

## Reason for the kits

We hope you have found these activities fun and engaging. These activities were designed so that parents and children could engage in fun learning activities that would excite their imagination and promote curiosity, inventiveness, and resilience. Some of these activities should help you meet some of the Unit 5 Choice Board & District 87 remote learning activities.

## Feedback!

Please let us know how you used the kit.

1. Was it helpful?
2. Did you do all the activities or just some?
3. What activities were your favorites?
4. Did you use any of the activities as a Choice Board activity?
5. Would you like another kit next month?

Send us your thought and feedback.

Email: [rcarpenter@normal.org](mailto:rcarpenter@normal.org)

## Additional Activities

If you have had fun with these activities please visit our Daily Dose of Play webpage: <https://www.childrensdiscoverymuseum.net/222/Daily-Dose-of-Play> and share pictures and video on our social media pages.



**Children's Discovery Museum**  
101 E. Beaufort St.  
Normal, IL 61761

# Children's Discovery Museum STEAM Activity Packet



**This packet of materials was created by the generous contributions from State Farm and the Children's Discovery Museum**



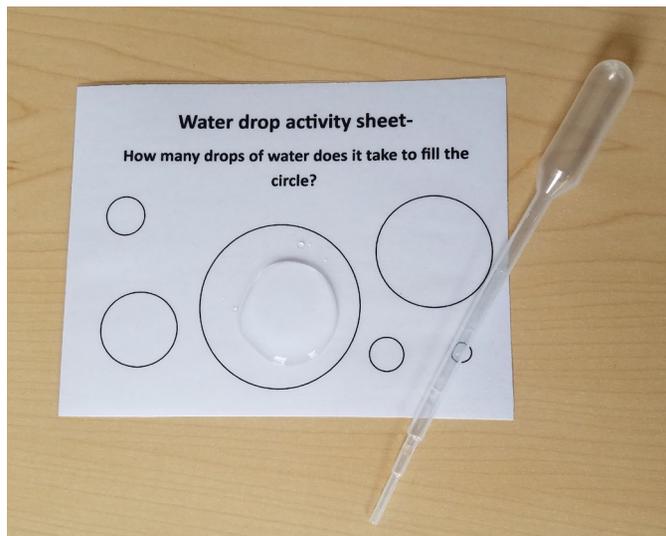
## Water Drop Activity

Materials provided for this activity: pipette, water drop activity sheet

Additional materials needed: cup of water, food coloring (optional if you want to color the water)

Water molecules stick together when they are near each other. This is called cohesion. Make a prediction about how many drops of water each circle will hold. Using your pipette, add one drop of water at a time until you have filled the circle. Was it more than you thought? Bring your eyes to table level and see the shape of the water drop. It will make a dome shape due to the water drops sticking together. Wipe the water drops off and try it again. Use a permanent marker to draw your own circles on the back of the page.

Observations: Record your observations on this page.





## Catapults

Materials provided for this activity: large craft sticks, rubber bands, cork, plastic spoon, pom

Additional materials needed for this activity: (optional) any kind of tape, small objects to launch, bowls

In this activity, you will build a simple catapult to try launching a pom for distance or accuracy.

1. Using one of the rubber bands, attach the spoon to one of the craft sticks. Feel free to add a piece of tape to make sure the spoon doesn't move around.



2. Using the second rubber band, attach both craft sticks together by wrapping it around the ends.



3. Place the cork in between the two craft sticks to make a gap between them.



## Coffee Filter Art (Enough supplies to do 2 or 3 times)

Materials provided for this activity: coffee filters, pipette  
Additional materials needed for this activity: washable markers, cup of water, newspaper or plate

You can create something beautiful using art and science!  
Chromatography is the separation of a substance through a medium. You will be separating the colors of your marker ink by using water on a coffee filter. As you add the water, the separated inks will disperse through the coffee filter moving and mixing the colors.

Start by drawing a design on your coffee filter. The more colors you use the more it will mix at the end. Now lay the coffee filter on a piece of newspaper or a plate. Fill a cup with water. Using your pipette, add drops of water to the coffee filter. Watch as the water absorbs into the filter and moves your colors around. Once the coffee filter is wet, set aside to dry. Your design is ready to hang, or you can use one of your pipe cleaners to turn it into a butterfly or flower!



## **Foil Boats** (Enough materials to try 2 or 3 times)

Materials provided for this activity: foil squares

Additional materials needed: large bowl of water (can also try this in the sink or bathtub), small objects to use as weight (like pennies or marbles), more aluminum foil to make additional boats or small ball of clay

Design a boat that will float with aluminum foil and see how much weight it will hold. Use a piece of foil to create a boat shape of your choice. Place it in a large bowl of water to see if it floats. Once it is floating, add your weights (the cargo) one at a time until it sinks. Try a different design to compare to.

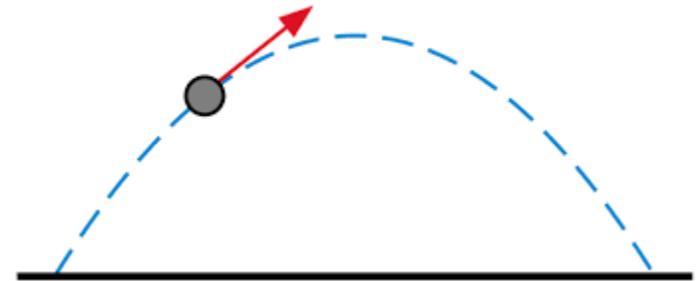
Try making a boat out of a small piece of clay for an added challenge!

There are two primary forces acting on this science experiment. The first force is gravity. Gravity is trying to pull the boat and the weights down. The force of buoyancy is pushing the boat toward the surface. The gravitational force is determined by the weight of the tin foil and the weight of the pennies in the boat. The force of buoyancy is the weight of the water displaced by the boat. Your boat will continue to float as long as the force of buoyancy is greater than the force of gravity and you do not overload the boat so it will tip over or leak.



4. Load the pom into the spoon. Hold the catapult with one hand and then pull the spoon down gently. Release the spoon to launch. The pom should travel up and forward.
5. Play around with how hard to pull on the spoon to see how far you can get it to launch. Or try for accuracy to launch it into a bowl.

This is a simple physics experiment on projectile motion. When you pull down on the spoon all that potential energy gets stored up! When you release it all that potential energy gradually changes over to kinetic energy, which is energy of moving objects. Gravity also does its part as it pulls the object back down to the ground. As the object is flying it is a projectile. Watch the path a projectile takes as it moves up and then back down to the ground.



## **Sound Sandwich** (Enough materials to make 2 sound sandwiches)

Materials provided for this activity: large craft sticks, #64 rubber band (wide), #32 rubber bands, straw pieces

All sound starts with vibration. Vibration is when something moves back and forth quickly. Try placing your fingers on your throat while you are talking. You should be able to feel your vocal cords moving. In this activity, your breath will cause a rubber band to vibrate.

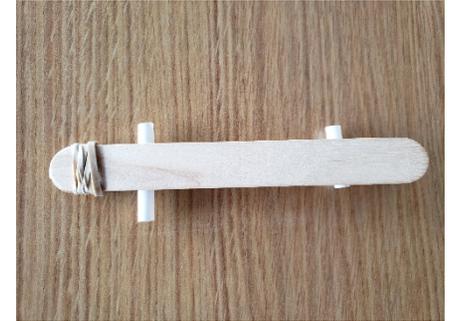
1. Stretch the larger rubber band lengthwise over one of the craft sticks. The rubber band will go from end to end with one half of the rubber band on each side of the flat part of the craft stick.



2. On one side of the craft stick, put one of the straw pieces under the rubber band on one end of the craft stick about the one third of the way down from the end of the stick. Place the other straw piece on top of the rubber band on the other end of the craft stick.



3. Place the second craft stick on top of the first. Wrap one of the smaller rubber bands around the end of the craft sticks to hold them together.



4. Do the same with the second rubber band on the other end. When you are done, the two ends should be pinched and there should be a small space between the two craft sticks created by the two pieces of straws. Your large rubber band should split the space diagonally between the two straw pieces.



5. Put your mouth over the middle and blow. Remember to blow through the sticks and not through the straws. Keep blowing until you get a sound. The sound comes from the vibrations coming from the larger rubber band.
6. With your lips and teeth, try squeezing the craft sticks closer together. Does it change the sound?

See if you can change the pitch, or how high or low we hear a sound. Here's a fact to remember as you do this activity: Long, massive objects vibrate slowly and produce a low-pitched sound, while shorter, less massive objects vibrate quickly and produce a high-pitched sound.