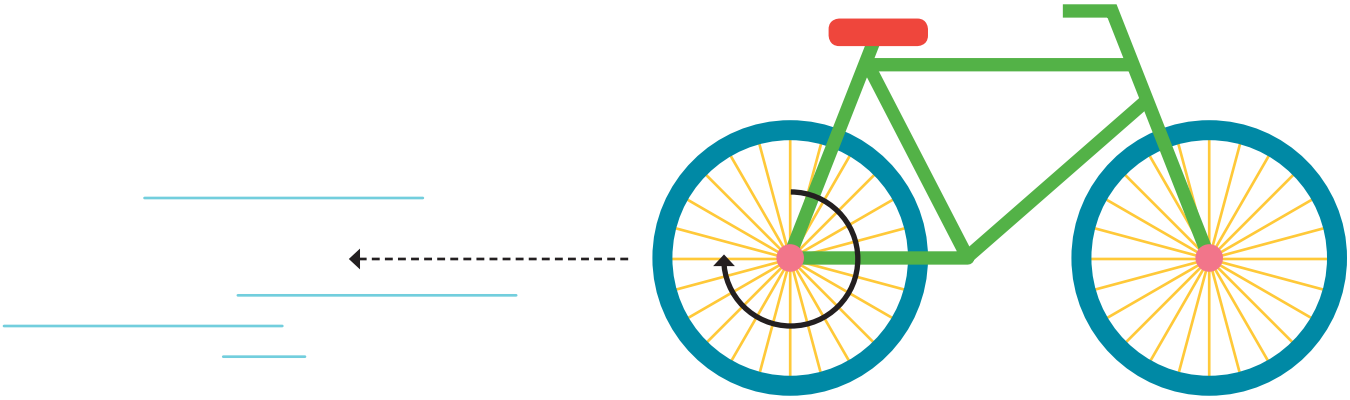
SIMPLE MACHINES EXPERIMENT



YOU NEED:

A BIKE, SCOOTER, OR SKATEBOARD

SEE AND FEEL HOW A WHEEL AND AXLE WORKS

1. Ride a bike, scooter, or skateboard with your child.

2. Notice which direction you're applying an input force.

3. Notice which direction you're moving.

On a bike, the input force is applied in a circular motion, around and around as you pedal. The wheel and axle changes the direction of your force so you move forward in a line. With every pedal, you apply a strong input force over a short distance on the axle to move the wheel a greater distance with less force.

On a scooter or a skateboard, you push down on the ground to move forward. Again, the direction of your force is changed. But, the wheel and axle in a scooter or skateboard work in the opposite way a bike does. You apply a weaker force over a longer distance around the wheel and the axle turns a shorter distance with more force.