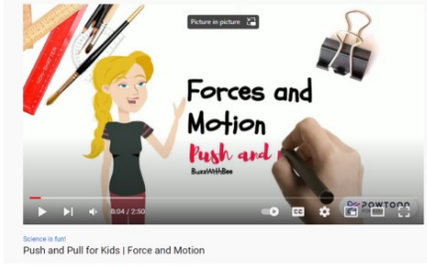
Motion - is when an object moves from place to place

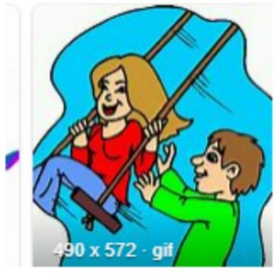
Force is an interaction between two objects, which comes in the form of a push or a pull. When this interaction occurs, each object is affected by the other, and there are always two objects involved.

Force is measured in Newtons (N)



Pull - is a type of force where you bring an object towards you.

Push - is a type of force where you move an object away from you.



Inertia - is the property to do nothing or stay unchanged

Speed - is the amount of distance an object travels in a set time

(the rate at which an object changes position)

- measured in m/s or km/h ex) 72 km/hr

$$s = \frac{\text{distance}}{\text{time}}$$

Top 10 Fastest Human Speeds Ever Recorded #olympicgames #history

These Are 10 Fastest Animals On This Planet

Velocity - is your speed with a direction (vector)

- Example) 72 km/hr North

A **contact force** is a force between two objects that can only exist if these objects make direct contact with each other.

Types of contact forces include friction, air resistance, tension

Contact forces are responsible for most of the interactions we see in our daily lives. Examples include pushing a car, kicking a ball, and holding a pencil.

Non-contact forces are forces between two objects that don't require direct contact between the objects in order to exist. Non-contact forces are much more complex in nature and can be present between two objects separated by large distances.

Types of non-contact forces include gravity, magnetic forces, and electric forces.

Friction

Friction is the resistance to motion of one object moving relative to another. It is not a fundamental force, like gravity or electromagnetism. Instead, scientists believe it is the result of the electromagnetic attraction between charged particles in two touching surfaces.

Bill Nye The Science Guy - S03E08 - Friction - Best Quality (youtube.com)

Frictional forces provide the traction needed to walk without slipping, but they also present a great measure of opposition to motion.

Types of friction include kinetic friction, static friction, and rolling friction.