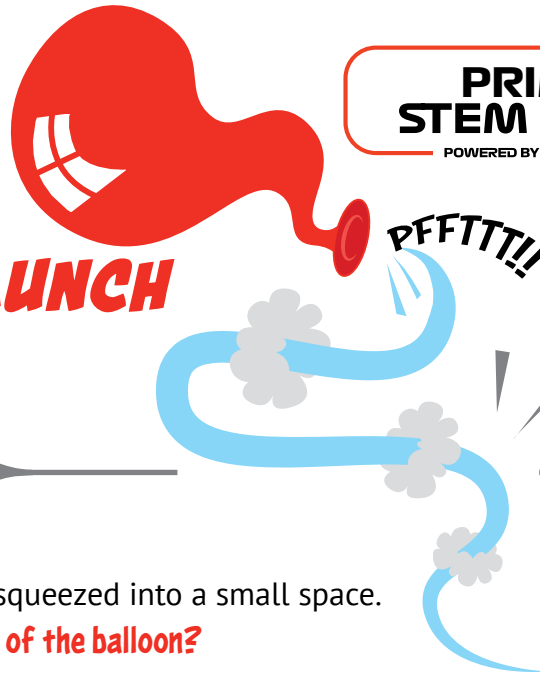


AIR PRESSURE

How Does The Air Launch System Work?



What is Air Pressure?

When you blow up a balloon, your breath is squeezed into a small space.

What happens when you stop blowing and let go of the balloon?

The air launch system works in the same way.



The air is squashed (or compressed) into a smaller space than it likes. As you release the button the air gushes out.

This is called air pressure and is measured in Bar or PSI.

Bar is a metric unit of pressure. One bar is equal to the amount of atmospheric pressure on earth at sea level.

PSI stands for **Pounds per Square Inch**.

One **PSI** is equal to the amount of pressure exerted by 1 pound of weight on a 1 inch square.



This acts as thrust to propel your car forward.

The speed at which the air rushes out depends on how much air has been squeezed into the space.

How is air pressure used in everyday life?

CLASSROOM ACTIVITY

You will need:

1. Assembled car chassis or completed car
2. Primary STEM Project Launch System
3. Race Track or marked out race area
4. Some card and scissors
5. Measuring tape

Experiment with Air Pressure

Step 1

Using the Air Launch System, pump until the dial reads 6 Bar.

How far down the track did your car travel?

Step 2

Try different air pressures and measure where the car stops.

Why does this make a difference?

Step 3

Cut shapes out of cardboard to create a 'hazard' on the track. Be creative with ideas for this. It could be anything from a stop sign to a row of bins! Think about how you can make them stand up.

Can you stop the car before the hazard?

Experiment with different amounts of air pressure?

