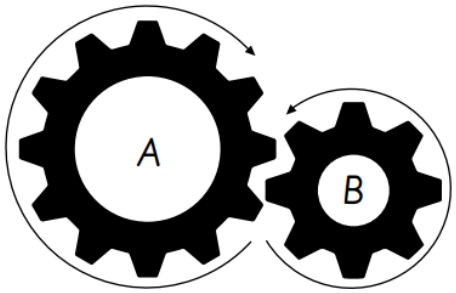
The Marist Primary School	Knowledge Organiser
Year 5 Spring: **Mechanical systems – Gears and pulleys**	**Key Question:** **Can I investigating the history, mechanics and uses of gears and pulleys?**

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Can I create a working gear system and explain its function?	Can I improve a working gear system and suggest some applications?	Can I create a working pulley system and explain its function?	Can I conduct market research to discover useful tasks an eco-gadget could perform?	Can I design and evaluate an eco-gadget bike using design criteria?

Vocabulary

Gears

- A **gear** is a wheel with teeth.
- A gear system is multiple gears working together to **transfer** force and motion from one part of a **mechanical system** to another.
- Gears are used to change the speed, direction or force of movement.



An **input** like pedalling a bike causes gear A to rotate.

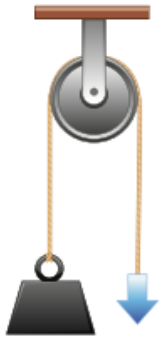
The teeth of gear A and gear B mesh together. If gear A is turned, it causes gear B to turn.

Gear B causes an **output** like the wheels on a bike spinning.

Pulleys

A **pulley** is a wheel with a groove and a rope or belt that fits into the groove.

A single pulley changes the direction of the input force, making lifting easier.



Multiple pulleys distribute effort over a longer distance, reducing the input force needed.