Science Knowledge Organiser

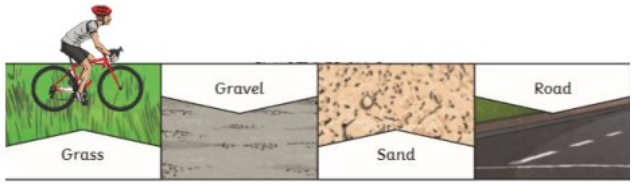
Topic: Forces and Magnets | **Year: 3** | **Strand: Physics** | **Southwold Primary School**

What should I already know?

- Know there are different materials like wood, paper, plastic, metal, etc.
- Know the properties of different materials.
- Some materials are attracted by a magnet.

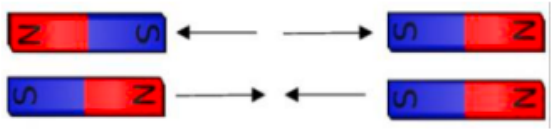
What will I know by the end of this unit?

- There are pulling and pushing forces. The effect of the force is a change in movement (move faster or slower and/or change direction).
- Different surfaces create different amounts of **friction**. The amount of friction created by an object moving over a surface depends on the roughness of the surface and the object, and the force between then.
- The driving force pushes the bicycle making it move and friction pushes the bicycle slowing it down.



Magnetism

Magnets have a North Pole and a South **Pole**. Identical poles, North vs North and South vs South, **repel** each other. Different poles **attract**.



Pulling and Pushing forces, and Gravity

Isaac Newton saw an apple fall and this made him think, "Why do things always fall to Earth?" He called the pulling force: **gravity**. Newton did not invent gravity, he named it.

Vocabulary

attract	A pulling force that moves objects together.
bar magnet	A rectangular shaped magnet. The poles are on opposite ends.
compass	A tool that shows you where the North Pole and South pole is, used for getting directions.
force	A force can be pulling or pushing.
friction	A force acting between two surfaces or objects when moving, or trying to move, across each other.
gravity	A pulling force between two objects.
horse shoe magnet	A magnet in the shape of a U, both poles are on the same end of the magnet.
magnet	A objects that has a magnetic force on materials that are magnetic.
pole	Ends of the magnets called north and
repel	A pushing force.

Working Scientifically

- Observe change and compare effects.
- Pattern seeking in results.
- Set up and performing science experiments.
- Using tools to take measurements and draw simple conclusions based on outcomes.

Use of magnets in every day life

MRI machines are used in hospitals to help diagnose people.

Compass a tool to help find directions when traveling.

Wind turbines have big magnets inside which are crucial in making electricity.