



TRY THIS OUT!



LEVER BALANCING

Time: 10- 30 Minutes

Difficulty: Easy

Chances are good that you've been on – or at least seen – a seesaw at the park before. How is it that it's so easy to lift a friend into the air on one, even if they're too heavy to lift alone? In this experiment, test out how levers work to make lifting a little bit easier.

WHAT YOU NEED:

- Wooden paint stick, craft stick, or a sturdy ruler
- Large binder clip
- Tape
- Various small objects (ex. Legos, erasers, etc.)

MAKE IT:

1. Remove the silver hooks of the binder clips. Have an adult use pliers if necessary.
2. Tape the binder clip securely to your surface. It should look like a triangle with the base taped down. This will act as the fulcrum, or the pivot point.
3. Place the paint stick on top of the clip, so that the clip is in the center.

TEST IT:

Place objects on top of the lever on either side. Can you get it to balance? What happens if you move objects closer or further from the centre? What happens if you move the paint stick so that the marker isn't in the middle anymore?

EXPLAIN IT:

Levers have been, throughout history, one of the most useful simple machines. A heavy object on one side of a lever can be easily lifted by pushing down on the other side, in comparison to simply picking it up on its own. The reason for this is that the long arms of a lever provide leverage to an object, meaning that it amplifies the force exerted on it. In fact, if you had a long enough lever, you could lift just about anything!

OBSERVE IT:

Levers are found everywhere in our day to day life. When you use a pair of scissors, look closely at it: it's just two levers joined together! When you push your fingers together, it causes the other end of the blade to move in the opposite direction. This is because the point where the two blades connect acts as a fulcrum.

GO FURTHER:

Try using something else as the plank instead of a paint stick or ruler. You could try a plank of wood, a book... anything you can find! How does the length of your plank impact the functioning of the lever?

