**Quiz 3: Atoms, Elements, and Compounds**

Circle physical or chemical change for the following questions. (4 marks)

|  |  |
| --- | --- |
| 1) Mixing vinegar with baking soda | Physical / Chemical |
| 2) Erasing the chalkboard | Physical / Chemical |
| 3) Eating an antiacid to help your digestion | Physical / Chemical |
| 4) Blowing up a balloon | Physical / Chemical |
|  |  |

Draw Bohr diagrams for the following (5 marks each):

5) Mg

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|  |

6) P3-‑

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Given two elements/polyatomic ions, write the **proper chemical name** and chemical formula for the following (3 marks each):

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| --- | --- | --- |
| Elements/Polyatomic ions | Chemical Name | Chemical Formula |
| 7) Sodium + Fluorine |  |  |
| 8) Copper (I) + Acetate |  |  |
| 9) Yttrium + Selenium |  |  |
| 10) Ammonium + Nitrite |  |  |
| 11) Manganese (III) + Oxygen |  |  |
| 12) Aluminium + Phosphate |  |  |

13) What is the key difference between a physical and a chemical change? (2 marks)

14) Carbon dioxide sublimes at room temperature.

a) What is sublimation? (2 marks)

b) As carbon dioxide sublimes, what is happening to the carbon dioxide molecules? Make sure to compare the spacing between particles as well as their motion in the 2 different states. Is carbon dioxide gaining or losing heat? You may draw pictures to help your explanation. (5 marks)

c) Carbon dioxide has a boiling point of -57°C and a melting point of -78°C. What state is carbon dioxide at -60°C? (1 mark)