

Lesson 1

ANSWER KEYS

Figure 2

Oxygen is a substance that dissolves in water. Fish absorb oxygen from the water. When dissolved oxygen levels are low, it can be hard for organisms to survive.

Property Physical

Evidence
The oxygen dissolves in the water but it is still oxygen. It doesn't change.

Property Chemical

Evidence
Two substances are converted to two other substances.

Property Chemical

Evidence
The iron becomes a new substance after reacting with air and water.

Property Physical

Evidence
Hardness and inflexibility are physical properties. Wood is not being changed to something else. It's just being cut up.

Figure 4

Model It!

Molecules and Atoms

Figure 4 Explain Phenomena The four molecules shown here are made of different combinations of carbon, oxygen, or hydrogen atoms. Below each molecule, list the types of atoms in it and how many atoms there are of each type. The first answer is completed as an example.

Water



1 oxygen atom,
2 hydrogen atoms

Oxygen



2 oxygen atoms

Carbon dioxide



1 carbon atom,
2 oxygen atoms

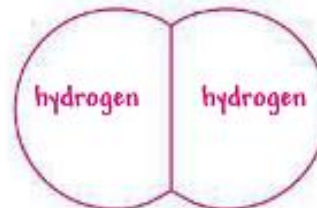
Methane



1 carbon atom,
4 hydrogen atoms

SEP Develop Models

Draw a model of a two-atom molecule of hydrogen and label the atoms.



Reading Checks

✓ READING CHECK Infer Flammability is a measure of how easily something burns. Is this a physical or chemical property? Explain, using an example.

It's a chemical property. When substances burn, they are reacting with oxygen to become something else. For example, methane is flammable because when it combines with oxygen, it burns.

✓ READING CHECK Integrate With Visuals How are pure carbon, oxygen, and hydrogen different from the compound ethanol which contains all three of those elements?

Ethanol is a compound, while pure carbon, oxygen, and hydrogen are molecules each made of a single element. Ethanol also has different properties from the pure elements; it is made from sugars in corn.

✓ READING CHECK Apply Scientific Reasoning Think about a lake. Would you describe it as a homogeneous mixture, a heterogeneous mixture, or both? Explain.

It's both. The water itself is a solution, but the water has lots of other stuff in it including algae, fish, and other organisms.