Friction Experiment

Materials:

Shoe

Rubber band

Ruler or measuring tape

Remember:

When an object isn't moving, it has static friction. It will take a certain amount of force to get the object moving. The amount of force it will take depends on the surfaces and the weight of the object, among other factors. To test how much force is needed to overcome static friction, you can try dragging a shoe over various surfaces.

1. Cut a rubber band in half.
2. Tie one end to a shoe.
3. Tug on the other end of the rubber band until the shoe starts moving.
4. Measure how far the rubber band had to stretch in order for the shoe to move.
5. Record your observations.

What variable could you change?

The shoe? What happens if you try a shoe with a different type of sole? What does this tell you about friction?

The surface? You could try a different surface, try dragging the shoe over concrete or grass or other types of terrain to see how easy or hard it is to get the shoe moving. Drag the shoe over it and measure the rubber band.

The weight of the shoe? You could put something in the shoe to make it heavier, like rocks or weights. Try pulling the shoe to see how far the rubber band has to stretch before the shoe starts moving.

You can only change ONE thing, everything else (even the person doing the pulling) MUST stay the same. Why?