

MINIROBOTICS 1

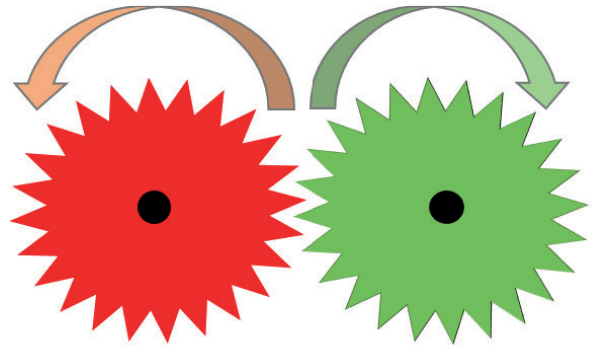
Gear structure

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BRIEFING

Lesson objective

- The objective of the lesson is to learn to design and build different kind of gear structures and how to utilise those in mechanical structures.



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Briefing: Gear structure

Lesson fact

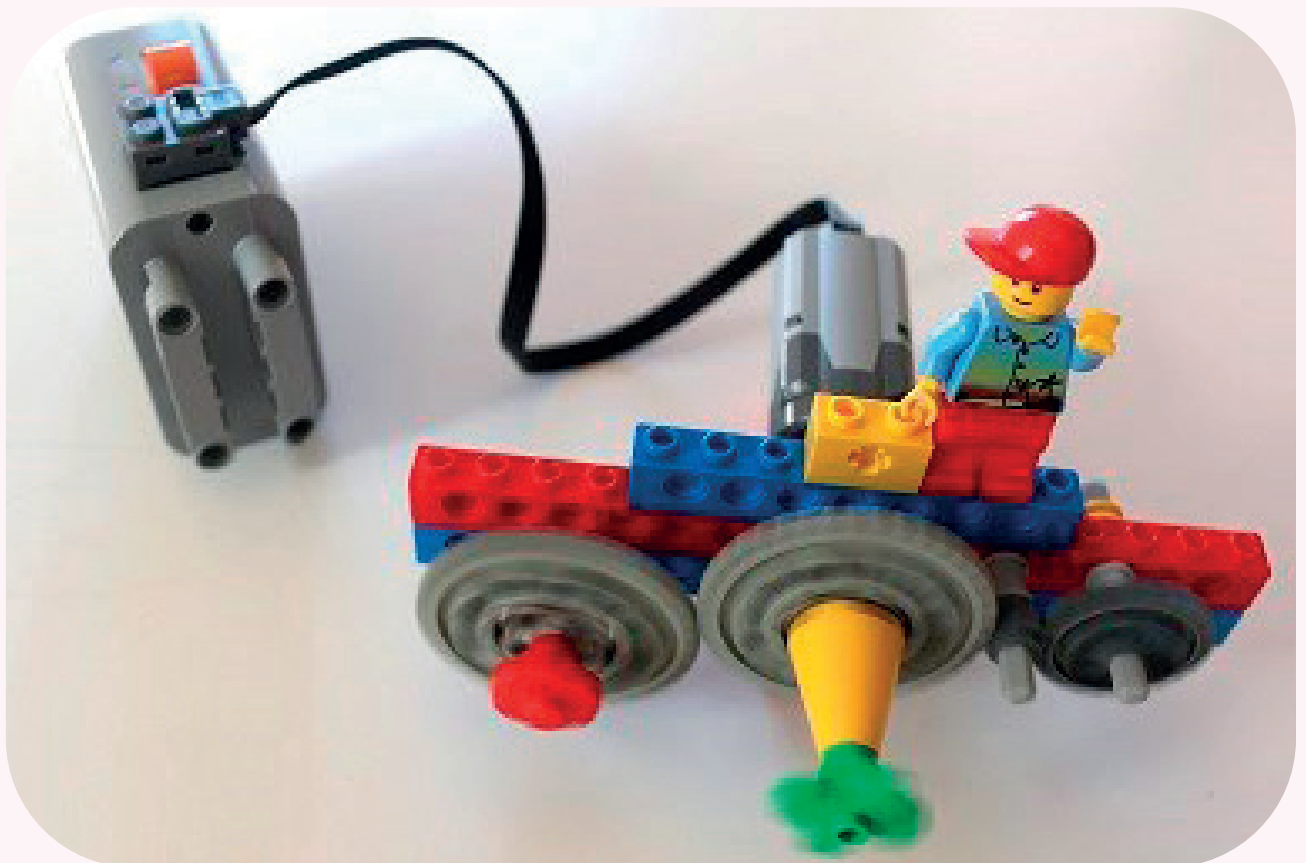
Rotary motion is moved to the required place by the gear structure. Gear wheels can be connected to each other by chain such as in a bicycle. Gear wheels can also operate side by side wheels against each other. While the different size of the gear wheels are rotating with different speed, gear wheels can be used to add speed, change the direction of rotation or slow down the speed.

Lets try

Lets design and build mechanical structure with different size of gear wheels, several axels and lets attach it to the power engine. First, lets try to attach two gear wheels of same size next to each other.

OBSERVE

Do the gear wheels have the same rotation direction?





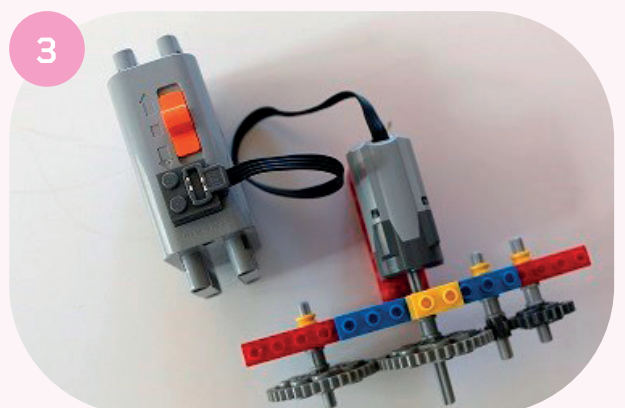
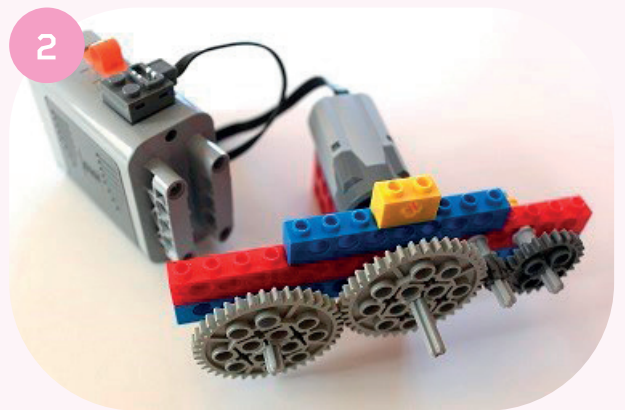
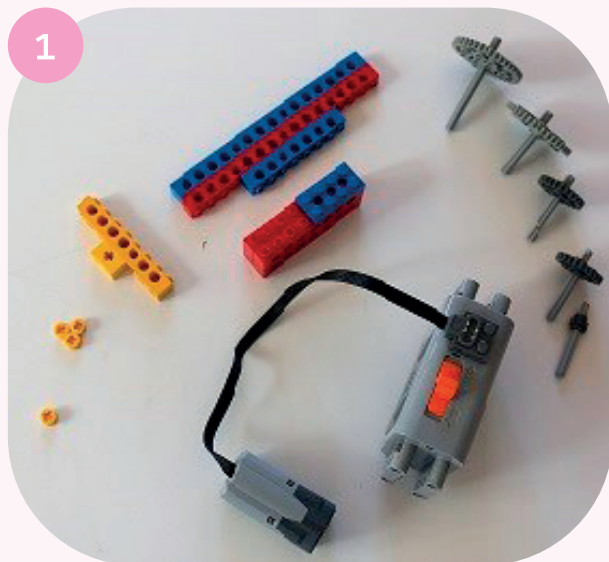
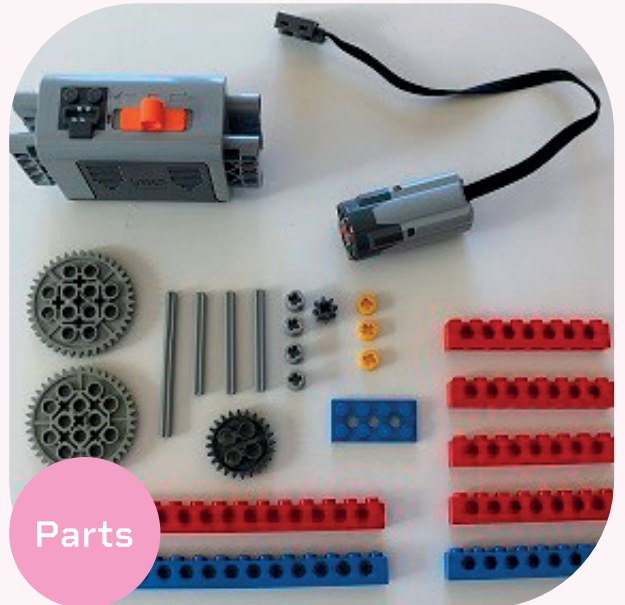
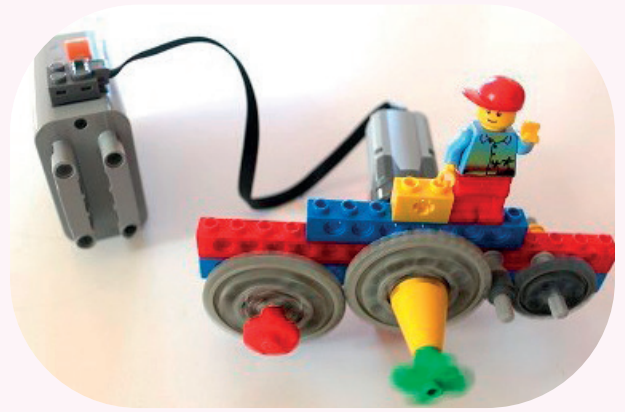
Lesson exercise

Example

Let's build a simple 4-wheeler and test how 4-wheelers move on different surfaces.

OBSERVE

- Why do certain 4-wheelers move faster than others?
- How does the size of tires impact?
- How about the shape of the 4-wheeler?
- How far do the different vehicles move?



Design your own gear structure!