

Pressure

Welcome to Family Science Lab!

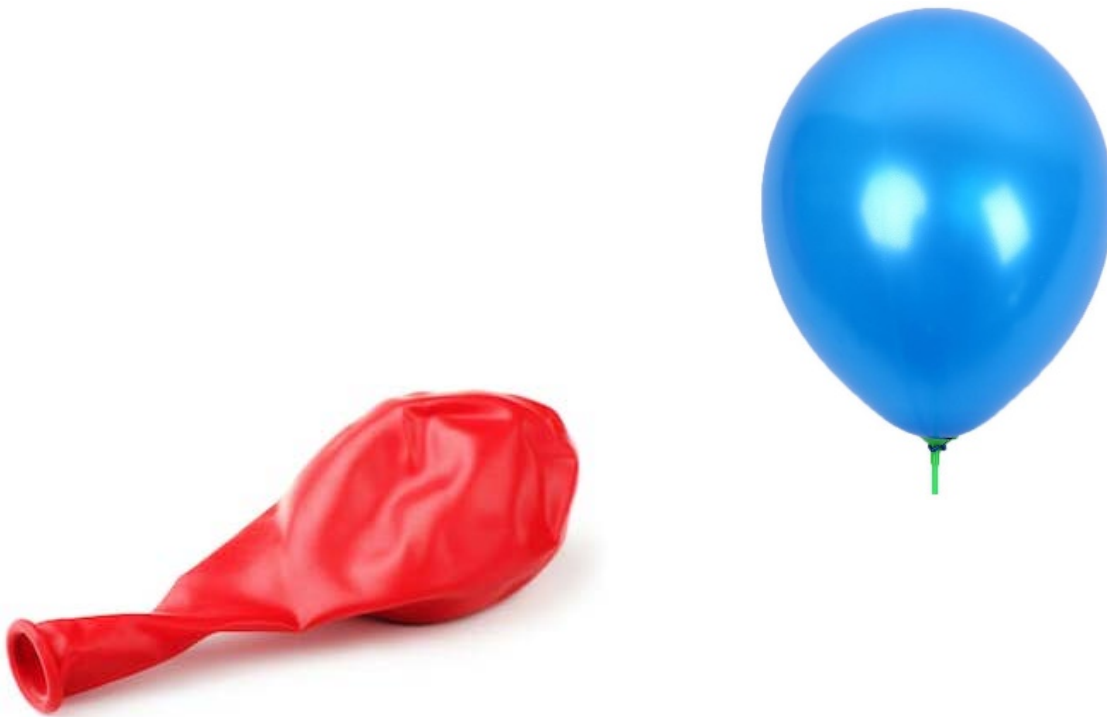


March 23, 2019

Today we're going to explore the idea of **pressure**.

What is pressure? How would you describe it? Where can we see pressure?

We'll look at some demonstrations. **Which of the balloons below has high pressure? Low pressure?**



For our first experiment, you'll create your own **Cartesian Divers**.

You will need:

- A bottle and its top
- A marker cap
- A paperclip
- A penny
- Water!

This activity will take about thirty minutes. Here are some instructions:

1. Attach the paperclip to the pen cap, then the penny to the paperclip, like so:
2. Fill the bottle with water, leaving an inch or two of empty space at the top.
3. Drop the pen cap into your water bottle so it's floating near the top and twist the top on tight.



What happens when you squeeze the water bottle? When you let go? When is there **high pressure in the bottle? **Low pressure**?**

What changes when we use two pennies? No pennies?

Next, we're going to make **air cannons**! You will need:

- A plastic cup
- A balloon
- A tape
- Paper
- Scissors
- An adult

This activity will take about thirty minutes. Here are the instructions:

1. Have your adult tie the end of the balloon into a knot and cut a hole out of the top. Then, have your adult punch a hole in the bottom of the cup.
2. Hold the cup steady while your adult pulls the balloon on top of the mouth of the cup.
3. Tape the balloon securely to the cup.



What happens when you pull on the balloon? Does the cup have **high pressure or **low pressure**?**

What happens when you let go?

Now, take a small piece of paper, maybe three or four inches tall, roll it into a cylinder shape, and place it upright on the table. Can you knock it over, using your air cannon, without touching it?