*Glue this part down*

MC900241091[1]MC900241091[1]**The Periodic Table Review**

**Use each of the terms below just once to complete the passage. Some may not be used.**

Atomic mass atomic number elements accepted Dmitri Mendelieev

Properties Henry Moseley eight protons periodic law

The first periodic table is mostly credited to **(1)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. In his table, the elements were arranged according to increasing **(2)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. One important result of this table was that the existence and properties of undiscovered **(3)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ could be predicted. The elements in the modern periodic table are arranged according to increasing **(4)** \_\_\_\_\_\_\_\_\_, as a result of the work of **(5)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This arrangement is based on number of **(6)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the nucleus of an atom of the element. The modern form of the periodic table results in the **(7)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which states that when elements are arranged according to increasing atomic number, there is a periodic repetition of their chemical and physical **(8)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Use the information on the left taken from the periodic table to complete the table on the right.**

|  |
| --- |
| 7 |
| N |
| Nitrogen |
| 14.007 |
| 1s22s22p3 |

|  |  |
| --- | --- |
| **Atomic mass** | **9.** |
| **Atomic Number** | **10.** |
| **Electron Configuration** | **11.** |
| **Chemical Name** | **12.** |
| **Chemical Symbol** | **13.** |

**For each item in Column A, write the letter of the matching item in Column B:**

**Column A Column B**

\_\_\_\_\_\_\_ **14)** A column on the periodic table **a**. metals

\_\_\_\_\_\_\_ **15)** A row on the periodic table **b**. group

\_\_\_\_\_\_\_ **16)** Group B elements **c.** period

\_\_\_\_\_\_\_ **17)** Elements that are shiny and conduct electricity **d**. Transition elements

**In the space at the left, write *true* if the statement is true; if the statement is false, change the italicized word or phrase to make it true.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **18)** There are *two* main classifications of elements.

­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **19)** More than three-fourths of the elements in the periodic table are *nonmetals.*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **20)** Group 1A elements (except for hydrogen) are known as the *alkali metals.*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **21)** *Group 3A* elements are the alkaline earth metals.   
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **22)** Group 7A elements are highly reactive nonmetals knows *halogens.*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **23)** Group 8A elements are very unreactive elements known as *transition elements.*

­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **24)** Metalloids have properties of both metals and *transition metals*

**Match each element in Column A with the element in Column B that has the most similar properties.**

**Column A Column B**

\_\_\_\_\_ **25)** Arsenic (As) **a**. Boron (B)

\_\_\_\_\_ **26)** Bromine (Br) **b**. Cesium (Cs)

\_\_\_\_\_ **27)** Cadmium (Cd) **c**. Chromium (Cr)

\_\_\_\_\_ **28)** Gallium (Ga) **d**. Cobalt (Co)

\_\_\_\_\_ **29)** Germanium (Ge) **e**. Hafnium (Hf)

\_\_\_\_\_ **30)** Iridium (Ir) **f**. Iodine

\_\_\_\_\_ **31)** Magnesium (Mg) **g**. Iron (Fe)

\_\_\_\_\_ **32)** Neon (Ne) **h**. Nitrogen (N)

\_\_\_\_\_ **33)** Nickel (Ni) **i**. Platinum (Pt)

\_\_\_\_\_ **34)** Osmium (Os) **j**. Scandium (Sc)

\_\_\_\_\_ **35)** Sodium (Na) **k**. Silicon (Si)

\_\_\_\_\_ **36)** Tellurium (Te) **l**. Strontium (Sr)

\_\_\_\_\_ **37)** Tusgsten (W) **m**. Sulfer (S)

\_\_\_\_\_ **38)** Yttrium (Y) **n**. Zinc (Zn)

\_\_\_\_\_ **39)** Zirconium (Zr) **o**. Xenon (Xe)

**40)** Why do sodium and potassium have similar chemical properties?

**41)** How is the energy level of an element’s valence electrons related to its period on the periodic table?   
 Give an example.

1. Into how many blocks is the periodic table divided?
2. What groups of elements does the s-block contain?
3. Why does the s-block portion of the periodic table span two groups?
4. What groups of elements does the p-block contain?
5. Why are members of group 8A virtually unreactive?
6. How many d-block elements are there?
7. What groups of elements does the d-block contain?
8. Why does the f-block portion of the periodic table span 14 groups?
9. What is the electron configuration of the element in period 3, group 6A?

**51)** Write the electron configurations for the elements in periods 2-4 of group 2A.

**52)** Determine the group, period, valence electrons and group name of the elements below:

**a.** 1s22s22p4 **b.** 1s22s22p63s23p64s23d104p65s24d105p66s1 **c.** 1s22s22p63s23p64s23d104p2

**53)** Write the electron configuration of the element fitting each of the following descriptions.

**a.** Group 8A element in the third period. **c.** Group 4A element in the fourth period.

**b.**  Halogen in the second period. **d.** Group 1A element in the fourth period

**54)** Atomic radii cannot be measured directly because the electron cloud surrounding the nucleus does not

have a clearly defined: **a.** Charge **b.** Mass **c.** Outer edge **d.** Probability

1. Describe the trend of atomic radii for both groups and periods of the periodic table.
2. The general trend in the radius of an atom moving down a group is partially accounted for by the:

**a.** Decrease in the mass of the nucleus **b.** Increase in the charge of the nucleus

**c.** Fewer number of filled orbitals **d.** Shielding of the outer electrons by inner e’s

**57)** A(n) \_\_\_\_\_\_\_ is an atom, or bonded group of atoms, that has a positive or negative charge.

**a.** Halogen **b.** Ion **c.** Isotope **d.** Molecule

**58)** An atom becomes negatively charged by

**a.** Gaining an e- **b.** Gaining a proton **c.** Losing an e- **d.** Losing a neutron

**59)** Rank the following atoms in order of decreasing radii.

**a.** Al, Na, P, S **b.** Al, Ga, In **c.** As, Ge, Ga **d.** Br, Ca, Cl, K

**60)** Rank the following atoms in order of decreasing electronegativity.

**a.** Na, Li, K **b.** K, Sc, Ca **c.** As, Sn, S