

Test Your Strength

Action

The students will be able to see air pressure in action as you are unable to lift a piece of paper with a ruler.

Grade Level

Grade 2 - Air and Water

Grade 2 - Measuring Matter

Grade 3 - Properties of Matter

Materials

- A sheet of newspaper
- A sturdy ruler

Instructions

- Place the ruler at the edge of the table, half on the table and half off. (See video below).
- Cover most of the portion of the ruler that is on the table with a sheet of newspaper.
- Bring your fist down sharply on the exposed end of the ruler. Have students attempt the same thing. The paper will not move.

Safety

Make sure that you use a strong ruler and if a wooden ruler is being used, make sure there are no splinters sticking out.

Science Principle

The weight of air pressing down on the newspaper resists being squeezed up suddenly and hold the ruler to the table. The larger the surface area, the more room there is for the air to press down. The pressure of air is about 103 kPa (15 pounds per square inch. If you hold one hand out, palm up, you are holding 45 kg (100 pounds) of air).