# **Chemistry Experiments Comprehension Check**

For questions 1-6, match each vocabulary term to the correct definition:

|  |  |
| --- | --- |
| 1. Acid | a. a mixture in which the particles of a substance separate from a liquid or gas slowly |
| 2. Compound | b. a substance made of only one kind of atom |
| 3. Element | c. two or more atoms chemically bonded together |
| 4. Mixture | d. a substance that contains more than one kind of atom |
| 5. Molecule | e. two or more substances comingled together, but not chemically combined |
| 6. Suspension | f. any of a group of chemical compounds with similar properties; have a sour taste, produce a prickling or burning sensation when in contact with skin, and dissolve metals as well as other materials |

1. Acid –
2. Compound –
3. Element –
4. Mixture –
5. Molecule –
6. Suspension –
7. Describe three things scientists should do and three things they should not do when trying to do experiments safely.
8. When thinking about chemical reactions, what are reactants and products?
9. Explain how the mixture of ooblek can act as a liquid as well as a solid.
10. Throughout the text, Molecule seems quite convinced the thief he and Atom are after is using magic to escape! After working with Atom, what do you think he learned about chemistry?

# **Chemistry Experiments Comprehension Check Answer Key**

For questions 1-6, match each vocabulary term to the correct definition:

|  |  |
| --- | --- |
| 1. Acid | a. a mixture in which the particles of a substance separate from a liquid or gas slowly |
| 2. Compound | b. a substance made of only one kind of atom |
| 3. Element | c. two or more atoms chemically bonded together |
| 4. Mixture | d. a substance that contains more than one kind of atom |
| 5. Molecule | e. two or more substances comingled together, but not chemically combined |
| 6. Suspension | f. any of a group of chemical compounds with similar properties; have a sour taste, produce a prickling or burning sensation when in contact with skin, and dissolve metals as well as other materials |

1. Acid – f
2. Compound – d
3. Element – b
4. Mixture – e
5. Molecule – c
6. Suspension – a
7. Describe three things scientists should do and three things they should not do when trying to experiment safely.
   1. Students’ answers will vary. They are likely to include wearing protective equipment such as goggles, reviewing procedures ahead of time, using a dry surface, protecting their workspace, and cleaning up afterwards as things scientists should do. Students will also likely highlight that they should not use fire or heat without adult supervision, not eat or ingest anything involved in the experiment, avoid touching their face and eyes with chemicals, and not leave a work area until everything is put away.
8. When thinking about chemical reactions, what are reactants and products?
   1. In a chemical reaction, reactants are the starting substances. They are represented on the left side of the arrow in a chemical equation. Products are the substances produced by chemical reactions. They are shown to the right of the arrow in a chemical equation.
9. Explain how the mixture of ooblek can act as a liquid as well as a solid.
   1. Ooblek is a special kind of mixture that can have the properties of a liquid as well as a solid, depending on how it is handled. In general, ooblek is a mixture of water and corn starch. Each starch particle is surrounded by water particles that act as lubricants, helping them slide and glide past each other. This allows the ooblek mixture to flow like a liquid. However, putting pressure on the mixture causes the starch particles to squeeze together, making it act more like a solid.
10. Throughout the text, Molecule seems quite convinced the thief he and Atom are after is using magic to escape! After working with Atom, what do you think Molecule learned about chemistry?
    1. Students’ answers will vary. They should be able to include a logical conclusion about the study of chemistry. For example, students may explain that chemistry can be used to explain things that are seemingly magical, like ooblek. Students may also note that chemistry is behind many processes we cannot see. For example, in the Phantom Hand experiment, the baking soda reacted with the vinegar to produce carbon dioxide gas. Although we cannot see carbon dioxide gas, it still has effects. Here, the invisible molecules of the carbon dioxide gas caused the glove to inflate, allowing it to seem as though magic made it float.