

Forces - Glossary

Air resistance

Air resistance (also called **drag**) is **friction** between a moving object and the air around it. The **air pushes against the object** as it gets out of the way to let the object through. This **slows the object down** unless there's another force to keep pushing it forward.



Sky divers feel air resistance pushing against their face and body as they fall.

A parachute slows down a sky diver's fall by providing **a large surface** for the air to push against.



Friction

Friction is the **force between two things that are moving** (or trying to move) across each other. The force of **friction slows down a moving object**.

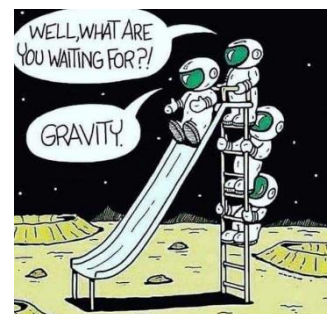
- A. If there is **low friction** between two things, **they'll slide past each other easily**. The lower the friction, the longer it will take a moving object to slow down and stop.
- B. If there is **high friction** between two things, **they'll rub together and won't be able to slide past each other easily**. The higher the friction, the less time it will take for a moving object to slow down and stop.



Gravity

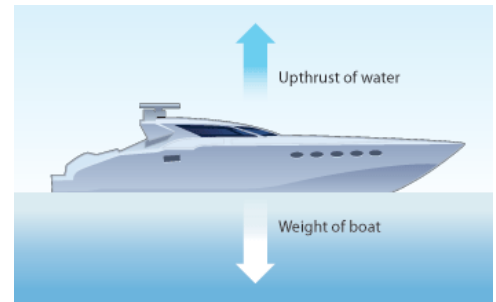
Gravity is a **force that pulls things together**. This pull is because objects have mass (the amount of matter that something contains). The **bigger the mass, the bigger the pull**. Only the gravity of really massive objects is noticeable.

Earth's gravity is the force that **pulls everything on the planet towards the ground**. When you drop something, it falls because the Earth has a huge mass, so the effect of gravity is noticeable.



Upthrust

Water or air pushes back against an object placed in it with a force called upthrust. If the force of upthrust is the same as the weight of the object, it will float.



Water resistance

Water resistance is **friction** between water and an object that is moving through the water. The **water pushes against the object** as it gets out of the way to let the object through. This **slows the object down** unless there's another force to keep pushing it forward.

As a diver enters the water their fall is slowed by water resistance so they do not hit the bottom of the pool.

