

Simulating Lightning

Making Lightning from Static Electricity

Ask for help from a parent or other adult for this activity.

What you need:

a rubber glove
dishcloth
a metal screwdriver with a plastic handle
metal baking tray



What to do:

1. Put on the rubber glove. Use the gloved hand to rub the pan lightly on the dishcloth for several minutes. This will build up an electrical charge.
2. Dim the lights. Slowly bring the metal tip of the screwdriver close to the bottom of the pan.

Describe what happens. What did you see? What did you hear?

Is what you observed like anything else you observed in nature? What?

Weather

Tornadoes are violent windstorms. When air or water spin fast, a whirlpool is formed at the center. This is what happens when bath water swirls down the drain. The whirlpool is sometimes called a vortex. It begins at the top and moves down. As it swirls down, it forms a funnel of strong winds or currents. Try this activity to see what a vortex looks like.

A Tornado in a Glass

What you need:

carbonated water
revolving cake stand or “lazy Susan”
masking tape
salt
tall drinking glass



What to do:

1. Place the glass at the very center of the stand. Fasten the glass to the stand with masking tape.
2. Pour carbonated water into the glass until it is nearly full. Leave an inch of space at the top.
3. Spin the cake stand, and pour salt into the glass as it spins. Describe what you see. Draw a picture of what you see.

Our Moon

Have you ever wondered why the moon appears to change shape from night to night? It really doesn't change shape at all. It just looks that way because of reflections of light. The earth and the moon move and change positions. So the sun reflections look a little different every day and night.

We can think of the moon going through a new phase each week of the month. The first phase begins as a new moon. During this phase, we can't see the moon. During the second phase, the moon is said to be in the first quarter. The peak of the third phase is when the moon is full. During the final phase, the moon is said to be in the last quarter. Remember, the moon appears to change a little each night, so these four illustrations are only models. The four drawings below show what the moon will look like at least one night during each phase.

These are the four phases of the moon.

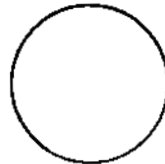
New Moon



First Quarter



Full Moon



Last Quarter



Moon Log

Record on your Moon Log what the moon looks like each night for the next month.

Each night, use a light blue or white crayon to color in the part of the moon you can see. Then, at the end of the month, paint the whole page with black watercolor paint. Your picture should show the phases of the moon as they look in the night sky.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

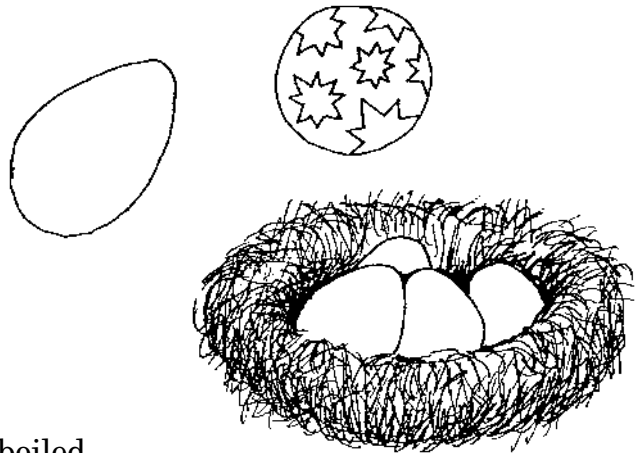
Why Aren't Eggs Round?

There is a good reason why eggs are not perfectly round. Why do you think perfectly round eggs might be a problem for birds? Experiment by putting a small round Ping-Pong ball or golf ball in the nest you built.

What you need:

a hard-boiled egg
a Ping-Pong ball or a golf ball

Do you think the Ping-Pong ball or the egg will roll better on the ground? What about in the nest you built?



What to do:

1. Ask an adult to boil an egg until it is hard-boiled.
2. Roll the Ping-Pong ball. Roll the hard-boiled egg. Which rolled farther?
3. Put the hard-boiled egg in your nest. Does it roll around easily?
4. Put your Ping-Pong ball in your nest. Does it roll around the nest easily?

Describe why you think the egg shape is safer for baby birds than the perfectly round Ping-Pong ball shape.

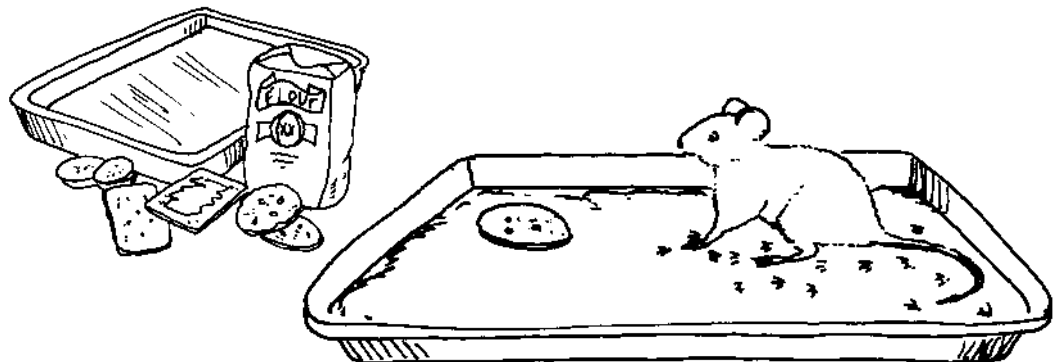
Are There Other Animals Around?

It's pretty easy to find birds to observe. But there are a lot of animals around you. Write down some of the animals that live around you that you have actually seen. Most of the time, you can't even see the animals that might live near you. Try to think of a way you could find out what some of the animals might be where you live without actually seeing them. Design a safe way that you could find out what some of the animals that live near you are. Write "What you need" and "What to do" in your science journal.

Now, here's another way you can find out what some of the animals that live near you are. Let's see how.

What you need:

a baking tray
sand or flour
crackers
peanut butter



What to do:

1. Place sand or flour in a large baking tray.
2. Put a cracker with peanut butter at one end of the tray.
3. Set the tray outside overnight.
4. Carefully carry the tray in the next morning and look for tracks in the sand or flour.
If there are no tracks, try again.

Some Animal Tracks

