

Name _____



Tiny Particles, Big Changes

When you see wood burning or a cake baking, something big is happening—on a tiny level. These events are called chemical changes, and they happen because atoms are moving and rearranging. But what really goes on during a chemical change?

Everything in the world is made of atoms. Atoms are so small you can't see them without a special microscope. Atoms join together to form molecules.

Think of atoms as letters and molecules as words. When atoms rearrange to form new molecules, a chemical change takes place.

For example, when you bake a cake, heat causes the ingredients—like flour, sugar, and eggs—to react. Their atoms break apart and form new bonds. Once they've changed, you can't go back to the raw batter. That's a sign that a chemical change has happened.

Another example is rust. When oxygen in the air reacts with iron in metal, their atoms bond in a new way to form rust. The shiny metal becomes reddish and flaky. That's because the atoms have created a whole new substance.

Even our bodies use chemical changes. When you eat food, your body breaks it down and turns it into energy. This happens when atoms in the food rearrange inside your stomach and cells.

During a chemical change, the number of atoms stays the same, but how they're arranged changes. It's like taking apart a LEGO model and rebuilding it into something new. You still have the same pieces, but now they make something different.

Physical changes, like cutting paper or freezing water, don't change the atoms. They stay the same, just in a different shape or state.

So the next time you see something burn, bake, or rust—remember: tiny atoms are doing big work. They're shifting, breaking, and bonding to create something brand new.