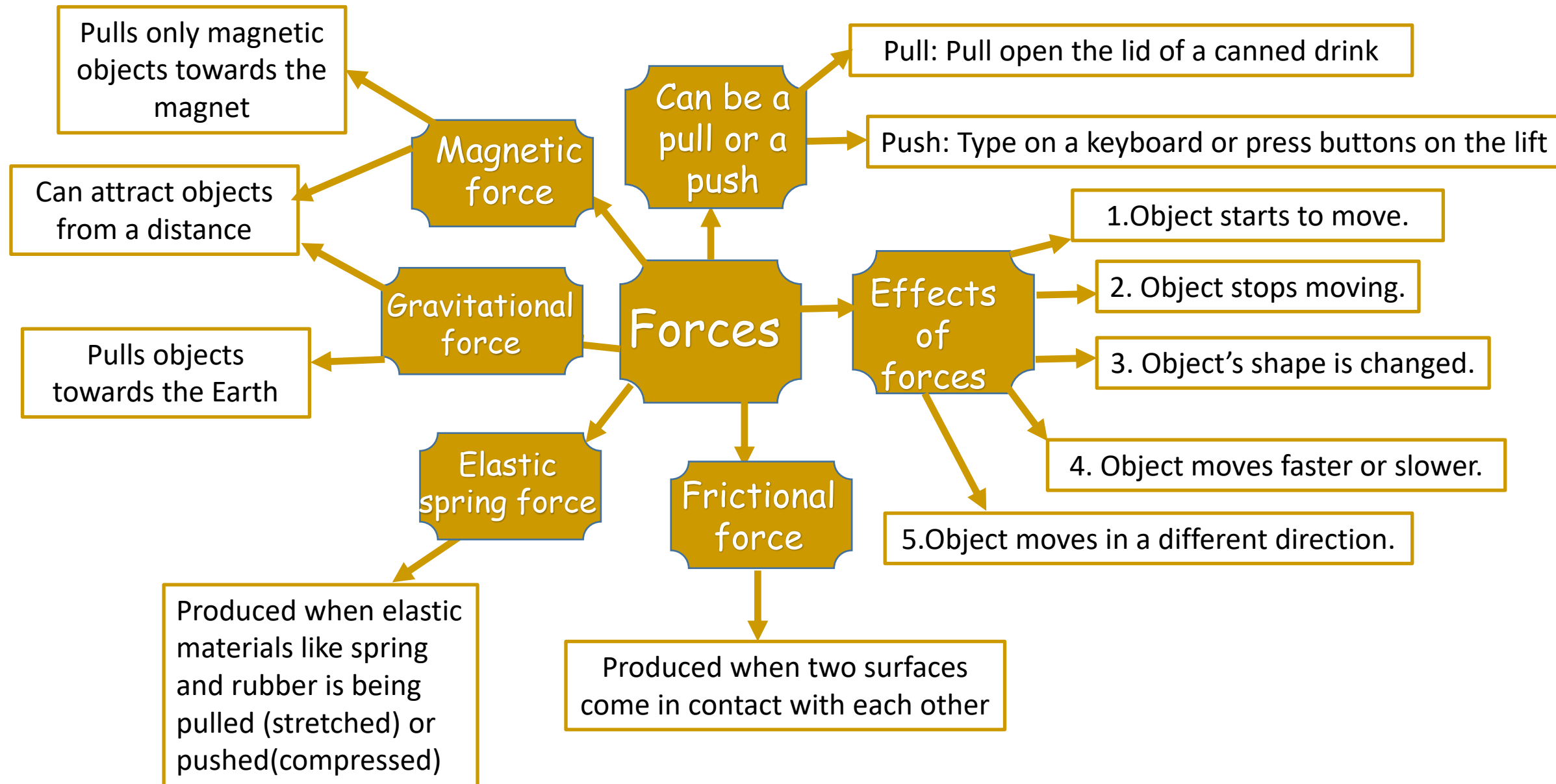
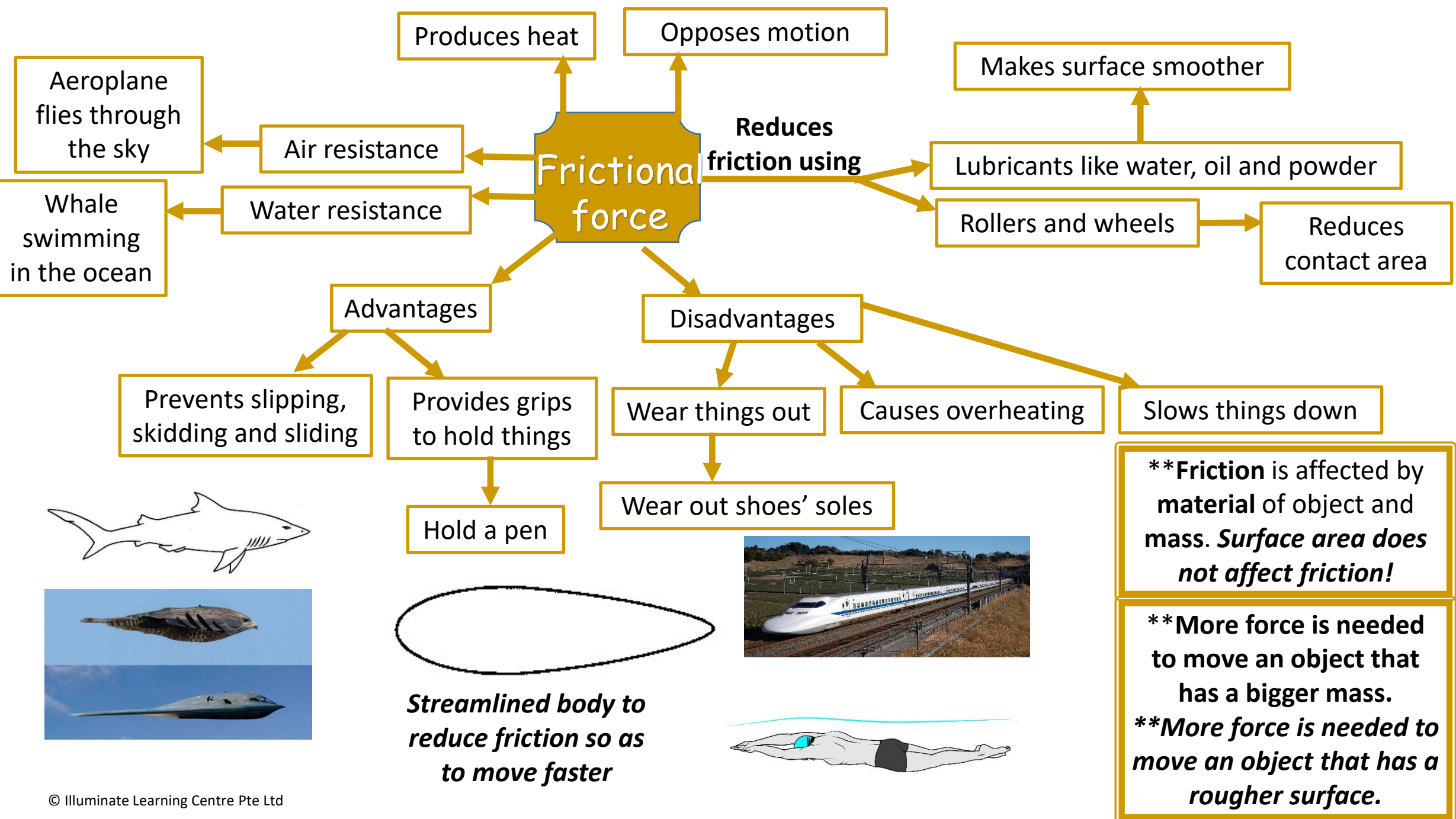






****Friction** is affected by **material** of object and **mass**. **Surface area does not affect friction!**

****More force is needed to move an object that has a bigger mass.**
****More force is needed to move an object that has a rougher surface.**



Your weight on the Moon is **$\frac{1}{6}$** of what you would experience on Earth. In other words, if you weighed 100 kg on Earth, you would weigh a mere 16.5 kg on the Moon.

Weight is a force that change according to gravity.
Weight decreases when a person is on the moon.
Mass is the amount of matter in an object.
Mass does not change when a person is on the moon.

A force that pulls objects towards Earth.

A force that acts at a distance.

The further the object is from Earth, the weaker the gravitational force.

Gravity acts on all objects regardless of their speed and direction

***Gravity always get mix up with Gravitational Potential Energy (GPE)**

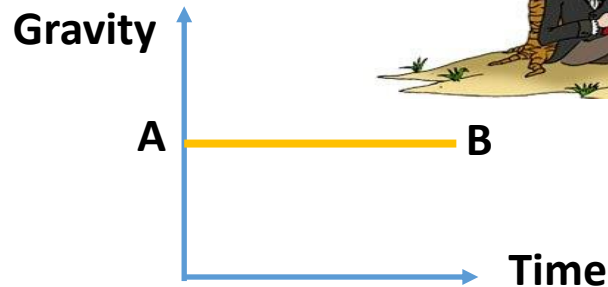
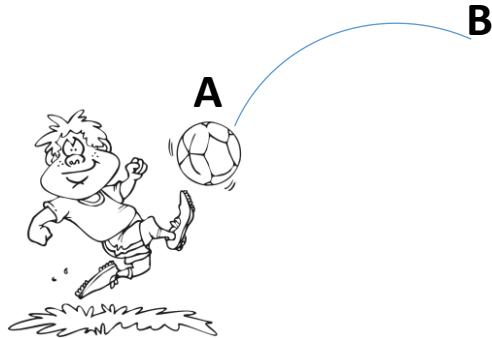
Gravitational Force

Depends on

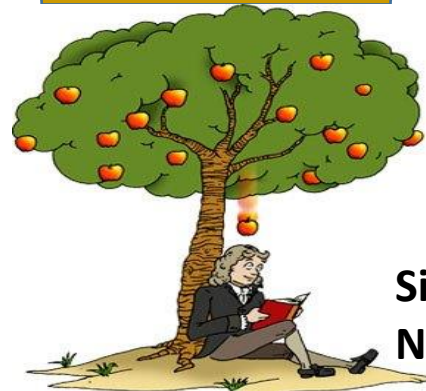
Greater distance from Earth, weaker gravitational force

Greater mass of object, greater gravitational force

An object of greater mass has greater impact on the ground when it falls from the same height.



Gravity acting on the ball from Point A to B is the same (constant).



Sir Isaac Newton



Deeper dent on ground

Elastic Spring Force

In wind-up toys

Possess by elastic materials

May change shape when a force is applied to it.

Able to return to its original shape when the force is removed.

Elastic limit: When the spring is overstretched and cannot return to its original length and shape.

Used to measure forces such as weights

Spring

Rubber

Stretched when pulling force is applied

Compressed when pushing force is applied

The greater the weight, the longer the spring stretches.

The extension of the spring is proportionate to the load. For example, for 1kg load, the spring extends by 2cm. A 2kg load will cause the spring to extend by 4cm.

