

Gears

What is a Gear?

A gear is a round part with teeth that interlocks with another gear to generate a rotational force (or torque) usually required in a driving mechanism.

There are many types of gears:

Spur - used in washing machines, electric screwdrivers etc. Looks very similar to the basic gear in the WeDo kit. Usually very noisy due to impact created when gear teeth engage.

Helical , Bevel - more modern gears that are used in cars to reduce noise. We have a special type of Bevel gear in our WeDo kit called the Crown Gear.

Worm - used for reductions in torque and speed. Found in the WeDo kit

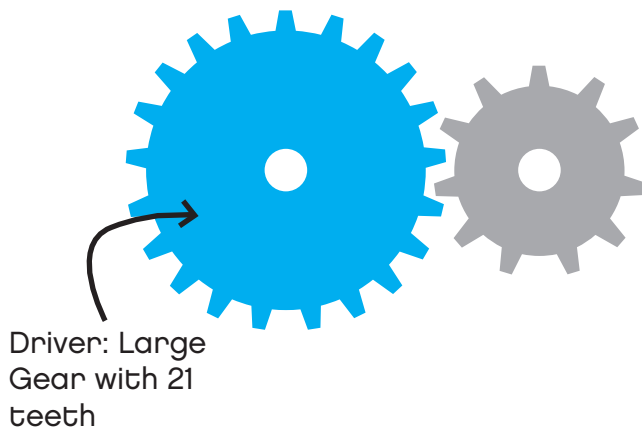
Rack and Pinion - also found in the WeDo kit. Used to convert rotational motion into linear motion. Found in steering wheel of the car.

Two or more gears in conjunction with each other are called a gear train. In a gear train there is one “driver” gear connected to the motor and another “output” or “follower” gear which generates the output. In between there may be other gears that are known as “idler” gears. Two gears connected together will spin in opposite directions.

Gearing Up and Gearing Down: When a smaller gear is the driver gear, it is called gearing down because the larger gear will rotate slower than the smaller gear thus causing a reduction in speed.

When the smaller gear is the output gear it is called “Gearing Up” because the output speed is increased due to the faster rotation of the smaller gear.

Gearing Down



Gearing Up

