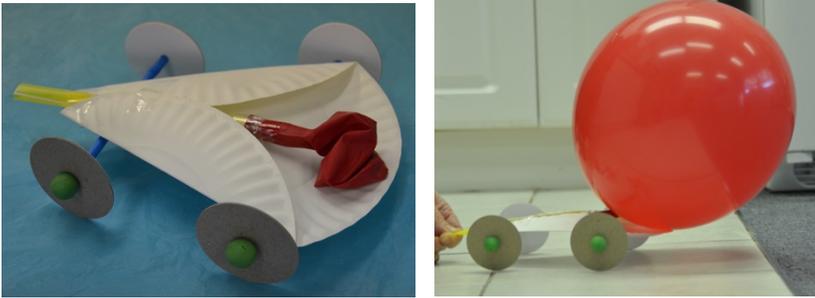


Paper Plate Pursuits

Paper Plate Racer

Explore Newton's Laws of Motion with this fun paper plate racer!



You will need:

- 1 Flimsy paper plate
- 2 Straws with a small diameter
- 1 Straw with a larger diameter (e.g. milkshake straw)
- 2 Barbeque skewers cut approximately 2 cm longer than the small straws
- 1 Balloon
- Tape
- Plasticine
- Cardboard

How to make your racer:

1. Fold the paper plate into a triangular shape and tape the flaps together, leaving an opening large enough for the larger straw to fit through.
2. Cut 4 wheels from the cardboard and make a small hole in the centre of each.
3. Tape the smaller straws to the bottom of the plate, one towards the front and the other towards the back. You can trim them, for aesthetics, if they are sticking out too far. Cut the pointy end off of each skewer and insert one into each of the small straws in order to form the axles.
4. Put one wheel on each end of both axles and stick a plasticine ball on the end of the skewer to hold the wheel in place. Adjust the position of the plasticine so that the wheels can rotate freely.
5. Insert one end of the larger straw into the balloon and tape it securely.
6. Insert the open end of the larger straw into the opening between the bottom of the plate and the taped flaps. Tape it in place so that the open end of the straw is sticking out past the back of the racer like a tailpipe.
7. Pick up the racer and inflate the balloon by blowing into the open end of the straw.
8. Pinch the end of the straw to trap the air, place the racer on a smooth flat surface and let go of the straw.

Additional things to explore:

Have fun changing some of the variables to see whether/how it affects the motion of the racer: wheel size; amount of air in the balloon; travel surface; or size of the straw attached to the balloon.

Paper Plate Tambourine

This musical instrument combines science, music, math and art for the perfect cross-curricular activity for your young scientists.



You will need:

2 Paper plates, sandwich sized

Stapler or glue

A variety of noise makers (beans, lentils, seeds, rice, sand, pebbles, popcorn kernels)

Materials to decorate the tambourines: markers, crayons, stickers, feathers, beads, bits of wool or ribbons

Sorting activity (optional):

1. Have your students organized into small working groups.
2. Give them a large paper plate containing a mixture of “noise makers”: beans, seeds, pebbles, rice, popcorn kernels, lentils.
3. Give each group a few small paper plates and ask students to sort the mixture onto individual plates.

Constructing and decorating the tambourine:

1. Give each student 2 small plates. Have them add a generous amount of one type of “noise maker” to the bottom plate. You will want to make sure that there are two or more students in your class with the same “noise maker” for the science part of this activity.
2. Have students place a second plate on top of the first so the bottom of each plate faces outward. Staple or glue the plates together.
3. Students can decorate the outside of the tambourine, if desired.

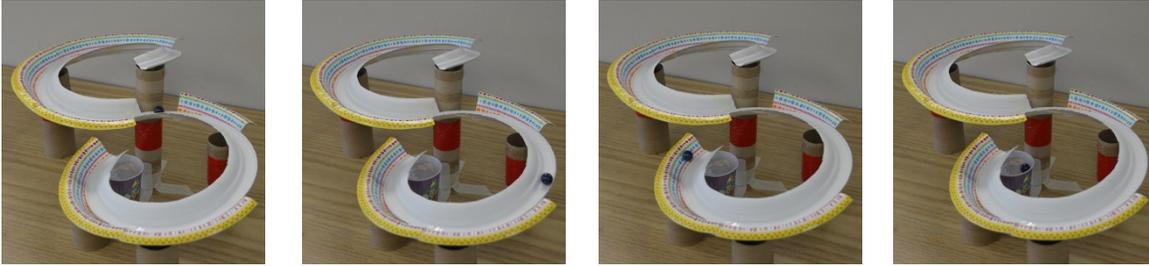
Science and Music Activity:

Students will be exploring timbre in this activity. Timbre or sound "quality" describes those characteristics of sound which allow the ear to distinguish sounds which have the same pitch and loudness.

1. Play a match-up game by having students take turns shaking their tambourines. Their goal is to identify another tambourine that makes the same sound as their own.
2. Have students guess what each tambourine contains by listening to the individual sounds.

Paper Plate Coasters

Explore gravity, forces, momentum and the engineering process in this fun and fast activity!



You will need:

A few sturdy paper plates

Scissors

Tape

Paper towel rolls; toilet paper rolls; Lego or wooden blocks

Marbles

How to make your coaster:

1. Explain the engineering process to your students: plan, build, test, modify, re-test.
2. Have students plan their coaster and prepare their materials by cutting the rim from several paper plates and discarding the middle piece.
3. Students will use the underside of the plate rim as the marble track. They can use building blocks or...
4. Students can use building blocks or paper towel and toilet rolls to support the roller coaster at appropriate positions, taping them together or cutting them smaller as needed.
5. Have students test the coaster frequently by rolling a marble along the section they've built and tweaking their design.
6. If the marble consistently runs off the track on a tight turn, tape small sections of paper plate rims along the outside curve to build up the corners and keep the marble on track.