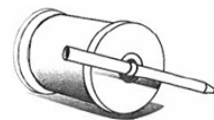


Wind it Up

Wind Up Racer

Materials

- Wooden spool
- Rubber band
- Pencil
- Washer
- Tape
- Toothpick



Instructions

1. Place a piece of tape on the racing surface. This is the START line.
2. Hook one end of the rubber band around the toothpick. Push the end of the toothpick with the rubber band through the center of the spool in order to thread the rubber band through. Remove the toothpick, but keep the rubber band threaded through the center with a bit sticking out on each end.
3. Break the toothpick so that it is a little shorter than the diameter of the spool.
4. Put the toothpick through one end of the rubber band and pull the rubber band taut so that the toothpick lays flat on one end of the spool.
5. Tape the toothpick to the end of the spool, holding it in place.
6. Pull the other end of the rubber band through the center of the washer.
7. Stick the pencil through the rubber band next to the washer and twirl the pencil ONE TIME. This will twist the rubber band.
8. Once the rubber band is wound up, put the spool down on its side behind the START line and let it go.
 - a. Measure and record the distance traveled.

Number of Winds	Predicted Distance Traveled	Actual Distance Traveled
0	0 cm	0 cm
1	-----	
2		
3		
4		

9. How does the number of times you wind the racer affect the distance that it travels?
 - a. Make your prediction, then test.
 - b. Repeat this process.

Make a graph to represent your data.

Analysis

1. How does the number of twists affect the distance traveled?

2. How does your graph compare to other graphs in the class? Are there any patterns? Explain your reasoning.

3. Suppose you could wind the racer one more time without breaking it, how far do you predict your it would travel?
