

Name: _____

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Mumford and Leroy's Big Crash, Part 3

When Mumford and Leroy collided on their bikes, you saw an example of motion energy (kinetic energy) transferring from a moving object (Mumford) to an object that wasn't moving (Leroy). Kinetic energy transferred from Mumford to Leroy when they collided. Mumford stopped moving (his kinetic energy decreased), and Leroy started moving (his kinetic energy increased).

In today's lesson, we'll begin to explore the idea of energy changing costumes. Have you ever worn a costume? Wearing a costume doesn't change who you are, does it? You just look different! The same is true with energy. It may look different, or you may detect it in several different ways, but it's still energy. In fact, as energy detectives, you saw many different energy costumes.

Sometimes the costume that energy wears makes it invisible, like an invisibility cloak. You can't detect it with your senses—you can't see it, hear it, or feel it. Scientists call this form of energy **potential energy**.

Mumford had potential energy when he was sitting on his bike at the top of the hill. To have this kind of energy, an object has to be above ground level or off the ground. The object must have the **potential** to move from a higher place to a lower place. This means the object **could** start moving at any time. The higher the object is above the ground, the more potential energy it has.

When Mumford raced down the hill on his bike, he had less and less potential energy because he was getting closer to the bottom of the hill. In other words, he was **losing** potential energy. But at the same time, he was **gaining** kinetic energy because he was moving faster and faster as he approached the bottom of the hill.

Mumford's potential energy changed to kinetic energy as he raced down the hill. You could say that his energy changed costumes!