

Unit 5 Periodic Table Test Review

1. What does the word periodic mean?

Having A regular repeating pattern!

2. What is the common name of these following groups? Be sure to know properties of each!

<p>Group IA <u>Alkali Metals</u> - <u>most reactive metals!</u></p> <p>d-block <u>Transition Metals</u> - <u>transition.</u></p> <p>Stair-Step <u>metalloids</u> - <u>Props" of metals & Nonmetals</u></p> <p>Block under the main periodic table (elements 58-71 & 90 - 103) <u>man made</u></p>	<p>Group VIIA <u>Halogens!</u> - <u>most reactive Nonmetals</u></p> <p>Group IIA <u>Alkaline Earth metals</u> - <u>Reactive metals</u></p> <p>Group VIIIA <u>Noble Gases</u> ! <u>Inert!</u></p> <p><u>Rare Earth metals</u></p>
---	--

3. Who is Mendeleev? What did he do? What is different in the modern periodic table?

① Father of periodic Table ② arranged By properties & Increasing atomic mass. ③ Now increasing atomic Number
 & left spaces for undiscovered elements

4. What is a difference between a group and a period on the periodic table? Explain THOROUGHLY!

↔ Periods - Repeating patterns - tell Energy levels! the e's are in!
 ↕ Groups - similar chem & Phys properties - # of valance electrons!

5. The periodic table contains metals, nonmetals and metalloids. Where are they located and what are some properties of each of them?

- give e's
- shiney
- shapes easily
- good conductors

Metals!

Nonmetals

- Brittle
- Dull - poor conductors

metalloids!

Properties of Both metals & Nonmetals

6. What are valence electrons? What are they used in?

Electrons in the Highest Energy level. USED IN Bonding!

7. How many valence electrons are present in each of the following neutral atoms?

Na <u>1</u>	S <u>6</u>	Cl <u>7</u>	Al <u>3</u>	N <u>5</u>	K <u>1</u>
Ar <u>8</u>	C <u>4</u>	Ba <u>2</u>	O <u>6</u>	Mg <u>2</u>	He <u>2</u>

8. What is the periodic trend for atomic diameter (size) from top to bottom in a group? Why?

Larger as you go down the group!
- Adding energy levels \rightarrow more e's = atoms get Bigger
B/c Fill more Levels



9. What is the periodic trend for atomic diameter (size) across a period? Why?

Smaller as you go across
- Nucleus pulls harder on the electrons - making the Atom smaller.



10. Which atom in each pair has the larger atomic radius?

- a) Li or K b) Ca or Ni c) Ga or B d) O or C
e) Cl or Br f) Be or Ba g) Si or S h) Fe or Ca

11. What are the trend(s) involving reactivity on the periodic table?

Metals more reactive as you go Down!
- most = Alkali metals
Nonmetals more reactive as you go UP a group!
- most reactive = Halogen
except...
Does Not React!
- Noble Gases!

13. Which element in each pair is more reactive?

- a) Na or Fr b) Be or Ba c) Ne or F d) S or Cl e) I or Br f) K or Ca

14. Do atoms on the right side of the periodic table tend to become cations or anions - why/how?

Anions - they gain/take electrons to be \ominus

15. Do atoms on the left side of the periodic table tend to become cations or anions - why/how?

Cations - they lose/give their electrons to be \oplus

16. (4 points) Write the full electron configuration for the following neutral elements:

S $1s^2 2s^2 2p^6 3s^2 3p^4$

Fe $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^6$

Zr $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^2$

As $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^3$