

Glossary A – K

Air resistance	A type of frictional force caused by an object moving through the air and hitting the air particles.
Balanced forces	Forces that are equal in strength, but in opposite directions. These cause an object to stay still or stay at a constant speed.
Ballast	Heavy material, such as metal or water, placed in a ship to make it steadier.
Buoyancy force	Upwards force caused by a fluid, usually water. Buoyancy force opposes the weight force of a ship.
Density	How much matter (stuff) is packed into its volume (size).
Displacement	Weight of the water a ship displaces when it floats. This is its weight, measured in tonnes.
Force	A push or a pull on an object that causes it to speed up, slow down or stay in one place.
Force diagram	A diagram of forces acting on an object represented by arrows.
Frictional force	Force between two objects that are in contact. Friction slows or stops movement of an object. Air resistance, caused by particles of air hitting an object, such as a car, is a form of friction. This can also be called drag. Water resistance, caused by water particles hitting an object, such as a boat, is also a type of friction.
Fulcrum	Place where a lever pivots (turns). For example in a seesaw, the fulcrum is the place in the middle where the seesaw is resting on.
Gravity	Attraction between things that have mass.
Hydraulics	The use of pressurised liquid to make a machine move.
Jackstay	A cable between two boats that is used to pass objects between them. Also the name for the actual process of passing the objects.
Keel	Main backbone of a ship. Can be shaped to help with the ship's stability.

Glossary K - Z

Knots	Unit of speed used for ships, airplanes, and wind. One knot is equal to one nautical mile per hour, 1.852km/h.
Lever	A simple machine made from a length that can pivot (move) on a fixed hinge, e.g. A seesaw.
Lift force	<p>Force that acts in a right angle to the direction the object is moving in. Usually this is an upward force, opposing the weight force.</p> <p>Lift is caused by a fluid (a gas or a liquid, such as air or water) moving past a solid object. The particles in the fluid “stick” to the object and this changes the direction of the fluid movement. If an object is shaped in a certain way, such as an airplane wing, the lift force will push the object upwards.</p>
Nautical mile	Unit of distance used at sea, equal to 1852 metres.
Newton	Unit that force is measured in, symbol N.
Pivot	To turn or rotate.
Pulley	A wheel with a groove in it where a rope can go.
Support force	Upwards force that supports the weight of an object on a surface. Support force opposes the weight force of an object at rest on a table, for example.
Thrust force	Force that moves an object forwards. In a car, thrust is produced by the engine.
Tonne	1000 kg
Unbalanced forces	Forces that are not equal in strength, in opposite directions. These cause an object to change its speed, faster or slower, or start to move.
Water resistance	A type of frictional force caused by an object moving through the water and hitting the water particles.
Weight force	Downward force due to gravity. This force depends on the mass of the object, measured in grams or kilograms.