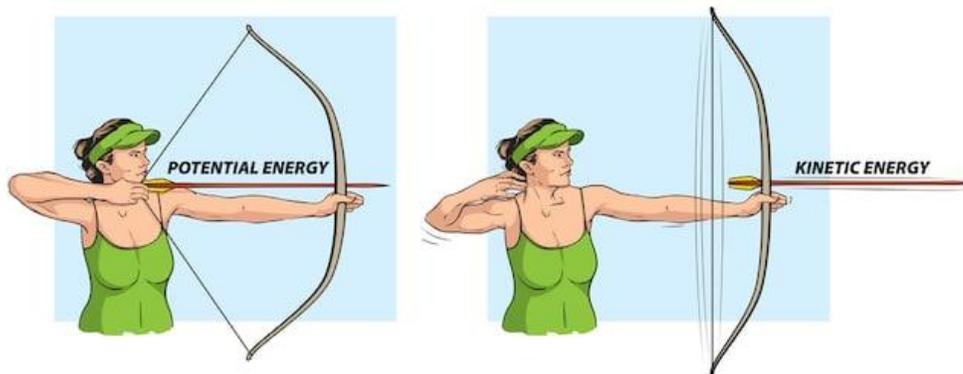


Speed and Energy

Learning Target: I can explain that the speed of an object has to do with the energy of that object.

Have you ever played with a wind up toy? Did you notice that the more you wind the toy, the faster it moves? We would say that when it moves faster, it has more energy. When we wind the toy with our hands, we are putting energy from our bodies into the toy, or transferring energy. The energy from winding the toy is called potential, or stored energy. When that energy is released, and the toy moves, it is called kinetic, or movement energy. Another example of potential energy is the stored energy when pulling back an arrow. When it is released, and the bow moves, that is kinetic energy.



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Watch this [Mystery Science](https://mysteryscience.com/energy/mystery-1/speed-energy/304?r=43212114#slide-id-5950) video on energy and try the hands-on activity.

<https://mysteryscience.com/energy/mystery-1/speed-energy/304?r=43212114#slide-id-5950>

Build Your Own Wind Up Toy

If you have internet access, follow the directions on this video to create your own wind up toy with household items: (You can use any type of paper or plastic cup.)

<https://www.youtube.com/watch?v=t-7MWeqmfSM>



If you don't have internet access, follow the directions below:

Materials:

- Paper/plastic cup
- Scissors and tape for assembly
- 2 paperclips (1 large, 1 small)
- 2 rubber bands
- A bamboo skewer or pencil

Directions:

- 1) Use something cylinder shaped like a large can to trace two even circles onto your cardboard. Then cut them out. (make sure that you cut right on the line because you'll need nice circles-these will be like the wheels of the toy)
- 2) Poke two holes right in the middle of both cardboard circles with your BBQ skewer or a pencil. Also, poke a hole through the bottom of the cup.
- 3) You will need to put two rubber bands together unless you have a really big one. To do this, either tie a knot, or pull them through each other.
- 4) Open up your big paper clip so that one side has a hook, and the other side has a point.
- 5) Hook the rubber band and pull it through one of the cardboard circles, and the bottom of the cup with the hole. But not all the way through.
- 6) Pull the small paper clip all the way through the little loop of the rubber band that should be peeking out of the cardboard circle. (that will secure one end of the rubber band)
- 7) Pull the pointed end of the big paper clip through the other side of the cup and the other cardboard circle.
- 8) Take out the paper clip and put a pencil through the loop of the rubber band.
- 9) Twist the pencil many times, then put the toy down and watch it move.

