

# Spool Racer

## What You Need

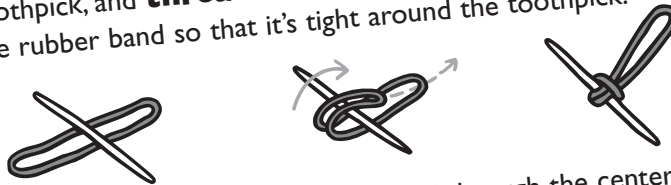
- wooden spool
- flat toothpick
- rubber band
- tape
- large metal washer
- small metal washer
- unsharpened pencil

## Science Scoop

When you twist the rubber band, you're stretching the rubber band and storing *potential energy* (energy that can do work at some future time). The more you twist the rubber band, the more potential energy it has. As the rubber band unwinds, the potential energy changes into *kinetic energy* (energy of a moving object), making the spool turn and move forward.



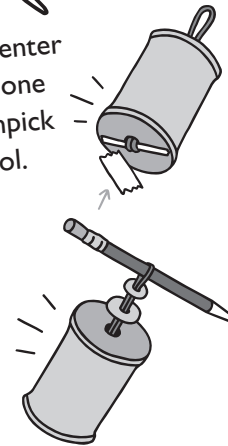
**1** First **attach** a rubber band to a toothpick. Place the toothpick on **top** of the rubber band. **Lift** one end of the rubber band over the toothpick, and **thread** it through the loop at the other end. **Pull** the rubber band so that it's tight around the toothpick.



**2** **Push** the toothpick and rubber band through the center of the spool. Position the toothpick so it lies across one end of the spool. **Break off** the ends of the toothpick so that it doesn't stick out past the edge of the spool. Put **tape** over the toothpick to hold it in place.

**3** **Slip** the other end of the rubber band first through the large washer and then through the small washer. **Slide** a pencil through the end of the rubber band.

**4** **Turn** the pencil to wind the rubber band. Set the spool racer on the floor, and **let it go!**



Sent in by Eleanor M. of Philadelphia, PA

Try It  
Out!



Now it's time for you to **experiment**. What happens if you change the number of **twists** in the rubber band? What happens if you **add material** (like tape) around the outside rims of the spool? Choose **one thing** to change (that's the variable), and make a **prediction**. Then **test it** and send your results to ZOOM.



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