

Society for Neuroscience 2019

Science Craft Activities



Handmade Straw Pan Flutes

Materials for Homemade Straw Pan Flutes

- Cardstock
- Scissors
- Double-sided tape
- Plastic Straws (Boba straws)
- Black Sharpie
- Ruler

Directions for Making Straw Pan Flutes

1. Take five wide straws and cut them into varying lengths. (We cut ours into the following lengths: 6 inches, 5.5 inches, 5 inches, 4 inches, and 3.5 inches.) Encourage children to measure and cut their own straws.
2. Cut two strips of cardstock to 7 inches x 1.5 inches.
3. Place a 7 inch strip of double-sided tape onto the inside of one piece of cardstock strips.
4. Place the longest straw on the tape first, near the left edge. You'll want one end of the straw hanging about 3/4 inch over the side. Place the shortest straw on the right-hand side of the tape, with the same amount (about 3/4 inch) hanging over the edge. Next place the middle length straw right in the center. Place the remaining two straws onto the tape. All the ends of the straws should line up about 3/4 inch over one edge of the cardstock.
5. Place the double-sided tape onto the other black strip of cardstock and place it on top of your straws, lining it up with the first piece of cardstock. Press down firmly.
6. Number each straw 1-5 with a black Sharpie.
7. Practice making sounds with your flute by resting the tops of the straws on your lower lip and blowing across them.



What's the STEM or STEAM behind this activity?

Science: As you blow across the straw, the air in the straw vibrates. So what you are actually hearing is the air inside of the straw, not the flute itself. You can change the pitch by changing the length of the straw. A long straw produces a low note. A short straw produces a high note.

Engineering: Kids have the opportunity to build and design their own instrument. They can see how the placement of the various lengths of the straws affects the ability to use the flute.

Make a Sun Dial from a Plate

Learn how people told time before the invention of watches and clocks by making a sun clock.

What You Need

- Crayons
- Paper plate
- Sharpened pencil
- Push pins
- Ruler
- Plastic straw



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Direction how to make Plate Sundial

1. Prepare Paper Plate
2. Start this project on a sunny day just before noon.
3. Use the pencil to poke a hole through the very center of the paper plate. Write the number 12 on the edge of the plate with a crayon. Using the ruler as a guide, draw a straight line from the number 12 to the hole in the center of the plate.
4. Take Plate Outside
At noon, take the plate and the straw outside. Put the plate on the ground and poke the straw through the hole. Slant the straw toward the line you drew. Now carefully turn the plate so that the shadow of the straw falls along the line to the number 12.
5. Fasten Plate to Ground
Fasten the plate to the ground with some pushpins. Have your child predict where he/she thinks that the shadow of the straw will be pointing in one hour.
6. Check Shadow Position Hourly
One hour later, at one o'clock, check the position of the shadow along the edge of the plate and write the number 1 on that spot. Continue each hour predicting the position and then checking and marking the actual position and time on the edge of the plate.
7. Discuss Your Sun Clock
At the end of the day you and your child will have a sun clock. On the next sunny afternoon you will be able to tell time by watching where the shadow of the straw falls on your clock.

Observation, prediction and communication are all very important science skills. This activity helps to develop them. Be sure to have your child talk about why he/she thinks the shadow is moving.

Spinal Cord model with egg carton

What you need:

- An egg carton to cut up, for the vertebrae
- Craft foam (or something kind of spongy), for the vertebral discs
- 2 pipe cleaners, for the spinal cord

Directions:

1. I chose to use egg carton sections because they really do look quite like vertebrae. We tried both ways: poking holes through the bottom of the egg carton section (Abe's was made like this) and poking holes through the side of the egg carton as shown above. I think I preferred the latter way just because of how it looked, but both ways are fine.
2. Then you just thread the vertebrae onto the spinal cord, alternating with the discs.
3. Really liked the way the pipe cleaner spinal cord allowed flexibility and movement of the spine. They were fun to play around with.



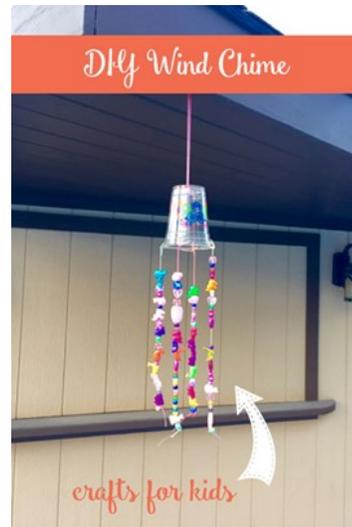
Beaded Wind Chime

What You'll Need

- Plastic cup
- String or plastic lacing (5 x 6" strands)
- Variety of beads – pony beads work best

How-To

1. Use a pointy object (such as the end of a pair of scissors or even a pen) to poke a small hole in the bottom of the cup and four evenly spaced holes about 1cm down from the edge of the cup. If you think your child is really going to enjoy this activity and has an excellent attention span, you can always change it to 6 strands! I knew my daughter, who only just turned 4, would get bored quickly despite how much she loves stringing beads.
2. Next, slide one end of each string through the four holes around the edge and knot them. I put the end through the hole, looped it around and tied it onto the rest of the string to ensure it wouldn't fall through the hole. Have your child string a selection of beads onto each strand. Once each strand is complete, tie a knot in the ends. For extra security while it's blowing in the wind, I tied a knot, then added a pony bead which I included in my next knot and then knotted one more time below the bead knot. I don't want beads in my swimming pool in a windstorm!
3. Once they have completed the strands of beads, make a loop with the remaining string and push the two ends inside the cup from the hole you made in the bottom. Slide a pony bead over the two ends and tie a knot.
4. Now take your child and their masterpiece outside for a bit of sunshine and hang up your wind chime! I'm not a fan of noisy wind chimes so I appreciated the virtual silence of this craft. If you like the sounds of chimes, you can add bells here and there onto the strings or else simply attach one to the end of each strand.



Straw Rocket

Materials for Making Straw Rockets

- Straws
- Tape or glue dots
- Plastic pipettes (or straws with a larger diameter than the other set of straws)
- Markers, crayons, or colored pencils
- Scissors

Directions for Making Straw Rockets

1. Color the rockets and cut them out.
2. Cut the bottom off a plastic pipette and attach it to the back of a rocket using tape or glue dots. (We love having a stash of plastic pipettes at home. They're so fun to use with painting and often come in handy for various science activities- like with our color arrays. And they're super inexpensive!)
3. If you don't have any plastic pipettes handy, you can use a straw instead. (Just make sure this straw is wider than the other straw you'll be using for launching.) Cut the straw to fit the length of the rocket and tape one end shut so it's completely sealed. Attach it to your rocket with glue dots or tape.
4. Slip a straw into your pipette, and you're ready to launch!

Give your straw a big puff of air, and watch it take off!

