Study Guide

Particles of Matter and Periodic Table Assessment

“By failing to prepare, you are preparing to fail”-Benjamin Franklin

## Particles of Matter

1. Know the **definitions** of the following particles of matter:
   1. Atom \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Element\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Molecule\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. Compound\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. Mixture\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **Draw** shape/color **models** for all particles of matter.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Atom | Element | Molecule | Compound | Mixture |

1. **Label models** of each particle of matter with the appropriate name.
2. **Know examples** for each particle of matter.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Atom | Element | Molecule | Compound | Mixture |

1. **Compare/contrast**:
   1. Atom and Molecule\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Element and Compound \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **Making Molecules** – Use chemical formulas to list the number and type of atoms in molecules of common compounds, and then draw a model for the molecule.

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| --- | --- | --- | --- | --- | --- |
| CO2 | SiO2 | C6H12O6 | FeO2 | N2 | H2O2 |

7. Identify **elements, compounds or mixtures** using chemical formulas.

H2O N2+O2+Ar Ag NaCl He NaCl+ H2O

# Periodic Table of the Elements

1. **Each element’s space**
   1. *Atomic Number* -Where is it on the space? What does it mean?

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* 1. *Chemical Symbol* – Where is it on the space? How is a chemical symbol written?

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* 1. *Element Name*

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* 1. *Atomic Mass* – Where is it found on the space? Where is the mass of the atom found?

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1. **Metals, Non-metals and Metalloids**
   1. **Metals** – common properties, percentage of elements, position on the Periodic Table, examples

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* 1. **Non-Metals** – common properties, percentage of elements, position on the Periodic Table, examples

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* 1. **Metalloids –** common properties, position on the Periodic Table, examples

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1. **Periods and Families/Groups**
   1. Periods – How many? Which direction do the periods go on the Periodic Table? Rows or Columns?

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* 1. Families/groups - How many? Which direction do the periods go on the Periodic Table? Rows or Columns? What do elements in the same families/groups have in common?

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