

# Make a Spool Engine!

**Directions:** You know about the forms of energy called potential energy and kinetic energy, right?

Potential energy is energy that is stored up for use later. Kinetic energy is the energy of motion.

You can see how both forms of energy work by making a spool engine! You need just a few simple items.

## What you need:

A circular slice of a candle about 1.25 inches (3 centimeters) across, with a hole in the center. **(Have an adult help you with this. To slice the candle, use a dinner knife that has been held under very hot water.)**

A rubber band

2 wooden toothpicks

An empty thread spool

To start, push the rubber band through the center hole in the spool. Break one toothpick in half and push one half through the loop of the rubber band and one end of the spool.

Push the other end of the rubber band through the hole in the candle.

Push the second toothpick through the loop of the rubber band at the candle end. Wind up the engine tightly by turning this toothpick.

Place the spool on the floor (it should lie horizontally) and let go. Watch what happens now!

As you wound up the rubber band, it gained **potential energy**. When you let go of the engine on the floor, that potential energy was instantly changed into **kinetic energy**—the energy of motion!

