

1. Classify the following as either an element or a compound:

- a. NaOH C
- b. Ca E
- c. CO₂ C
- d. LiF C
- e. Kr E

2. Identify the following as either pure (P) or a mixture (M):

- a. Sodium P
- b. Aluminum foil P
- c. Table salt NaCl P
- d. Gravel M
- e. Vegetable soup M

3. Re-examine your answers above, now further classify pure substances as either: element (E) or compound (C) and mixtures as either homogeneous (ho) or heterogeneous (he):

- a. Sodium E
- b. Aluminum foil E
- c. Table salt C
- d. Gravel He
- e. Vegetable soup He

4. Identify the following as a physical or chemical property:

- a. P The boiling point of water is 100°C
- b. C Limestone reacts with acid to produce bubbles of gas
- c. P A nickel coin is shiny.
- d. C Alkalis react with water to form a gas

5. Identify the following as either a physical (P) or chemical (C) change:

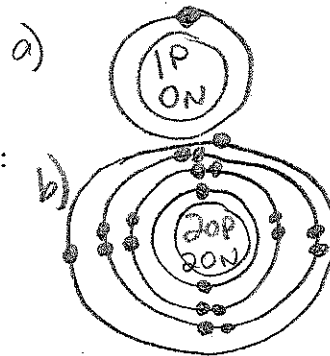
- a. Food is digested in the stomach C
- b. Ice melts P
- c. A pellet of sodium is cut in two P
- d. Bicycle rusts C

6. Complete the following table:

Element	Atomic #	Atomic Mass	Protons	Electrons	Neutrons
Fluorine	9	19	9	9	10
Nitrogen	7	14	7	7	7
Sodium	11	23	11	11	12
Silicon	14	28	14	14	14

7. Draw a Bohr-Rutherford diagram for the following elements:

- a. Hydrogen
- b. Calcium
- c. Chlorine



8. How many periods are there on the periodic table?

7

9. How many families are there on the periodic table?

18

10. What are the names of the ^{some} families from the periodic table?

Alkali metals, Alkaline Earth metals, Transition metals, halogens, noble gases

11. Which family is the most reactive of the metals?

Alkali metals

12. Which family is the most reactive of the non-metals?

Halogens

13. What is another name for the Noble gases?

Inert gases

14. What is a metalloid?

element that has both metallic + nonmetallic properties

15. What are some properties of metals?

shiny, malleable, conductors, mostly solids

16. What are some properties of non-metals?

dull, brittle, do not react w acid, mostly insulators

17. Name the following ionic compounds:

- a. NaCl sodium chloride
- b. Li₂O lithium oxide
- c. SrS strontium sulphide
- d. Ag₂O silver oxide

18. Write the chemical formula for each of the following:

- a. Calcium selenide CaSe
- b. Aluminum Chloride AlCl₃
- c. Potassium oxide K₂O
- d. Silver nitride Ag₃N

19. How many atoms of each element are in H₂O?

2 hydrogens
1 oxygen