

SIMPLY SIMPLE MACHINES

HERE ARE SOME SIMPLE EXPERIMENTS WITH SIMPLE MACHINES.

WHEEL AND AXLE

You are probably already convinced that wheels make things go faster, but here's proof. It's a very simple experiment. All you need is a skateboard and two friends.



On a flat, smooth floor, place the skateboard with the wheel side up. Then stand on it. Have one friend try to push you across the floor

for a distance of two or three feet. The other friend is there just to make sure no one falls during the experiment.

Place the pencil on a table and put the ruler across the pencil at the 6-inch mark.



Place the book on one end of the ruler. Push down on the other end of the ruler to



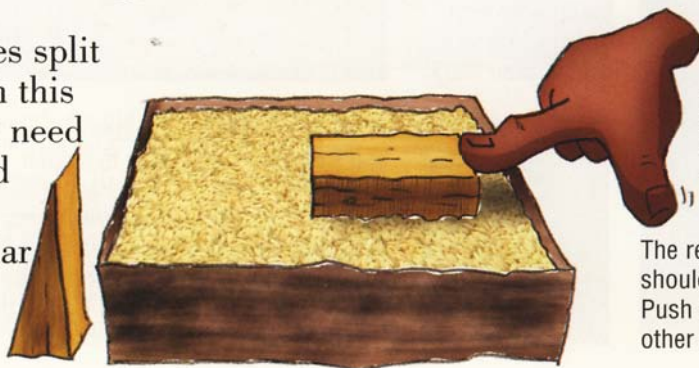
raise the book. Try the same thing with the pencil at the 9-inch mark on the ruler. Then try it with the pencil at the 3-inch mark. Which position makes it easiest to lift the book? Why?

LEVER

Here is how to demonstrate that levers are good lifters. You will need a 12-inch ruler, a pencil, and a book. The pencil will be the fulcrum, and the ruler will be the lever.

WEDGE

Show how wedges split things apart with this experiment. You need a large box filled with uncooked rice, a rectangular block of wood, and a wedge.



Smooth the rice so that the top is level. Place the rectangle at one end of the box. The rectangle should lie flat. Push it to the other end of the

box. Pay attention to the effort you use and what happens to the rice. Then do the same with the wedge, with the pointed part forward. Which takes less effort? What happens to the rice each time?