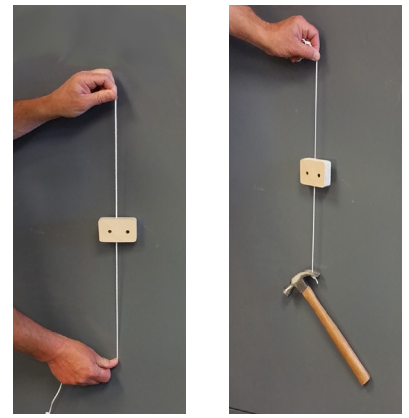


## Mystery Block: Will it or Woodn't it!

### Introduction:

Create a mystery by making a piece of wood stop in mid-fall. Have it stop anywhere along a rope you want it to.



### Materials:

- Smooth synthetic rope - 1 meter - 1/16" or 1/8" in diameter.
- Plywood –
  - 2 - pieces 2" x 3" x 1/2" thick (The thicker pieces)
  - 1 – piece 2"x 3" x 1/8" or 1/4" thick (The thinner piece)
- A copy of the rope path template (See the last page of this document)
- Optional: 2 - Screws 1" long wood screws



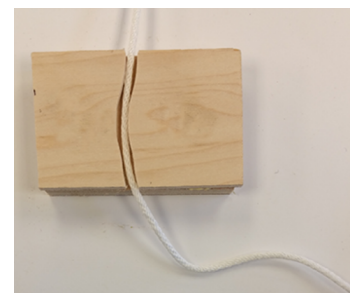
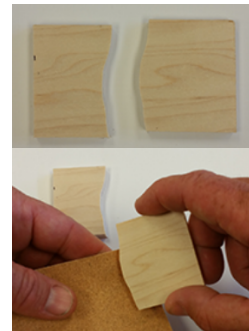
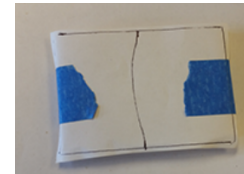
### Other items:

- Glue
- Hammer
- Coping Saw
- Screwdriver
- Tape
- Tape measure
- Sandpaper



### Assembly:

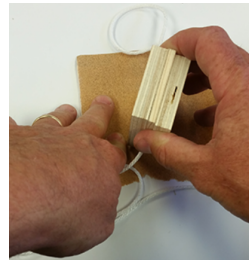
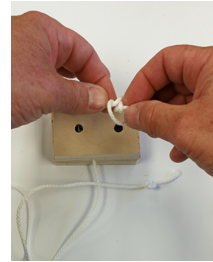
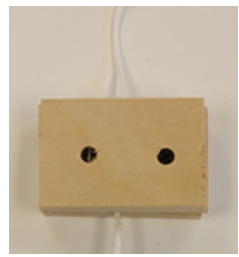
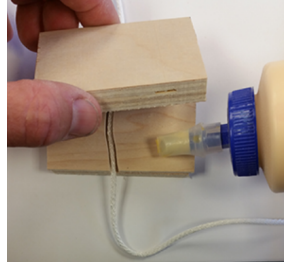
1. Cut out the paper template (see last page of this document) and tape it onto the thinner piece of wood.
2. Using the template as a guide, use a coping saw to cut the wood in half along the curved line.
3. Sand both sides of the cut. The rope will need to slide along this curve. The smoother the better.
4. It's time to glue your two curved pieces of wood to one of the thicker pieces of wood.
  - a. With your curves matched, place a dab of glue in the center of each of the two pieces (note: avoid getting glue too close to the curve edges).
  - b. Place the glued surface of your two cut pieces on top of one of the thicker pieces of plywood.
  - c. While your glue is still viscous, move the cut pieces apart and insert the rope between the curves.



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- d. Continue to move the curved pieces apart just a little more. Move them so that they are slightly wider than then the rope.
  - e. Make sure the sides perpendicular to the curve (and rope) are flush with the underlying, thicker piece of plywood.
  - f. Remove the rope and let dry.
5. After drying, reinsert the rope.
  6. Next, attach the top piece of wood to your device. Here are two options:
    1. Glue the remaining thicker piece of plywood on top of the curved pieces. This will be a permanent attachment. So, no one can see inside your device.
    2. Screw the remaining thicker piece of plywood on top of the curved pieces. This method will allow you to unscrew and show the inner working of your device.
  7. Before you go any further, tie a knot or two on both ends of the rope. This will keep your rope from accidentally slipping out of your device.
  8. Now that your mystery block is together and dry, sand the sides smooth. This will allow the joints between layers to be less visible as well remove the tell tale signs that the middle layer has been pulled apart.



To do and notice:

1. Grab both ends of the rope.
2. To make the block slip, hold the lower rope loosely.
3. To stop the block as it moves, pull the lower rope taunt. Do this subtly!

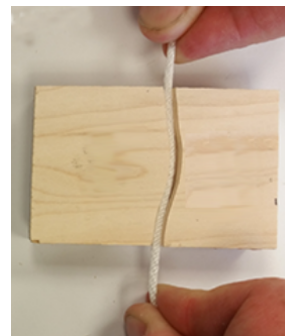
Option:

Attach a weight to the end of the lower rope.... such as a hammer. This will make the block stop. Very slowly and carefully lift the weight. This will cause the block to fall.



What's going on?

When loose, the block slides easily along the rope. When pulled taunt, the edges of the curve cause enough friction to stop the block in its journey downward.



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Template for middle layer  
Curved pieces:

Template is 2" x 3"  
5.1cm x 7.6 cm

