

Teachers Guide
Activity Seven
Using Pulleys Like Gears

Concept

Unlike gears, pulleys have no teeth to cause movement. However, two pulleys can be caused to behave as gears by connecting them with a belt (an elastic band in this case).

Belts play an important role in machines. Rather than connect motors and engines to devices directly, they are connected using belts. Should the force exerted be too great, the belt breaks, reducing the chances of causing damage to the machine.

Lego Dacts Parts List

- one 8-stud beam
- two 4-stud length axles
- one large pulley wheel
- one small pulley wheel
- one belt
- two bushings



Directions

1. Assemble the pulleys as pictured to the right.
2. Turn the axle of the small pulley.
3. Record your observations on the axle attached to the large wheel in the space below. How is this different from the arrangement of two wheel gears?
4. Remove the belt from the pulley and twist it into a number eight shape. Attach the belt to the pulleys and turn the axle on one of the pulleys. Record your observations in the space below.