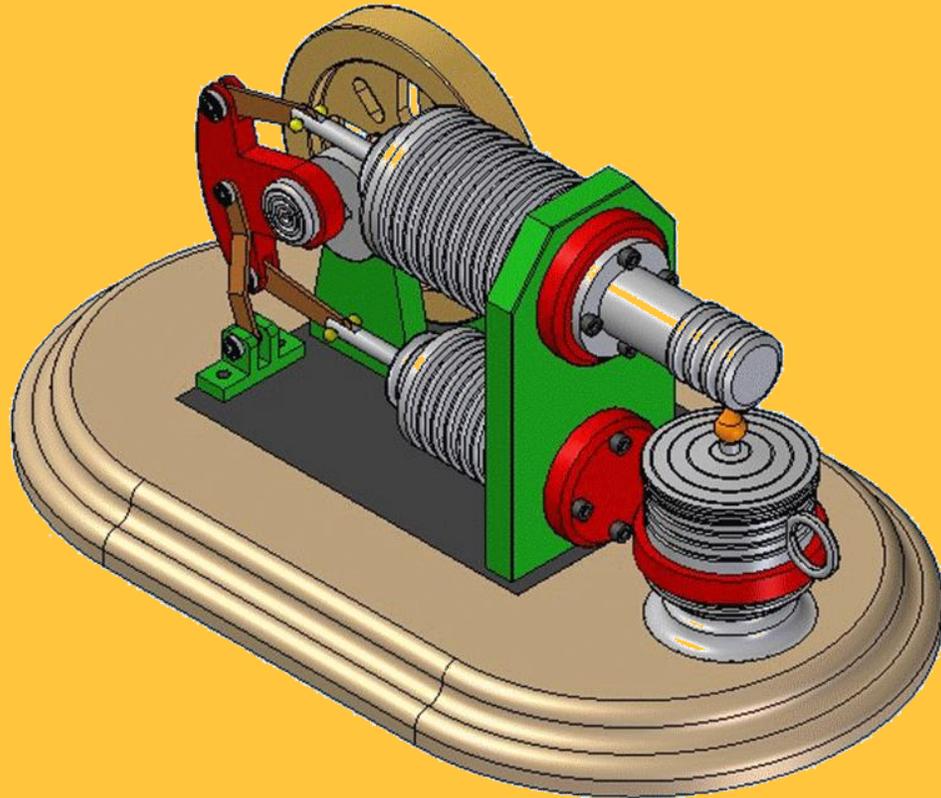


UNIT 7. MACHINES



PRIMARY 3 / Natural Science.
Pedro Antonio López Hernández

MACHINES



They are inventions that help us carry out activities or tasks with less effort. we use them every day.

Types of machines

Simple machines

Complex machines

They are made up of only a few components.

They are made up of many more components.

- Hammer 
- Broom 
- Wheel 
- Screw 
- Tongs 

- Vacuum cleaner 
- Computer 
- Television 
- Car 
- Tablet 

Power sources

Machines get their power from different sources

1. Some machines work on manual power.

For example:

A bicycle



2. Others get their power by burning fuel.

For example:

Cars and motorcycles



3. Some machines run on electricity.

For example:

Traffic lights and mobile phones



SIMPLE MACHINES AND THEIR USES



The most common simple machines are the **WHEEL, RAMP, LEVER** and **PULLEY**



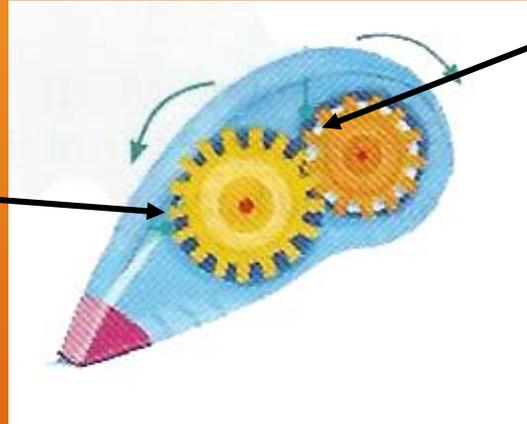
Wheel

It is a circular object that **ROTATES** around a **CENTRAL AXLE**

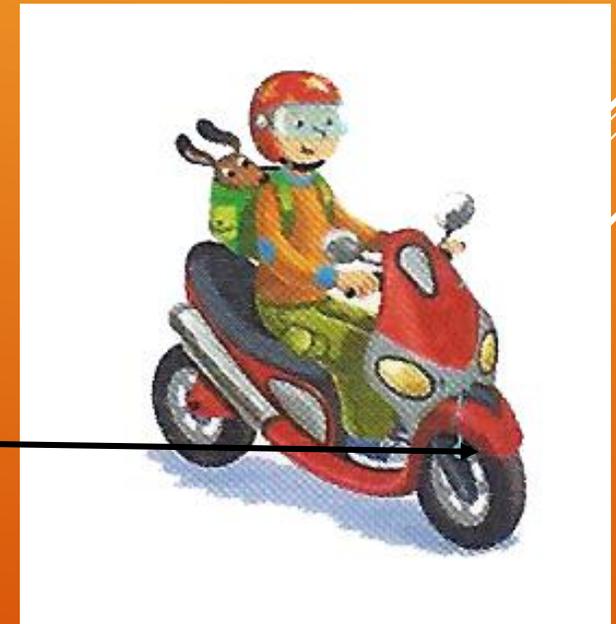
Some wheels have **TEETH** around the edge which it is called a **GEAR**.

When one Wheel moves, it pushes the teeth of the other wheel and moves it in the opposite direction.

Wheels and gears are simple machines that help things move.



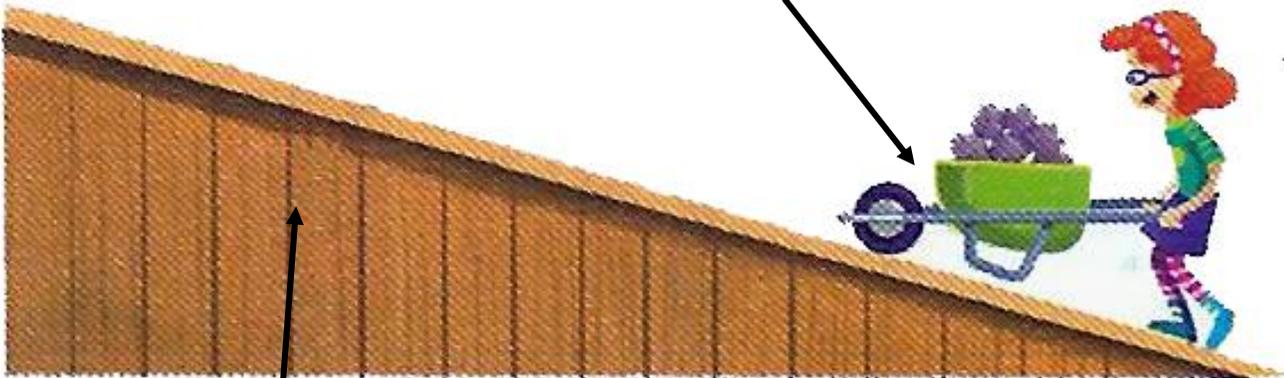
Central axle



Ramp

- It is used to raise and lower objects more easily.
- It is also known as an **INCLINED PLANE**.
- The ramp works by allowing a heavy object to slide uphill or downhill along a smooth surface.

2. The **LOAD** is the object you are moving.

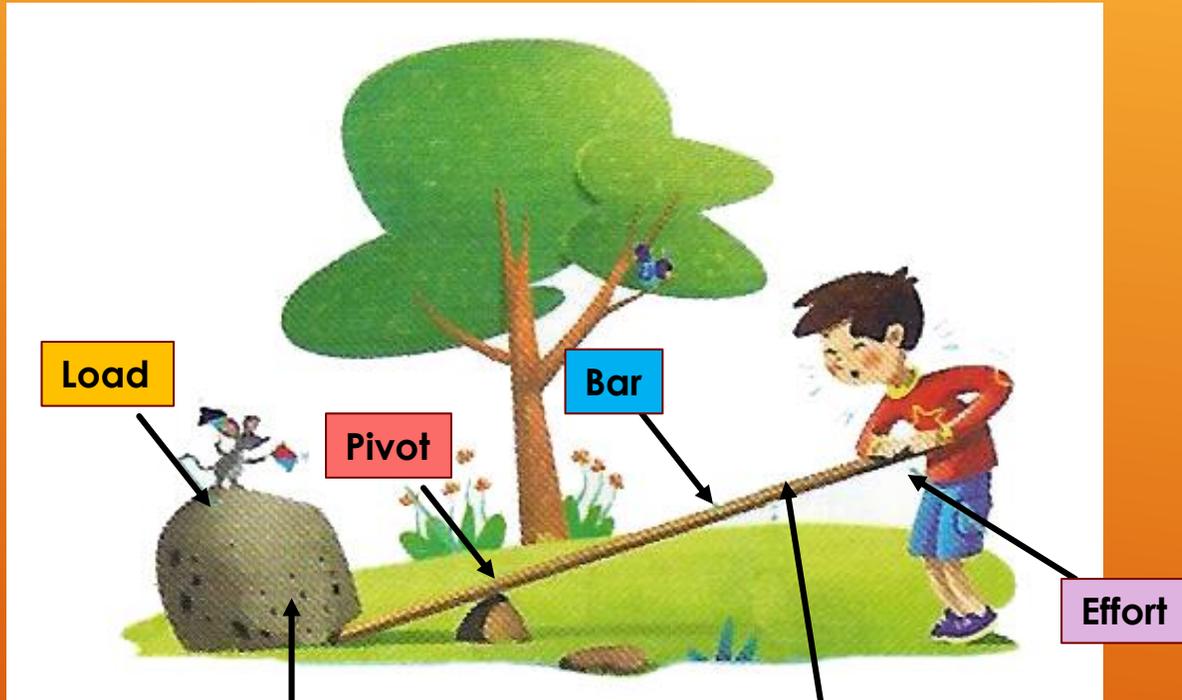


1. We need less effort to move an object along a **GENTLE INCLINE**.

3. We need more effort to move an object along a **STEEP INCLINE**.

Lever

It is made up of a long bar that moves up and down over a point known as a **PIVOT**.

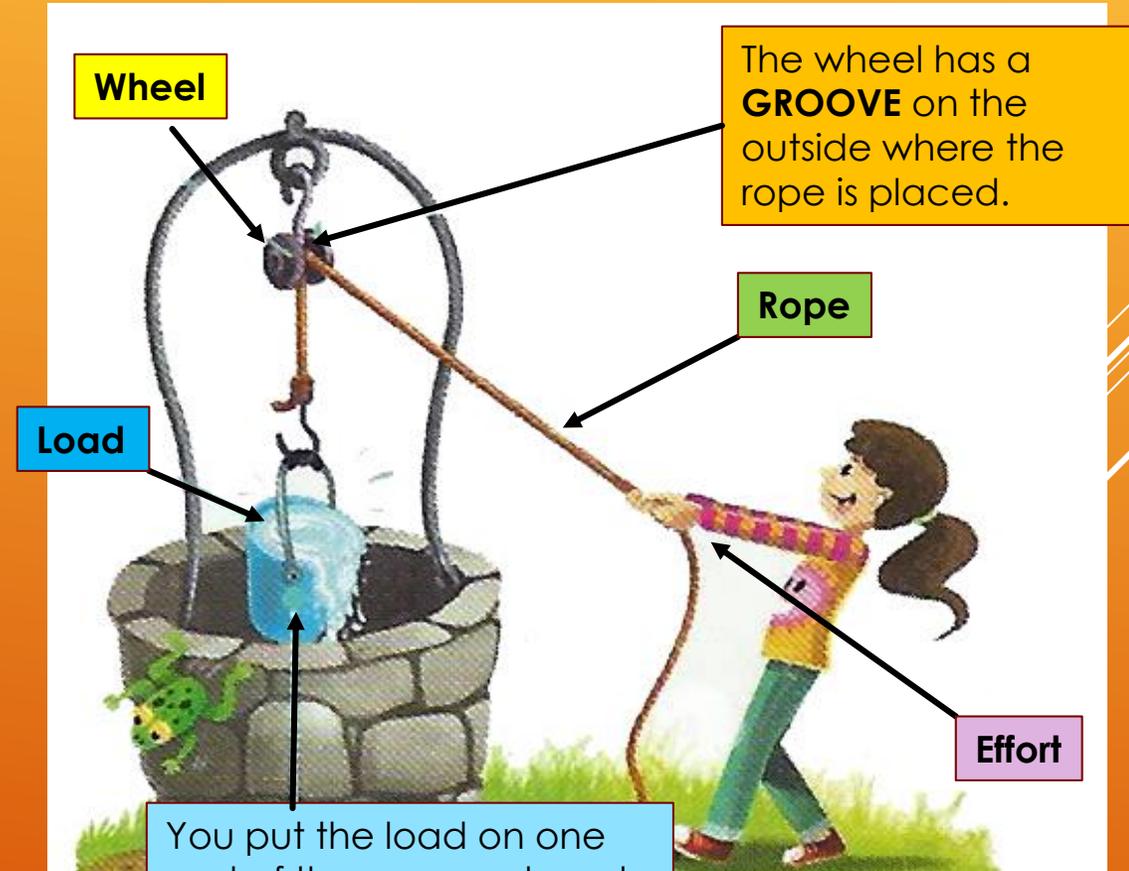


We place the load at one end of the bar and we use **FORCE** at the other end to move the load.

It takes less effort to move a load when we are further away from the pivot.

Pulley

It is made up of a **WHEEL** and **ROPE**



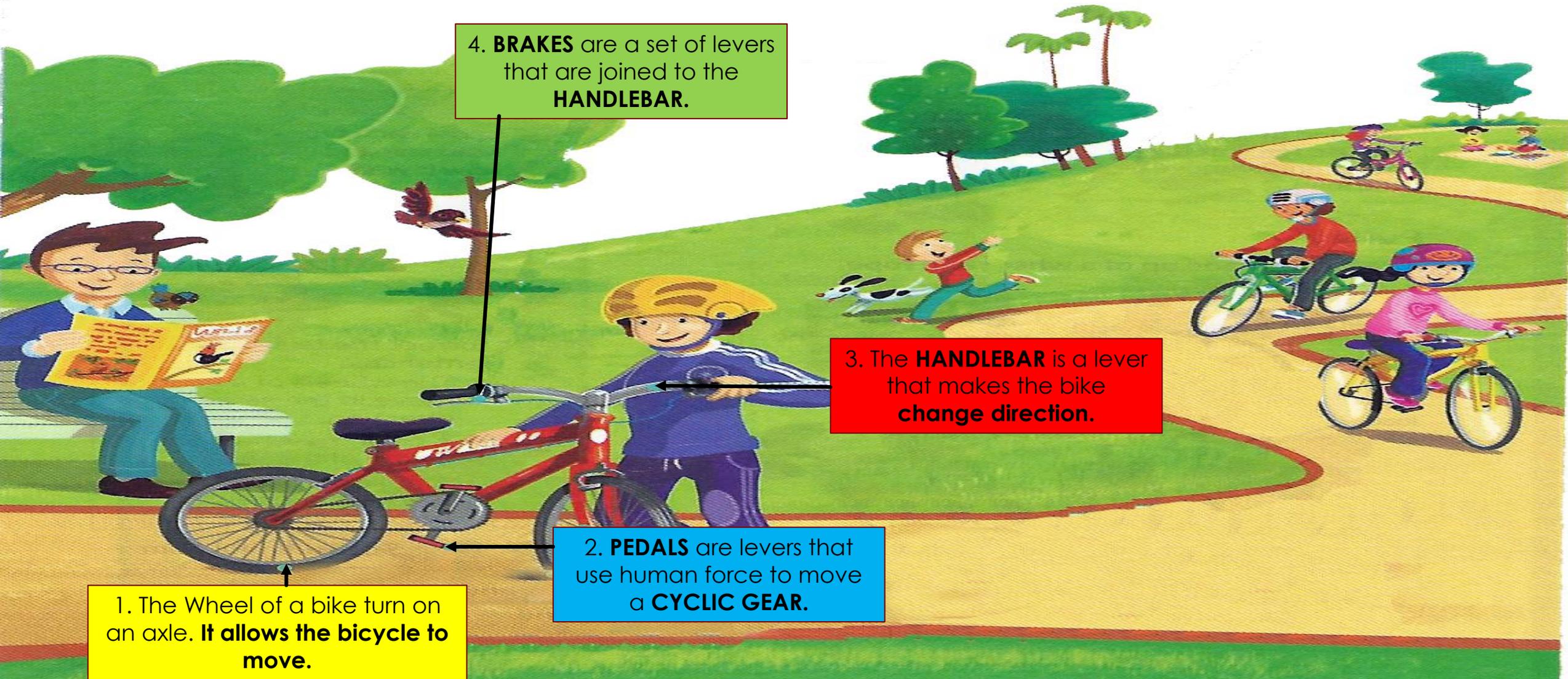
The wheel has a **GROOVE** on the outside where the rope is placed.

You put the load on one end of the rope and apply effort to the other end to raise or lower the load.

COMPLEX MACHINES AND THEIR USES



The majority of machines that we use in our lives are complex. They are formed using different types of simple machines.



MACHINES CHANGE OVER TIME



Over time, machines have improved thanks to the discovery of new energy sources like...

Electricity

Fossil fuels

New materials

Plastic

USING MACHINES



We need to be careful when we use machines.

We must use machines very carefully and always read the **SAFETY INSTRUCTIONS**

To protect the environment, we must reduce the use of these machines or find an alternative machine that do **NOT CAUSE POLLUTION**