

BOING!

Wind Me Up

Have you ever seen a wind-up toy or doll? They're kind of fun, right? They may have a knob on the side which you have to twist for a long time or a string which you have to pull. Then, you set the toy down, or let the string go, and something cool happens...the doll talks or the car goes or the merry-go-round turns in circles.

Did you know that all of these toys work because of springs?

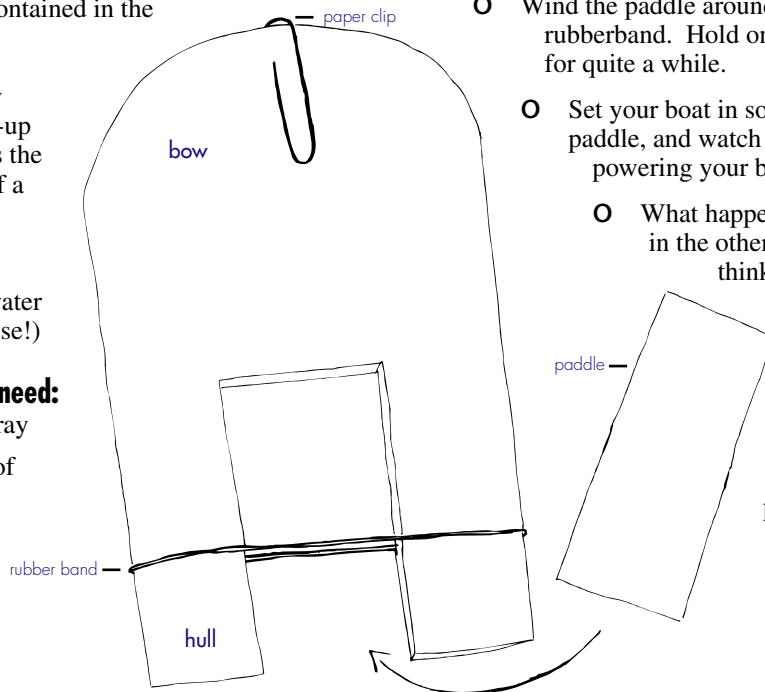
Music boxes, kitchen timers, wind-up watches, and baby swings: each of these works when a spring is wound tightly and then released. As the spring

unwinds, the mechanism moves, using the stored energy contained in the spring.

Today's activity features a wind-up boat which uses the stored energy of a rubberband to motor around a bathtub (or any other body of water you choose to use!)

What you'll need:

a styrofoam tray
rubberbands of various sizes
a paperclip
scissors
pencil
ruler



Try it!

- Using this picture as a model, draw your boat design on the styrofoam tray.
- Cut out your boat, being sure to cut out the hull area where the paddle will go. Save the piece from the hull area to make the paddle.
- Put a paperclip on the bow of your boat (the front) for added weight and a streamlined journey.
- To create the paddle wheel--the part that will actually make your boat go--cut the saved hull piece to a slightly smaller size by removing about 1/4" on each side.
- Slip the rubberband over the hull of the boat, and place the paddle in between the loop of the rubberband.
- Wind the paddle around to twist the rubberband. Hold onto it and keep twisting for quite a while.
- Set your boat in some water, let go of the paddle, and watch it go! What seems to be powering your boat?
 - What happens if you wind the paddle in the other direction? What do you think might happen if you use a different sized rubberband? What other boat designs can you dream up? Could you create other vehicles powered by rubberband spring power?

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Children's Discovery Museum



Spring into *The San Jose Mercury News*

1. People who invest in stocks sometimes get all wound up about the stock market. Turn to the "Business" section to find out whether the stock market is bouncing back or falling. Choose a company that you have heard of, and find out the cost of one share if you were to buy it today.
2. Turn to the "Sports" section of *The San Jose Mercury News*. Cut out all of the pictures you find where something or someone is bouncing. Make a bouncing BOING! collage.

Find out more....

Check out these books and Internet sites:
Science Crafts for Kids by Gwen Diehn and Terry Krautworst. Sterling Publishing, 1994.
<http://www.easttexas.com/pdlg/theball.html> This site features the World's Biggest Rubberband Ball. Now that's a lot of potential energy!