**3.1 Compounds**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Name two ways in which elements can combine into compounds. What is the difference between them?

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2. What needs to happen to atoms of different elements to allow them to combine to form an ionic compound?

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3. Use the diagram of the phosphate ion shown below to answer the following questions



1. What kind of chemical bond holds each oxygen atom to the phosphorus atom?

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1. How many atoms does the phosphorus atom connect to?

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1. What is the general term for an ion such as phosphate?

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4. Draw a beryllium and oxygen atom. Draw arrows to show where the electrons would move.

What kind of bond is this? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Draw a 2 Sodium atoms and 1 Sulfur atom. Draw arrows to show where the electrons would move.

What kind of bond is this? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Draw 1 Carbon atom and 2 oxygen atoms. Remember all 3 atoms want a full valence shell

What kind of bond is this? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_