Substance	Formula	State	Color	Melting Point (C)	Boiling Point (C)	Density (g/mL)
Neon	Ne	gas	colorless	-249	-246	0.0009
Oxygen	O_2	gas	colorless	-218	-183	0.0014
Chlorine	Cl_2	gas	greenish-yellow	-101	-34	0.0032
Ethanol	C2H5OH	liquid	colorless	-117	78	0.789
Mercury	Hg	liquid	silvery-white	-39	357	13.5
Bromine	Br_2	liquid	red-brown	-7	59	3.12
Water	H_2O	liquid	colorless	0	100	1.00
Sulfur	S	solid	yellow	113	445	2.07
Sucrose	$C_{12}H_{22}O_{11}$	solid	white	185	decomposes	1.59
Sodium chloride	NaCl	solid	white	801	1412	2.17

28. Use the table above to identify substances that undergo a physical change if the temperature decreased from 50C to -50C. Describe the nature of the physical change. Chlorine, Mercury, Bromine, Water condenses   Freezes

29. How many of these substances are in the liquid state at 125C? Sulfur, mercury,

30. Describe the physical properties of one of these substances that led you to the answer. Melting point

31. The substances in the table are listed in order of increasing melting point. Propose another way that these data could be arranged. Boiling Point or Density

32. Which phrase best describes an apple?
    a. Heterogeneous mixture   b. Homogeneous compound c. Heterogeneous substance
    d. Homogeneous mixture

33. Which of these properties could not be used to distinguish between table salt and table sugar? Solubility appearance

34. The state of matter characterized by a definite volume and an indefinite shape is a:
    a. Solid   b. Mixture   c. Liquid   d. Gas

Mass of magnesium (g)	Mass of oxygen (g)	Mass of magnesium oxide (g)
5.0	3.3	8.3
6.5	a 4.3 g	10.8
13.6	9.0	b 22.6
c 19 g	12.5	31.5

35. Magnesium metal burns vigorously in oxygen to produce the compound magnesium oxide. Use the law of conservation of mass to identify the masses labeled a, b, and c in the table.