

Chemistry I-III Practice Quest

/30

Name: Key
 Date:
 Block:

This practice test is designed to help you determine what concepts you DO know and more importantly what concepts you DO NOT know!

Go through the practice test **THREE** times:

(1) On your own

(2) With your notes

(3) With another student

1

2

3

Each time, if you cannot answer a question, draw a circle around it to identify that you should review this concept when preparing for the test.

Multiple Choice. Choose the BEST answer (1 mark each)

B 1. Ions of the same element have the same number of...

a. Electrons

b. Protons (& neutrons)

c. Atoms

d. Ions

D 2. Which of the following is correctly paired?

a. Element - Air (homogeneous mixture)

b. Compound - Coffee (homogeneous mixture)

c. Homogenous mixture - Copper (element)

d. Heterogeneous mixture - Cereal

B 3. Which of the following would be an example of a chemical change?

a. Boiling water

b. Firewood burning

c. Cutting paper

d. Mixing cake batter

✓ change in colour

✓ change in odour

✓ a new substance is formed

✓ release of heat & light

C 4. If an element can be stretched into thin long wires, the element is said to be...

a. Shiny

b. Brittle

c. Ductile

d. Malleable - hammered into a thin sheet

D 5. Which of the following elements is the LEAST reactive?

a. Fluorine

b. Lithium

Halogen } both very reactive
 Alkali Metal }

c. Aluminum

d. Argon

Noble gases are very stable & unreactive

Short Answers.

6. Discuss how the earliest forms of the periodic table was ordered. (2 marks)

Mendeleev's periodic table was ordered by increasing **atomic mass**
↳ he grouped elements into "families" based on similar properties
↳ he left gaps to predict the existence of elements not yet discovered.

7. Which scientist was responsible for changing the periodic table to its modern form? (1 mark)

Henry Moseley was the scientist responsible for changing the periodic table to its modern form

8. Why are families grouped together? (1 mark)

Families are grouped together because they share similar chemical and physical properties (ex. reactivity)

9. Complete the following table: (0.25 marks each / 7 marks)

Name	Symbol	Atomic Number	# of Protons	# of Electrons	# of Neutrons	Atomic Mass	Ion charge	Period #	Group #	Metal, Non-metal or Metalloid?
Aluminum Atom	Al	13	13	13	14	27	0	3	13	Metal
Oxygen Ion	O ²⁻	8	8	10	8	16	2-	2	16	Non-Metal
Calcium Ion	Ca ²⁺	20	20	18	20	40	2+	4	2	Metal

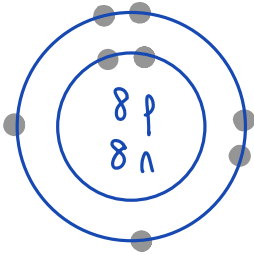
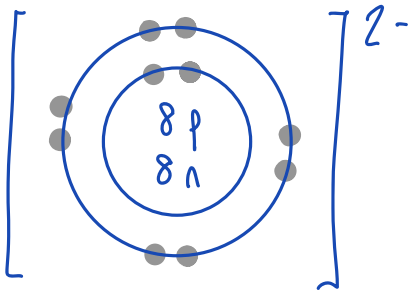
10. What are TWO distinctive properties of **METALLOID** elements? (2 marks)

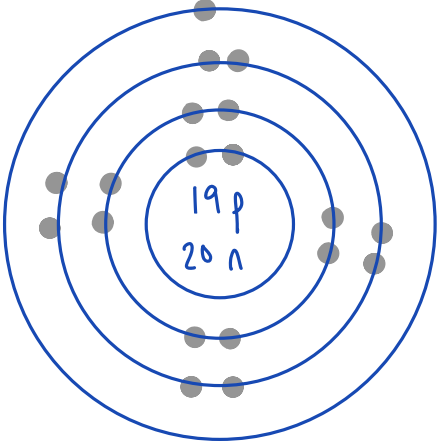
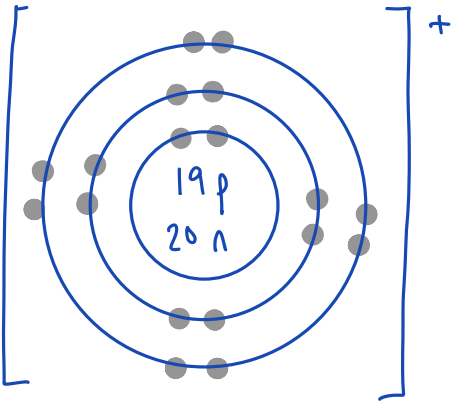
a. They look shiny (like metals)

b. They are brittle and not ductile (like non-metals)

c. They are poor conductors of heat and electricity (like non-metals)

11. Draw a Bohr model for the following elements: (3 marks each)

Oxygen Atom	Oxygen Ion
	
# of Protons: $\frac{8}{8}$ # of Neutrons: $\frac{8}{16 - 8}$ # of Electrons: $\frac{8}{8}$	# of Protons: $\frac{8}{8}$ # of Neutrons: $\frac{8}{8}$ # of Electrons: $\frac{10}{8 + 2}$

Potassium Atom	Potassium Ion
	
# of Protons: $\frac{19}{39 - 19}$ # of Neutrons: $\frac{20}{19}$ # of Electrons: $\frac{19}{19}$	# of Protons: $\frac{19}{19}$ # of Neutrons: $\frac{20}{19 - 1}$ # of Electrons: $\frac{18}{18}$