

Mixtures vs Chemical Reactions

READ ALOUD PASSAGE

Most 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 the energy released was stored in the wax all along. You can spot a chemical reaction two ways: something new appears, or energy is given off or required. A mixture does neither.

Your body runs a similar reaction to the candle, in many small steps, which is why you cannot live without oxygen.

Activity 1: Grow a Sentence

This sentence is very short. Answer each question to add more information. Then put your answers together into one longer sentence.

START WITH THIS SENTENCE

The candle burned.

When?

Where?

How?

Why?

Write your expanded sentence:

Activity 2: Statement or Question?

Read each sentence. Write S if it is a statement or Q if it is a question. Then add the correct end mark on the line.

- ☐ 1. Do atoms change in a chemical reaction ____
- ☐ 2. A mixture does not make anything new ____
- ☐ 3. Why can't you live without oxygen ____
- ☐ 4. Burning gives off energy ____

Activity 3: Sentence Scramble

These words are mixed up. Put them in order to make a sentence. Start with a capital letter and end with a period.

1. a / mixture / neither / does

2. arrangement / their / changes / only

3. the / themselves / reaction / in / chemical / atoms / do / a / change / not

Science Mad Lib

Fold the page on the dashed line so the story is hidden. Write a word for each blank. Then unfold the page, copy your words into the story, and read it aloud.

1 _____
A name

2 _____
A plural noun

3 _____
A plural noun

4 _____
An exclamation

FOLD HERE

THE STORY

_____ mixed _____ and _____ in a bowl. They could pick
 1 2 3
 each one back out, and nothing new had formed. That's a mixture. Then they lit a
 candle. The wax combined with oxygen from the air, making carbon dioxide and
 water vapor and giving off heat and light. Something new formed, so that's a
 chemical reaction. "_____!" said _____. "Burning makes something
 4 1
 new. I'd better keep candles out of my snack mix."