Forces and motion are very important in everyday life. Forces and motion make things move but also stay where they are. Motion simply is just movement but it needs a force to make it move. A force is a push or pull on an object, which causes things to move or slow down. There are two types of forces.

**Forces**

Force is just a fancy word for pushing or pulling. If you push or pull you are applying a force. For example: if you open a door you are applying a force. Forces make thing move or change their direction.

**Different forces**

There are two types of forces, contact forces and at a distance forces. Contact forces involve push, pull and friction. A contact force is when two interacting objects are physically touching, for example: when you are throwing a ball you are using a contact force. At a distance force is when two interacting objects are not touching, for example: the moon and the Earth’s seas. At a distance forces encompasses gravity and magnetism.
Contact forces

There are four types of contact forces Normal force, applied force, tension force and spring force. A normal force is when nothing is happening. A book resting on a table has gravity pulling it to the ground. There are opposing forces acting on the book caused by the table.

An applied force is a force applied to an object to make it move, for example: a person moving furniture, the person is applying a force to make the furniture move.

A tension force is a force applied to a cable or wire anchored on opposite ends to opposing walls or objects.

Lastly is spring force, this force is created by a compressed or stretched spring it can push or pull.

Friction

Friction is a contact force, it happens when objects rub against each other. Friction allows you to walk without sliding, but the two things that rub wear things away. The heavier the object is the higher the mass and the friction, for example a toy train has less friction than a real train. There are 4 types of friction, static friction, sliding friction, fluid friction and rolling friction. Static
friction acts on unmoving objects to make it move. It is no longer exerted once the object is moving.

Sliding friction slows objects down. Sliding friction is produced when bumps on the surface stick together, break apart and reform.

The next friction is fluid friction. Fluid friction is exerted on either the fluid or the object. It is the force that resists motion when a fluid is involved.

After fluid friction is rolling friction. Rolling friction is a frictional force between a rolling object and its surface. For example: wheels on a car. Rolling friction is much less than sliding friction.

Air resistance is a type of friction. It can slow things down or speed things up.

Inertia

Next is inertia, inertia is not a force. It is the property of all things due to mass, the more mass something has the more inertia it has this can make things harder or easier to move. An object that is moving tends to stay moving; an object that is not moving tends to not move.
Non-contact forces

There are two types of non-contact forces: gravity and magnetism. Gravity is a force of attraction between two objects, it keeps you on the Earth. The Earth’s gravity keeps everything close to it like trees, water and air, the heavier the object the higher the gravity. All objects with mass have gravity, though what causes it is unknown. Mass is stuff matter is made of. Weight is the result of gravity pulling on mass.

Magnetism is also a non-contact force. Magnets attract objects or push them away. Magnetic objects must be inside the magnetic field to respond. Magnetic fields are invisible to the human eye.

Motion

Motion makes things go round or move. Motion is the changing of position or location, but it needs a force to do this. Velocity and speed are included in motion. Velocity is the speed of an object in one direction, if the direction changes speed or velocity changes with it. Acceleration is to do with how quickly things speed up.
Important people

One of the important people is Sir Isaac Newton; he is the greatest English mathematician. He saw an apple fall from a tree which cased creation of his 3 laws. The first law is if something is moving it keeps moving and if it is at rest it will stay sill. The second law is a force acting over an object will change its speed, direction or both. The third law is for every force or action there is an equal or opposite reaction. Albert Einestein was the world’s most famous scientist of all time. He refined some of Newton’s theories in his theory of relativity.

In conclusion forces and motion are extremely important in everyday life without it almost nothing will be possible. Different forces, contact forces, friction Inertia, non-contact forces and motion are all very important.

Written and published by: Kirthi.n 😊