

# Rack and Pinion

## What is a Rack and Pinion?

A **rack and pinion** looks different than some gear configurations we are used to. The 'pinion' is the normal round gear and the 'rack' is straight or flat. The 'rack' has teeth cut in it and they mesh with the teeth of the pinion gear.

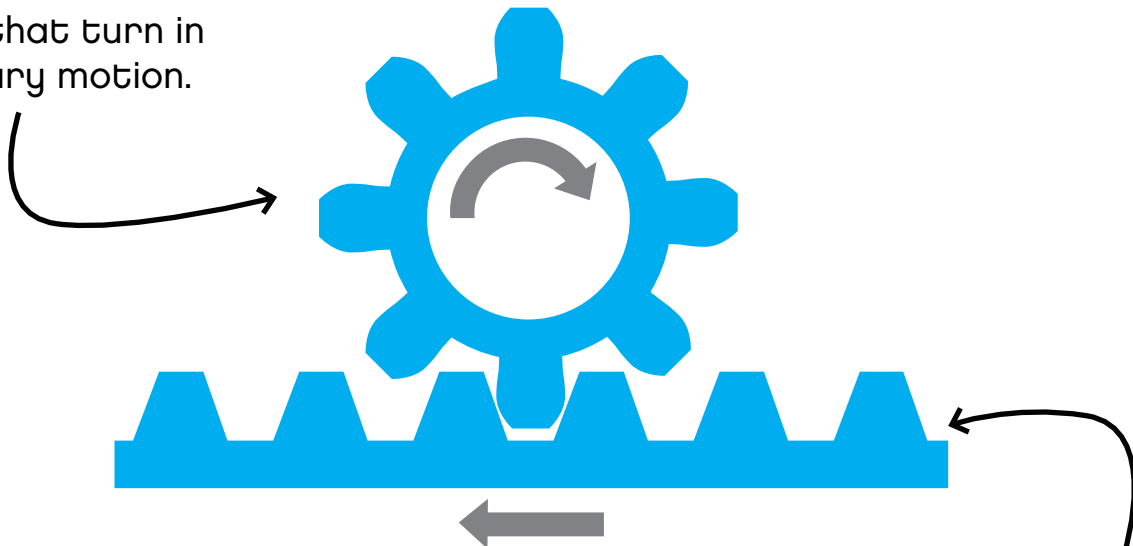
### What they do:

The rack and pinion transfers rotary (circular) motion into linear (up/down, back/forth) motion.

### Examples:

- Trains that are designed to travel up steep inclines use them to prevent sliding backwards.
- Car steering systems.
- Mechanical scales.

Pinion: Round gear that turn in a rotary motion.



Rack: Flat gear that moves linearly.