How Things Around My House Work

5-6 years

Key learning areas
Basic understanding of how a drive belt and pulley work
Learning about motion changing direction

Materials needed
9654 Early Simple Machines II Set, photocopy of fan for each child (use copy master).
Note: it is best to copy the masters onto card stock or heavy paper

Vocabulary
PULLEY, DRIVE BELT, ROTATE, FRICTION

Connect

10 min

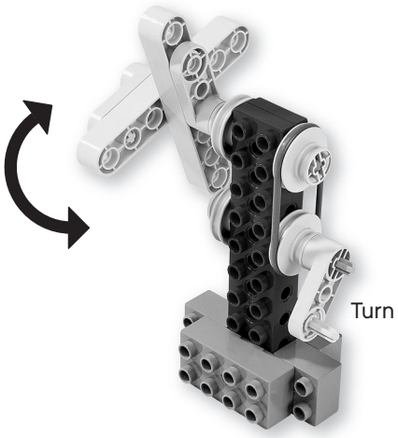
- Have the children all stand in a circle and rotate. We can rotate individually (illustrate this by turning in a circle) or we can rotate as a group, as in "Ring around the Rosie."

- Explain that many machines work by rotating power. The motors of these machines drive something that goes round and round.
- Now have the children change the direction of their circle. They can change the direction of their rotation just by "thinking it"—but a machine can't think for itself! When you want a machine to change the direction of motion, you have to do something to the machine.

Construct

15 min

- Have the children build a fan that rotates its blades to push the air and create a breeze. They can use the blue band for a drive belt and 2 hubs—and attach a crank handle to make the axle spin.



5 min

Contemplate

- As the children turn the crank, ask them which direction the axle is rotating. Have the children twist the blue band and reattach it. Then ask what happens to the direction in which the axle rotates.

10 min

Continue

- Have the children use card stock to make some blades for their fan. They can then attach the blades to their fan with a hub and make the fan turn. Can the fan blow a tiny wad of paper off their desk?

Continue at home

- Ask the children: Do you have a fan around your home? What is it used for? Have the children build a model of that fan and make it turn. They can create different blades using heavy paper, cardboard or other materials.

5 min

Record

- In their workbooks, have the children put a check mark next to the fan that would move the most air.

Assess

- Ask questions such as: Why did the axle move in the opposite direction when you twisted the rubber band?

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