

Question 1: Identify each item below as a **pure substance** or a **mixture**.

glucose ($\text{C}_6\text{H}_{12}\text{O}_6$) _____

sunscreen _____

oxygen _____

the human body _____

acetaminophen ($\text{C}_8\text{H}_9\text{NO}_2$) _____

hydrogen peroxide (H_2O_2) _____

green tea _____

Question 2: Identify each pure substance below as an **element** or a **compound**.

natural gas (CH_4) _____

nitrogen gas (N_2) _____

carbon (C) _____

table salt (NaCl) _____

ice (H_2O) _____

dry ice (CO_2) _____

sodium (Na) _____

Question 3: Identify each mixture below as **homogeneous** or **heterogeneous**.

gasoline _____

skim milk _____

bag of groceries _____

watermelon _____

jar of nuts and bolts _____

mouthwash _____

water with ice cubes _____

Question 4: Fill in the table below.

state	Shape (definite or indefinite)	Volume (definite or indefinite)	Particle Distance (very close, close, far away)
gas			
liquid			
solid			

Question 5: Describe each of the following as a **physical property** or **chemical property**.

water boils at 100°C

the density of water is 1 g/mL

water is colorless

sodium metal reacts with water

gasoline is flammable

neon gas does not react with air

an iPhone 7 has a mass of 4.87 ounces

Question 6: Describe each of the following as a **physical change** or **chemical change**.

an antacid tablet reduces heartburn

your body digests a sandwich

butter melts in a pan

gasoline is ignited in your car engine

juice freezes in your freezer

a piece of paper is cut in half

milk goes sour

Question 7: Fill in the table below with the six phase changes and if each one is exothermic or endothermic.

Phase Change	Endothermic or Exothermic

Question 8: Convert each standard notation number into scientific notation.

2,002,000 _____

0.000083 _____

0.0151 _____

0.000000009 _____

Question 9: Convert each scientific notation number into standard notation.

5.73×10^4 _____

8.002×10^{-3} _____

1.472×10^{-6} _____

3×10^{10} _____