

Nova's Guide to the Forces of Nature

Get Moving with Nova: Discover the invisible forces shaping our world!

- **Friction is a contact force that acts between two surfaces sliding against each other; it can be helpful for grip but also creates heat.**
- **Air resistance is a type of friction caused by air particles pushing against a moving object, which is why racing cars are designed to be streamlined.**
- **Water resistance is much stronger than air resistance because water is denser, requiring objects like submarines to have specific shapes to move efficiently.**
- **Gravity is the non-contact force that pulls objects towards the centre of the Earth, giving us our weight.**
- **Simple mechanisms like levers and pulleys allow us to lift heavy loads using less effort by increasing the distance over which the force is applied.**

Did you know? Did you know? If you were to drop a feather and a hammer in a vacuum (a space with no air), they would hit the ground at exactly the same time! On Earth, air resistance slows the feather down, but without air to push against it, gravity pulls everything downwards at the same rate.

Key vocabulary: Friction · Air Resistance · Water Resistance · Gravity · Streamlined · Mechanism · Levers · Pulleys