

Gearing Up with Robots

Follow the instructions below to experiment with gears.

Materials:

- Pegboard
- Pegs
- 2 large spools
- 1 small spool
- Rubber band

- ❶ Place two pegs into adjacent holes on the pegboard. Place a large spool on each peg.
- ❷ Experiment with rotating one of the spools until both spools spin together. Observe the motion of the spools. Which way are the spools rotating?
- ❸ Remove the spools and move one of the pegs two spots over from the first peg. Place the spools back on the pegs.
- ❹ Stretch a rubber band between the spools. Rotate one spool and observe the movement. Which way are the spools rotating?
- ❺ Remove the rubber band and twist it into a figure eight. Place one loop on each of the spools. Turn the spools and observe the movement. Which way are the spools rotating?
- ❻ Remove the spools but leave the pegs in the board. Place a dot on top of a small and large spool with a permanent marker. Place the spools back on the two pegs so the dots on both are at the top and aligned. Connect the spools with a rubber band. Rotate the spools and observe the speed at which each one turns using the dots to keep track of the rotations. Describe the difference in speed.

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