

STEAM ACTIVITY: A HAND HELD WINCH AND PULLEY

Simple Machines At Home



GATHER YOUR MATERIALS

2 paper towel tubes, 1 or 2 straws (preferably bendy), a spool of ribbon or just a long piece of string or yarn, empty yogurt cup, tape, scissors

STEPS

1



Take the two paper towel rolls and cut a notch out of the top of each to place your straws in. (Or poke holes to stick your straw through). Then tape the paper towels standing up on a secure base. Space them apart based on the length of your straw. The straw needs to be able to lay across the top of both rolls with the bendy side hanging off as a handle. You can make the straw longer by combining two straws together.

2



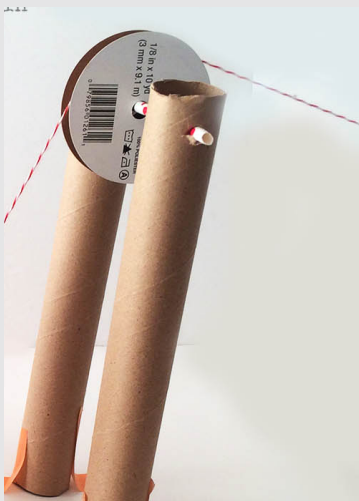
Take the spool of ribbon and insert the straw through the hole. Then hang the straw across the 2 rolls. If you don't have a spool just tape a piece of string or ribbon to the middle of the straw so that it can wind itself around the straw as you turn it.

3



Take the yogurt cup and a small piece of string or ribbon. Create a handle out of the string or ribbon and tape onto the cup (or poke holes into the sides of the cup and tie the handle on). Then tie one end of the ribbon from your spool (or straw) onto the handle.

4



Now you are ready to give it a try. Put some small objects in your bucket and crank it up or down using your straw handle! If the straw rotates but doesn't catch the spool you will need to tape the spool to the straw.

STEAM ACTIVITY: A SIMPLE PULLEY

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GATHER YOUR MATERIALS

a long piece of ribbon, yarn, or string, empty yogurt cup, tape, scissors

1

STEPS



Take the yogurt cup and a small piece of string or ribbon. Create a handle out of the string or ribbon and tape onto the cup (or poke holes into the sides of the cup and tie the handle on). Then tie one end of the long piece of yarn, ribbon, or string onto the handle.

2

Take the long string and lay it over something such as a railing or back of a chair. Then pull on the other side to raise the cup.

3

Try putting different weighted things in the cup. Try picking the cup straight up in the air versus pulling it over the banister. Which one is easier? Imagine if the weight was even heavier?

