

Reversible and Nonreversible Changes

READ ALOUD PASSAGE

Matter can change in two very different ways. Some changes are reversible, which means the matter can go back to the way it was before. Freezing and melting are good examples. Water can freeze into ice, and that same ice can melt back into water, over and over again.

Other changes are nonreversible, which means there is no going back. Burning is the clearest example. When wood burns, it turns into ash, smoke, and gases, and there is no way to gather those back up and turn them into the original piece of wood.

Why are some changes reversible while others are not? The answer has to do with the particles that make up the matter. In a reversible change like freezing or melting, the particles of water stay the same particles of water the whole time. They simply pack together more tightly as ice or spread apart more loosely as liquid water. Nothing about the particles themselves has changed, so the change can be undone.

In a nonreversible change like burning, the particles themselves are broken apart and rearranged. When wood burns, its particles combine with particles of oxygen from the air to form new substances entirely, mostly carbon dioxide and water vapor. Once that happens, the original wood particles no longer exist, so there is nothing left to cool back into wood.

Activity 1: Word Builder

Answer each question with your own words.

1. List four nouns that can melt.

1. _____

2. _____

3. _____

4. _____

2. List three verbs that tell what happens to wood in a fire.

1. _____

2. _____

3. _____

4. _____

Activity 2: 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. melting / are / examples / freezing / good / and

Activity 3: 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. Can ice melt back into water ____
- ☐ 2. Burning is a nonreversible change ____
- ☐ 3. What does wood turn into when it burns ____
- ☐ 4. Water can freeze over and over again ____

Activity 4: 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. in / change / can / two / very / matter / different / ways

2. freezing / and / good / are / melting / examples

3. example / is / burning / the / clearest
