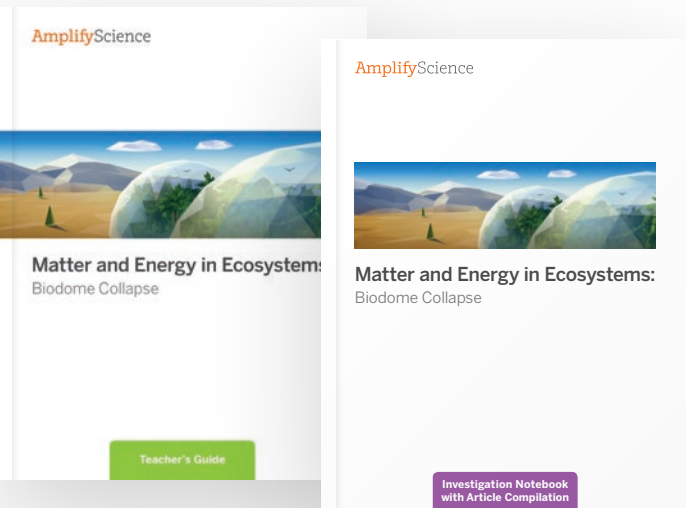


INTEGRATED MODEL

Program component list





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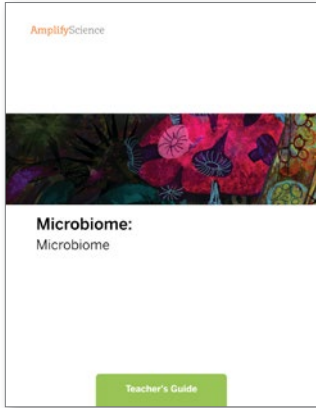
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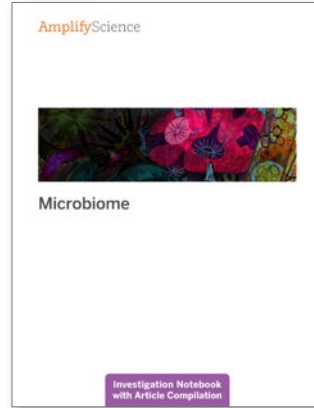
Microbiome

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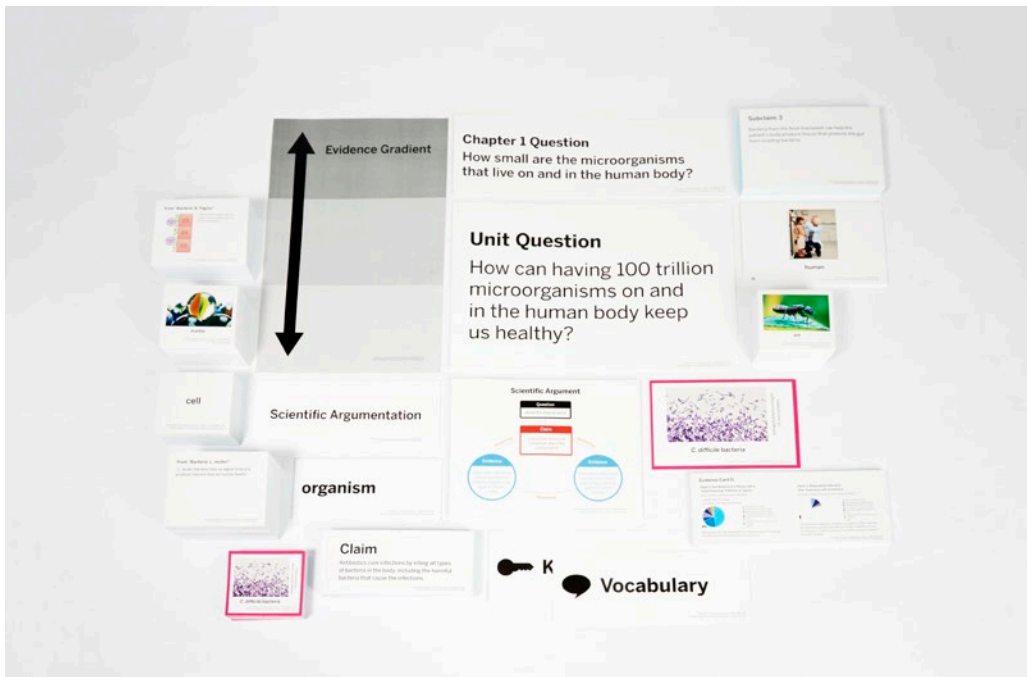
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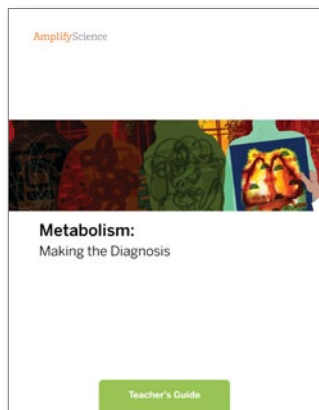
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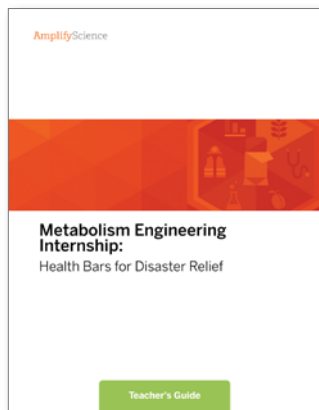
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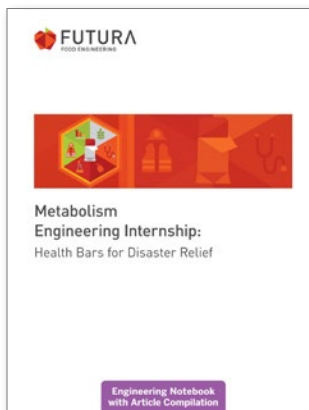
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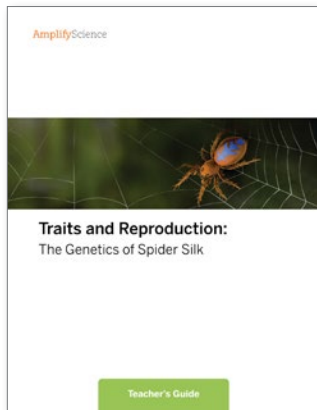


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GRADE 6

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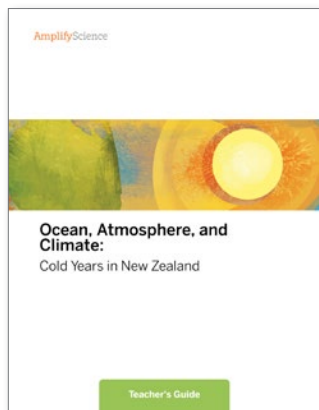
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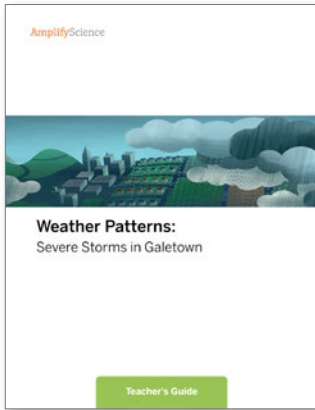
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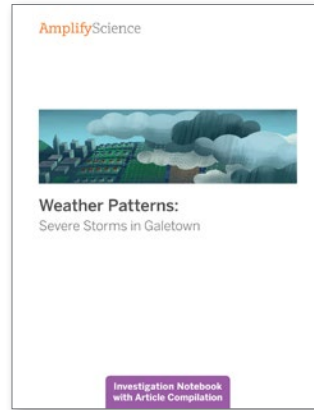
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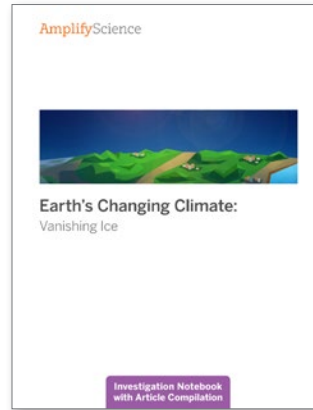
Earth's Changing Climate

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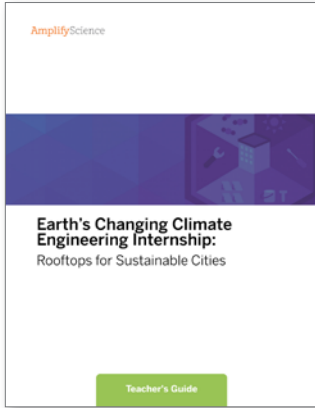
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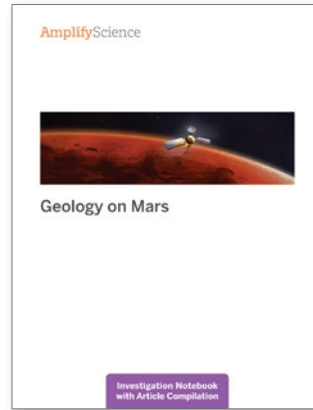
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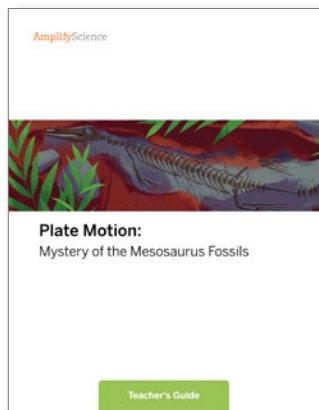


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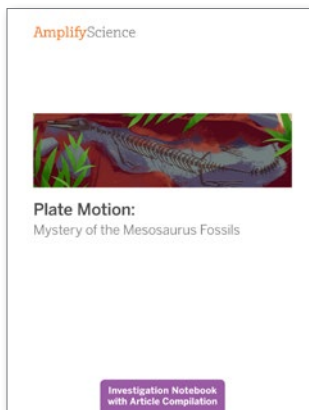
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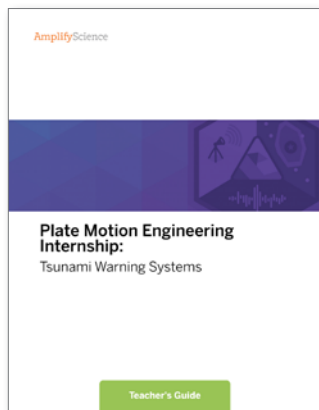
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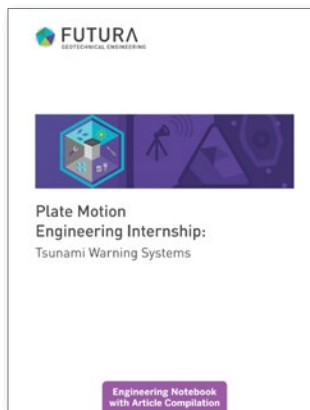
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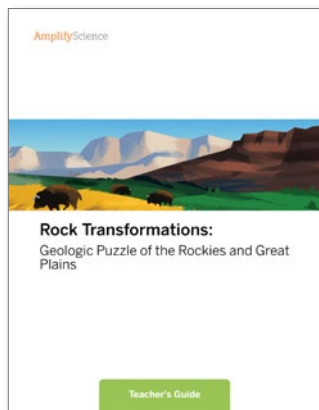
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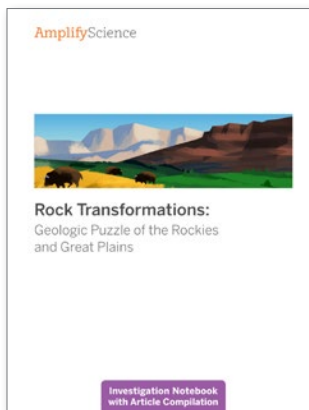
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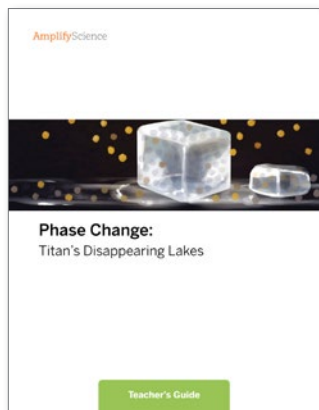
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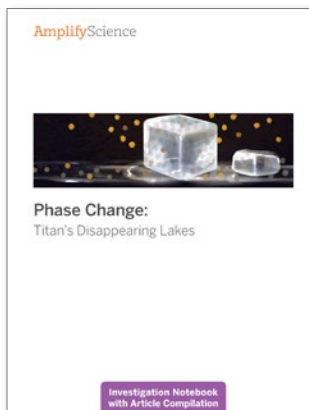
Phase Change

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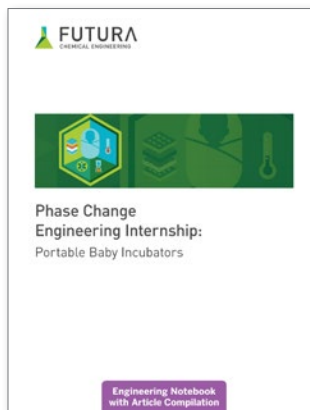
Phase Change: Engineering Internship

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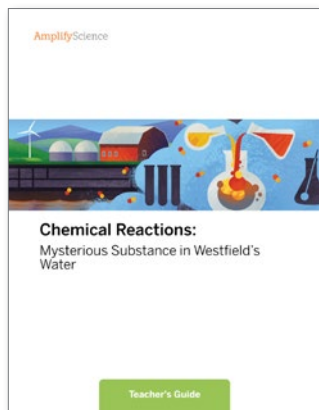
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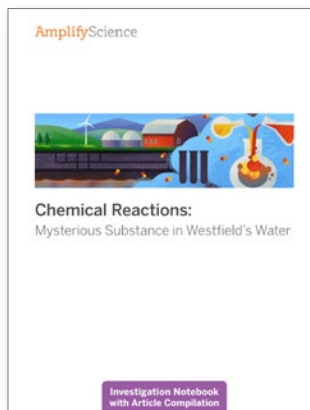
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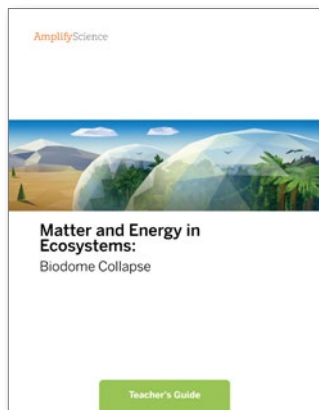
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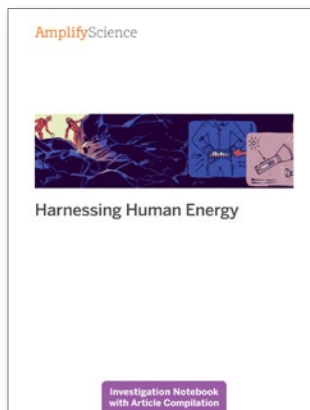
Harnessing Human Energy

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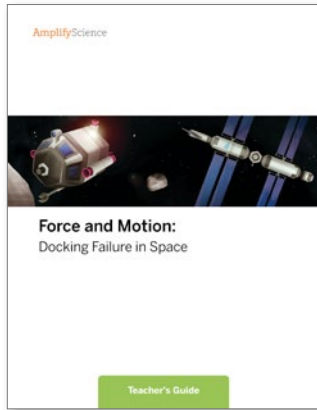
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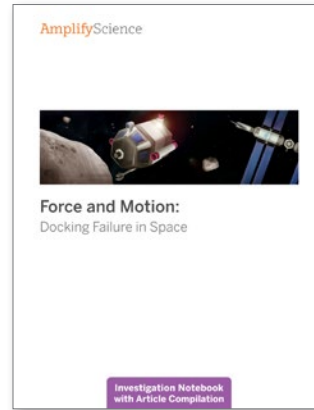
Force and Motion

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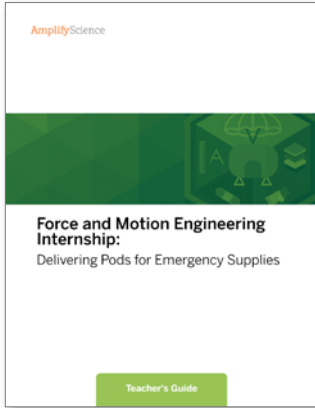
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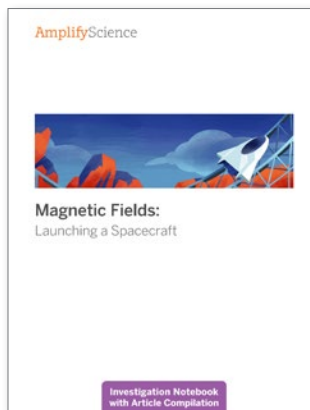
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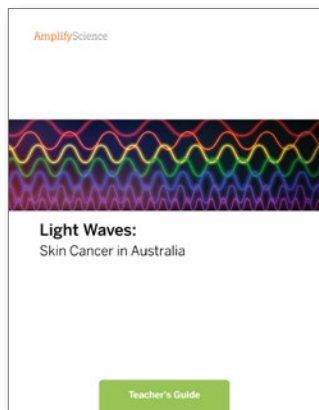
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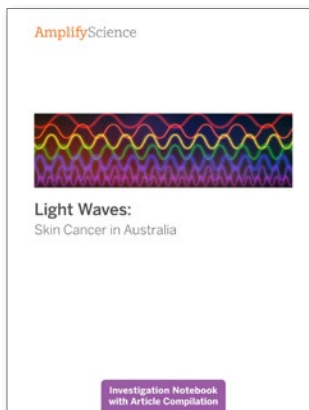
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GRADE 8

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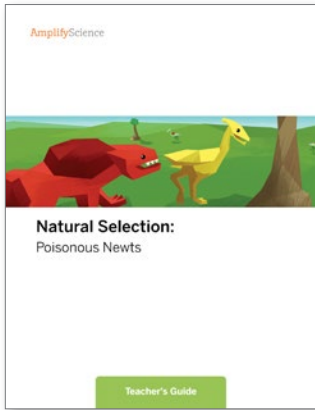
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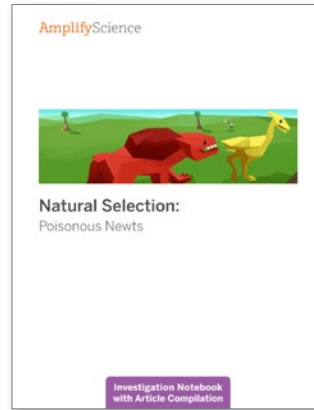
Natural Selection

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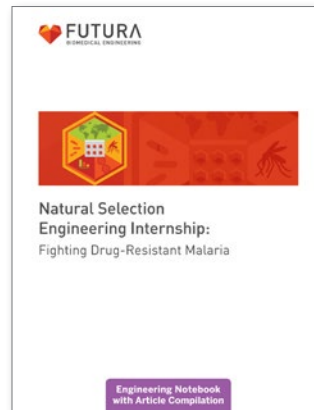
Natural Selection: Engineering Internship

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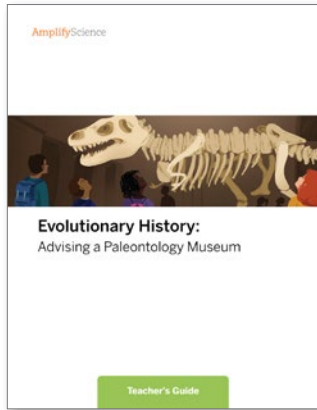
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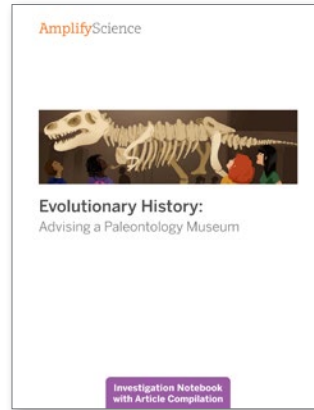
Evolutionary History

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Photosynthesis is an endothermic reaction.

endothermic reaction when you get a bump or a bruise and want to keep it cool. The instant cold packs you can place on minor injuries to help reduce swelling use endothermic reactions to get cold quickly.

Photosynthesis is another example of an endothermic reaction—when carbon dioxide and water are combined in a plant's cells with energy from the sun, they react to form glucose and oxygen molecules. These glucose and oxygen molecules have more stored energy than the carbon dioxide and water. The plant can use that energy later, or the stored energy can be passed up the food chain when the plant is eaten by an animal.



When you burn wood in a fireplace, the wood is the fuel that keeps the fire going. Cars are powered by the inside their engines; gasoline is the fuel that keeps those fires burning.

What Happens When Fuels Burn?

Most people burn fuels every single day. Fuels are substances that release energy when they burn. They are very important to us because we use the energy from burning fuels to do many things, such as run cars and buses, heat homes, and cook food. For example, gasoline is the fuel used in most car engines. When it burns, the energy it releases makes the car move. To prepare for a long trip, you fill your gas tank with gasoline—but after you drive for a while, the tank is empty and you need to fill it up again. What happened to the gasoline? Where did it go?

When we burn something—whether it is a log, a match, or the gasoline in our gas tank—what we are actually doing is causing a chemical reaction. Burning gasoline may not seem like the kinds of chemical reactions that you have seen before. After all, chemical reactions cause substances to change into other substances as the atoms of the reactants rearrange to form the products. When gasoline burns, it doesn't seem to change into a different substance. Instead, it seems to disappear, leaving you with an empty tank. If burning gasoline actually causes a chemical reaction to happen, then why doesn't your tank fill up with a different substance? Can a chemical reaction cause something to change into nothing?



For more information on
Amplify Science, visit
amplify.com/california.



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