

L49 — Mixtures vs Chemical Reactions

Read Aloud Passage

Materials are made of molecules, and molecules are built from atoms, which behave like building blocks. In a chemical reaction the atoms themselves do not change. Only their arrangement changes.

Burning is the oxidation of carbon: wax plus oxygen becomes carbon dioxide and water vapor, and the energy released was stored in the wax all along. You can spot a chemical reaction two ways: something new appears, and energy is given off or required. A mixture does neither.

Your body runs the same kind of reaction as the candle, in many small steps, which is why you cannot live without oxygen.

Activity 1

Match each word from the word box to its definition. Write the word in the blank.

Word Box: *molecule atom chemical reaction oxidation potential energy*

1. ____ — The basic particle of a material. Nearly every material is made of molecules of one sort or another.
2. ____ — The smaller building blocks molecules are made from. There are only about a hundred different kinds in the universe.
3. ____ — A rearrangement of atoms that makes different substances, giving off or taking in energy. The atoms themselves are unchanged.
4. ____ — A reaction in which oxygen atoms join with something else. Burning is the oxidation of carbon.
5. ____ — Energy stored in an arrangement, waiting to be released. Wax molecules are like a stretched rubber band holding energy taut.

Activity 2

Each phrase below is a fragment, not a full sentence. Add what is missing to make a complete sentence.

1. *the basic particle of a material*

2. *the smaller building blocks molecules are made from*

Activity 3

Combine the short sentences below into one smooth sentence.

1.

- In a chemical reaction the atoms themselves do not change.
- You can spot a chemical reaction two ways: something new appears, and energy is given off or required.

Combined sentence:

2.

- Materials are made of molecules, and molecules are built from atoms, which behave like building blocks.
- Your body runs the same kind of reaction as the candle, in many small steps, which is why you cannot live without oxygen.

Combined sentence:

Activity 4

Each sentence below is a run-on. Rewrite it correctly.

1. Materials are made of molecules, and molecules are built from atoms, which behave like building blocks in a chemical reaction the atoms themselves do not change.

Correction:

2. Burning is the oxidation of carbon: wax plus oxygen becomes carbon dioxide and water vapor, and the energy released was stored in the wax all along you can spot a chemical reaction two ways: something new appears, and energy is given off or required.

Correction:
