



Challenger's Morning Science Segment:

June 27, 2016

Topic: Sound Waves

Build: A beginner's bagpipe

Credit:

<http://playsinglaugh.com/archives/1066>

Materials Needed:

Sturdy plastic tube or PVC pipe (12" or longer) / drinking straw / duct tape / nitrile or latex glove

Make a beginner's bagpipe: Tape the glove opening around one end of an tube making sure that it is airtight. Next, in the thumb of the glove, make a hole just big enough for the straw to be inserted (insert approx. 2"). Tape around the straw and thumb to also make the connection air tight. Pull the glove back along the tube so the glove is tight over the opening of the covered end of the tube and hold in place. Blow into the straw to fill the glove with air. Changing the tension of the stretched glove over the opening will allow air to enter the tube and make a sound. Try different patterns and rhythms with your new bagpipe.

The science [credit: <http://www.britannica.com/art/bagpipe>]:

This build contains some of the basic parts of a bagpipe. The straw represents the blowpipe and the glove represents the bag. The paper towel tube represents a non-reed, single noted drone. You can try different length tubes to get different pitches for your beginner's bagpipe. The shorter the pipe the higher the pitch, and a longer pipe will produce a lower pitch.

This activity ties into the Challenger Learning Center of Maine: Challenger holds STEM camps throughout the summer for students entering grades K-8. We discuss the science of music and many more activities during camp days filled with science and innovation. FMI- www.astronaut.org