



Year 5: Forces Knowledge Mat

| Subject Specific Vocabulary | | Power of reading | Sticky Knowledge about Forces |
|-----------------------------|---|--|--|
| friction | Friction is a force between two surfaces that are sliding, or trying to slide, across each other. | | <input type="checkbox"/> Frictional force is any force that is caused due to friction. An example of this might be when you put on the brakes on your bike. <input type="checkbox"/> Gravity is the pulling force acting between the Earth and a falling object, for example when you drop something. Gravity pulls objects to the ground. <input type="checkbox"/> Surface resistance is the force on objects moving across a surface, such as an ice-skater skating on ice. |
| gravity | Gravity is a force which tries to pull two objects toward each other. | | |
| air resistance | Air resistance is a type of friction between air and another material. For example, when an aeroplane flies through the air. | | |
| water resistance | If you go swimming, there is friction between your skin and the water particles. | | |
| levers | A lever can be described as a long rigid body with a fulcrum along its length. | | |
| pulleys | 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. | | |
| | | Important facts to know by the end of the forces topic: | <input type="checkbox"/> Any kind of force is really just a push or a pull. <input type="checkbox"/> Air resistance is the force on an object moving through air, such as a plane moving through the sky. Air resistance affects how fast or slowly objects move through the air <input type="checkbox"/> Water resistance is the force on objects floating on or moving in water. <input type="checkbox"/> Magnetic force is an invisible force created by electrons. Magnetic force controls magnetism and electricity. |
| gears | Gears are wheels with teeth that slot together. When one gear is turned the other one turns as well. | <ul style="list-style-type: none"> • know what gravity is and its impact on our lives. • identify and know the effect of air resistance. • identify and know the effect of water resistance. • identify and know the effect of friction. • explain how levers, pulleys and gears allow a smaller force to have a greater effect. • know who Isaac Newton and Galileo were. | |
| parachute | A parachute is a device used to slow down an object that is falling towards the ground. As the parachute opens, the Air resistance increases. | | |
| Galileo | Galileo developed the telescope to enable close observation of the night sky. | | |
| Newton | During his lifetime Newton developed the theory of gravity and made breakthroughs in the area of optics such as the reflecting telescope. | | |