

Forces

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Forces

➤ Definition:

A force is a push or pull upon an object resulting from the object's interaction with another object.

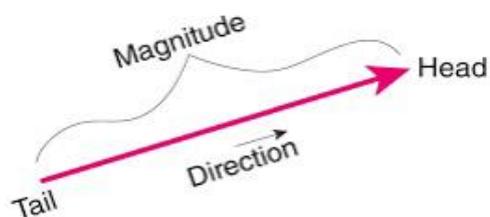


Push	Pull
<div style="border: 1px solid green; padding: 5px; display: inline-block;"> moves away from you </div>	<div style="border: 1px solid red; padding: 5px; display: inline-block;"> moves toward you  </div>
1.) push your chair in 2.) push a toy car 3.) push a swing 4.) push a door 5.) push the easel 6.) push a toy boat	1.) pull a wagon 2.) pull a door 3.) pull a suitcase 4.) pull a box or basket 5.) pull a curtain 6.) pull a toy with a string

➤ Vector and Scalar Quantities

Vector Quantities: Those quantities which have both **magnitude and direction**. E.g Force, velocity, acceleration, momentum etc.

- Vector represented by Arrow. The length of Arrow show the magnitude. Direction of arrow represents the direction of quantity.



Scalar Quantities: Those quantities which have only **magnitude** and **no direction**

E.g Speed, distance, mass, temperature etc.

Types of Forces

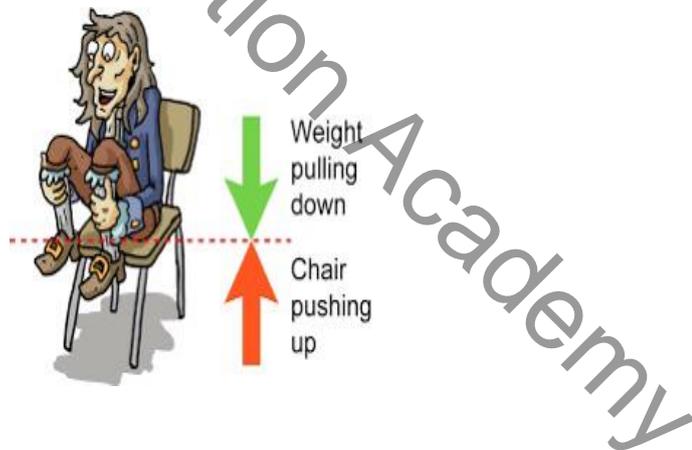
1- Contact Force

2- Non- contact Force

1-Contact Force

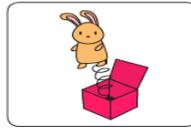
The force that is applied to the objects by bringing them into contact. Normal force, friction force are the examples of contact force.

A chair exerts a force on the ground, the ground pushes back at the chair with the same force (the normal Contact force). These forces are equal but opposite direction.



Contact Force

Contact force happens when a force acts upon an object through touch. Using the list below, write the correct type of contact force next to the pictures.



frictional force

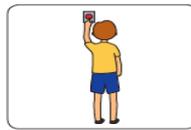


tension force

normal force

air resistance force

applied force

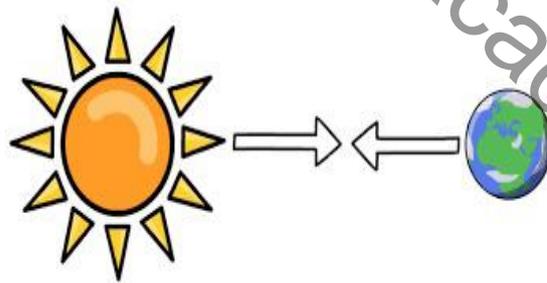


spring force

2- Non-Contact Force

The force which is applied to the body without coming in contact is known as non-contact force. **Gravitational force** is an example of non-contact force.

Sun and earth attracting each other due to the Gravitational force but these forces are in opposite direction



Non-Contact Forces



Magnetic Force



Gravitational Force



Electrostatic Force

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