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Fuel on Fire: How Cars Use Chemical Changes to Move



When you see a car driving down the road, you probably don't think about the science happening under the hood. But deep inside the engine, something amazing is going on—a chemical change that gives the car power.

Cars run on fuel, like gasoline. When gasoline burns inside the engine, it goes through a chemical change. This means the gasoline doesn't just get hot or mix with air—it becomes something completely new. When fuel burns, it reacts with oxygen in the air. The result is energy, heat, and gases like carbon dioxide and water vapor.

This process is called combustion. Combustion is a fast and powerful chemical reaction. It happens in a special part of the engine called the combustion chamber. When the fuel burns, it creates hot gases that expand very quickly. This pushes parts inside the engine called pistons, which help turn the wheels. Without this chemical reaction, the car wouldn't move at all.

One big clue that burning fuel is a chemical change is that new substances are made. The gasoline turns into gases that leave the car through the exhaust pipe. You can't get the gasoline back once it's burned—that's another sign of a chemical change. It's different from mixing sugar into water, where you can still taste and separate the sugar later.

However, burning fuel also has some downsides. It creates gases that can harm the environment, like carbon dioxide, which adds to climate change. That's one reason why some people are working on cars that use electricity instead of gasoline.

Still, combustion is an incredible example of how chemical changes can do real work in our lives. From starting your family's car to powering trucks and buses, this chemical reaction helps people go places every day.