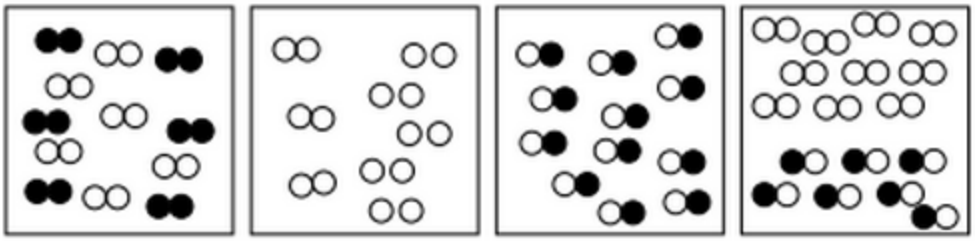
A. For each substance, identify it as a pure substance or mixture.

Substance	Pure Substance	Mixture
Coffee		
Iron		
Carbon dioxide		
Concrete		

B. What is something that can't be broken down physically, but can be broken down chemically? Which of these substances cannot be broken down physically?

Question 3

A. Identify each as an element, compound, homogeneous, or heterogeneous mixture.



Model 1 Model 2 Model 3 Model 4

Question 4

A. Identify the changes as physical or chemical and explain why.

Change	Physical or Chemical?	Why?
Digesting food		
Water evaporating		

Question 5

A. Mercury metal is poured into a graduated cylinder that holds exactly 22.5 mL. The mercury used to fill the cylinder weighs 306.0 g. From this information, calculate the density of mercury. (Hint: $d = \frac{m}{v}$)

Question 6

A. Convert 16.7 inches to feet (12 inches = 1 foot)

Question 7

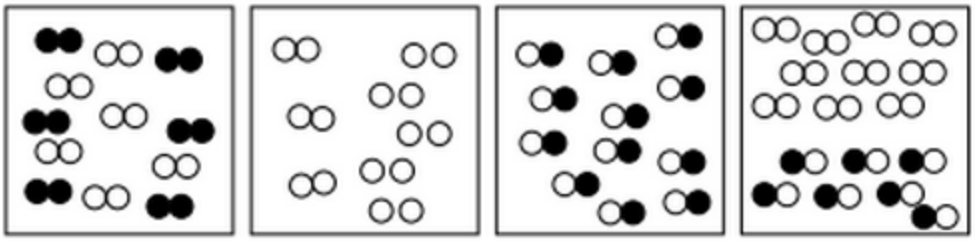
A. Find the mass of 250.0 mL of benzene. The density of benzene is 0.8786 g/mL

Question 8

A. Convert 4.75 centimeters to meters (100 centimeters = 1 meter)

Question 3

B. Identify each as an element, compound, homogeneous, or heterogeneous mixture.



Model 1 Model 2 Model 3 Model 4

Question 4

B. Identify the changes as physical or chemical and explain why.

Change	Physical or Chemical?	Why?
Digesting food		
Water evaporating		

Question 9

A. Which of the states of matter from is the most **compressible**?

B. Matter can have a **definite** or **indefinite** shape and volume depending upon the state of matter. A liquid has _____ shape and _____ volume.