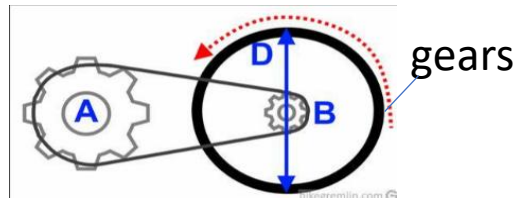


# Owls Science Knowledge Organiser - Forces

## Subject Specific Vocabulary

<b>friction</b>	Friction is a force between two surfaces that are sliding, or trying to slide, across each other.
<b>gravity</b>	Gravity is a force which tries to pull two objects towards each other.
<b>air resistance / drag</b>	Air resistance is a type of friction between air and another material. For example, when an aeroplane flies through the air.
<b>water resistance / drag</b>	If you go swimming, there is friction between your skin and the water particles.
<b>levers</b>	A lever can be described as a long rigid body with a fulcrum(or pivot point) along its length.
<b>pulleys</b>	Pulley is a simple machine and comprises of a wheel on a fixed axle, with a groove along the edges to guide a rope or cable.
<b>gears</b>	Gears are wheels with teeth that slot together. When one gear is turned the other one turns as well.
<b>Force meter</b>	A force meter is a device used for measuring the amount of force. Force is measured in Newtons.
<b>Galileo</b>	Galileo (1564-1642) developed the telescope to enable close observation of the night sky.
<b>Newton</b>	During his lifetime, Newton (1642-1717) developed the theory of gravity and made breakthroughs in the area of optics, such as the reflecting telescope.

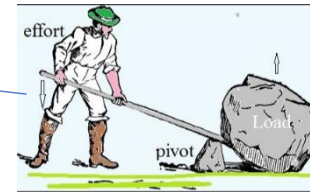


gears

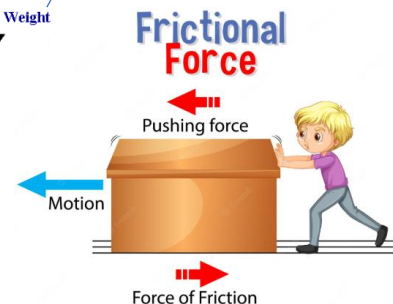


pulley

lever



Weight is gravity acting on mass



## Sticky knowledge to know by the end of the forces topic:

- ☐ Any kind of force is really just a push or a pull.
- ☐ Frictional force is any force that is caused due to the friction between 2 surfaces. An example of this might be when you put on the brakes on your bike.
- ☐ Gravity is the pulling force acting between the Earth and a falling object, for example when you drop something. Gravity pulls objects towards the centre of the Earth.
- ☐ Forces can be contact or non-contact. Contact forces are where objects exert force on one another: Friction is a contact force. Non-contact forces are 'invisible' like gravity.
- ☐ Air resistance is the force on an object moving through air, such as a plane moving through the sky. Air resistance affects how quickly or slowly objects move through the air.
- ☐ Water resistance is the force on objects moving in water.
- ☐ Gears are used to change the speed and / or direction of a force.
- ☐ A lever is a simple machine that uses a fulcrum to move heavy objects with less effort.
- ☐ Isaac Newton was a British scientist famous for his work on forces. Force is measured in Newtons – named after him.
- ☐ Pulleys are used with ropes or chains so that things can be lifted with less effort.