BLOW DART SHOOTER

Purpose

To gain an understanding of how air pressure can create force by building an awesome game to play at home.

To gain an understanding of size and probability while building the game.

Materials

Thick straw
2 Thin straws
2 Index cards
Tape
Scissors
Cardboard
Markers

Procedure

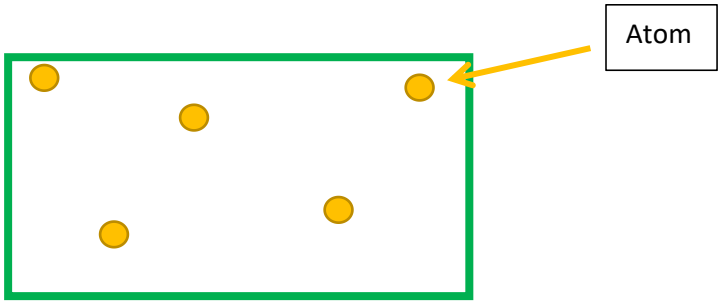
Watch instructional video.

Key Terms and Knowledge

Science

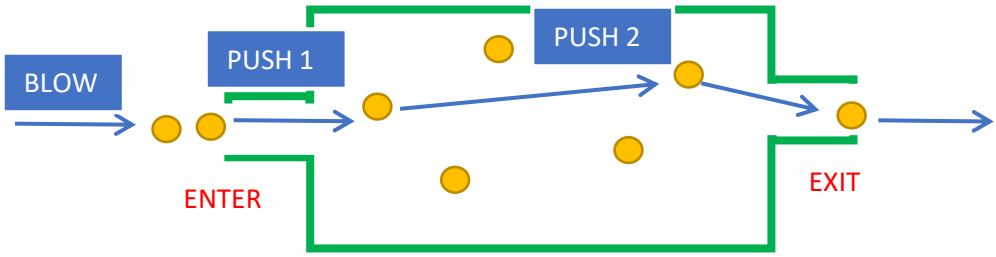
1) Consider that even though we can put our hand through it and we cannot grab it, air is not nothing, **air is something**!

Air is made up little tiny things called **atoms** and although we cannot see them, they are there. The atoms are just really far apart, and are not attached.



Just like when we push a ball or a cup, these atoms can be pushed to move something else.

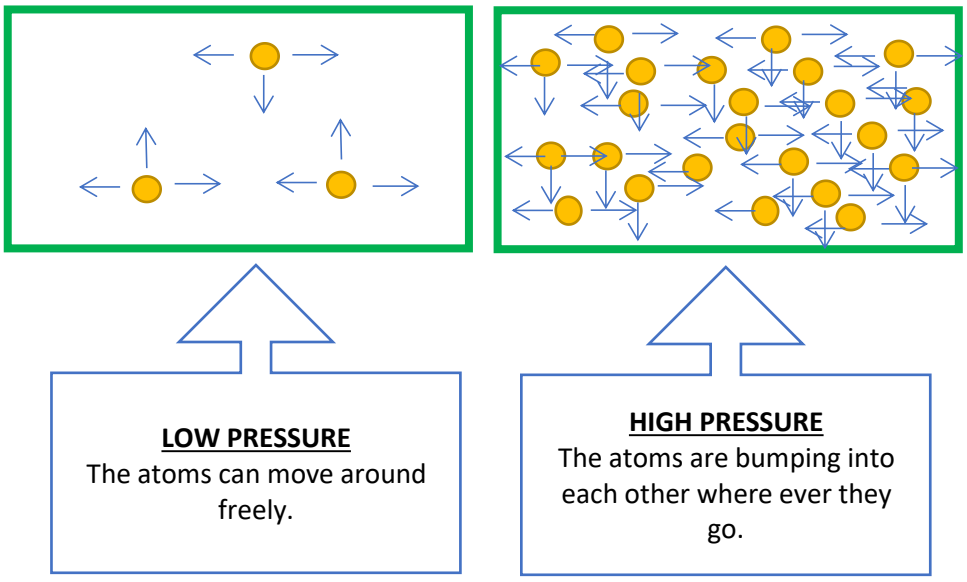
2) When we blow into the straw we are pushing more atoms through that straw. The atoms we blew through the straw push atoms that were already there. Those atoms push other atoms and the chain continues.



Eventually the atoms push on our dart, causing it to fly.

3) Imagine you are in a room with 2 of your friends, and you are running and jumping around. It would feel pretty comfortable. Now imagine you are in the same room with 100 friends, and everyone still wants to jump and run around. Now you will want to get out of that room, and get out of there fast.

The same thing happens with atoms. When we push more atoms into a closed space those atoms begin pushing on each other in an effort to get out. As more atoms are put into a small space we are increasing the **pressure** in that space.



Math

Probability - The chances of an event happening.

When you are creating your game, you change the difficulty of the game you are changing the **probability** that someone can win the game. By making the holes larger or smaller you can control how easy or difficult the game will become.