



Activity 1

Can You Explain?



Have you ever seen someone running down a hill? What about a sand surfer on a dune? Were they moving fast or slow? How do you think moving objects, like a sand surfer, get their energy?

How do moving objects get energy?





Activity 2

Ask Questions Like a Scientist

Roller Coasters

Objects are moving around us all the time. A moving object has energy. Where do you think this energy comes from? Let's investigate an example of an object that moves very fast: a roller coaster. **Read** the text. **Think** about what is needed to make a roller coaster move.

Have you ever been on a roller coaster? Imagine riding up a tall hill in a roller coaster car. You slowly creep up the first steep hill. You pause briefly at the top of the gigantic hill, holding your breath. Then the speed of the train you are riding will increase as it heads down the ramp.



So, where did the energy to go that fast come from? At the beginning of a roller coaster, electricity and motors are used to carry the car up to the top of the hill. But on the way down, the roller coaster car does not need electricity. The car actually stored up some energy just by traveling higher and higher. On the way down, this stored energy changed to a more active form of energy. In fact, as the roller coaster races down the hill, its energy increases the faster it goes.

What do you wonder about the energy needed to get the roller coaster moving? What happened to that energy as it moved? **Write** three questions you have about roller coasters and energy. **Share** your questions with a partner.

I wonder . . .



Activity 3

Evaluate Like a Scientist

What Do You Already Know About Energy and Motion?

Defining Energy

You have been thinking a lot about energy. Using what you already know, **write** your own definition of *energy*. Include an example to support your answer.

Moving Energy

Observe the pictures below and **think** about whether the ball has energy in each picture. **Circle** the images where you think the ball has energy.



Life Skills I can share ideas I am not yet sure about.