

Name: _____

Date: _____

2. Complete the following table:

| Symbol | Name | Atomic Number | Mass Number | Number of Protons | Number of Electrons | Number of Neutrons |
|--------|---------|---------------|-------------|-------------------|---------------------|--------------------|
| Ga | | | | | | |
| | Mercury | | | | | |
| | | | 207 | | | |
| | | 53 | | | | |
| | | | | | 54 | |

3. Draw a Bohr, Bohr Rutherford and Lewis Dot Diagram for the following:

| | Bohr | Bohr Rutherford | Lewis Dot |
|----------------|------|-----------------|-----------|
| Beryllium Atom | | | |
| Beryllium Ion | | | |
| Fluorine Atom | | | |
| Fluorine Ion | | | |

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4. Define the following terms **and give an example for each:**

A. Atom

B. Ion

C. Cation

D. Anion

5. Count how many atoms are in each of the chemical formulas below by completing the tables:

a) $2\text{H}_2\text{O}_2$

| Type of Atom | # of Atoms |
|-------------------------|------------|
| | |
| | |
| | |
| Total # of Atoms | |

d) CH_3OH

| Type of Atom | # of Atoms |
|-------------------------|------------|
| | |
| | |
| | |
| Total # of Atoms | |

b) $\text{C}_{27}\text{H}_{46}\text{O}$

| Type of Atom | # of Atoms |
|-------------------------|------------|
| | |
| | |
| | |
| Total # of Atoms | |

e) $\text{Al}_2(\text{CrO}_4)_3$

| Type of Atom | # of Atoms |
|-------------------------|------------|
| | |
| | |
| | |
| Total # of Atoms | |

c) 2NaCN

| Type of Atom | # of Atoms |
|-------------------------|------------|
| | |
| | |
| | |
| Total # of Atoms | |

f) $4\text{Ti}(\text{ClO})_3$

| Type of Atom | # of Atoms |
|-------------------------|------------|
| | |
| | |
| | |
| Total # of Atoms | |

6. Explain how can you tell if a compound is ionic or molecular by looking at its chemical formula.

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7. Identify if each of the following compounds is ionic or molecular and then name them. See polyatomic ion table on next page.

| Compound | Ionic or Molecular? | Name |
|----------------------------|---------------------|------|
| a) H_2O_2 | | |
| b) CO_2 | | |
| c) NaCl | | |
| d) NaOH | | |
| e) Rb_3P | | |
| f) NaI | | |
| g) NaNO_2 | | |
| h) K_2SO_4 | | |

8. Write the chemical formulas for the following compounds:

a) aluminum oxide

b) sodium hydroxide

c) disulfur trinitride

d) nitrogen trihydride

e) potassium sulfide

f) potassium nitrate

g) calcium nitrate

h) magnesium phosphate

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| Name of polyatomic ion | Ion formula | Name of polyatomic ion | Ion formula |
|------------------------|---------------------|----------------------------------|------------------------------------|
| Nitrite | NO_2^- | Hydrogen Carbonate (Bicarbonate) | HCO_3^- |
| Nitrate | NO_3^- | | |
| Sulfite | SO_3^{2-} | Carbonate | CO_3^{2-} |
| Sulfate | SO_4^{2-} | Phosphate | PO_4^{3-} |
| Chlorite | ClO_2^- | Acetate | $\text{C}_2\text{H}_3\text{O}_2^-$ |
| Chlorate | ClO_3^- | Cyanide | CN^- |
| Arsenite | AsO_3^{3-} | Hydroxide | OH^- |
| Arsenate | AsO_4^{3-} | Ammonium | NH_4^+ |

9. Balance the following equations. Identify the type of equation where required:



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10. Give 2 examples of common acids and 2 examples of common bases:

11. Describe what a neutralization reaction is and what the products are

Biology Review

1. Draw a sketch of an animal cell. Label the following organelles:

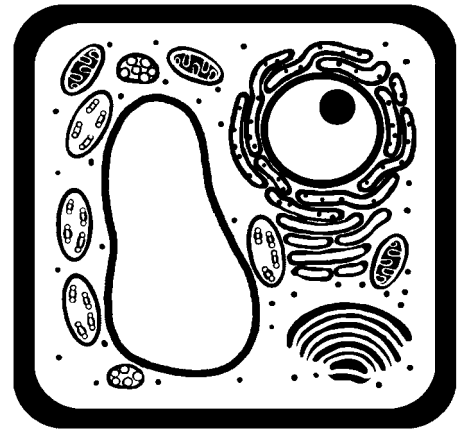
- a) Nucleus
- b) Ribosomes
- c) Cytoplasm
- d) Cell Membrane
- e) Vacuoles
- f) Endoplasmic Reticulum
- g) Golgi Bodies

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2. In the diagram of the plant cell

- a) Vacuole
- b) Chloroplasts
- c) Ribosomes
- d) Golgi Bodies
- e) Cell Wall
- f) Nucleus
- g) Cytoplasm



PLANT CELL

3. Name 3 differences between plant and animal cells:

4. Put the following stages of mitosis in order:

- a) Prophase
- b) Anaphase
- c) Telophase
- d) Metaphase

5. Identify the following stages of the cell cycle:



6. What is cytokinesis?

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7. What happens during interphase?

8. Give 2 examples of the following:

a) Specialized cell

b) Tissue

c) Organ

d) Organ System

Note: This review may not contain everything we covered. Think about what is missing!