

LAWS OF MOTION

the 30-second theory

When Isaac Newton sat down and thought about how things move, he worked out three laws that are now so familiar they seem like common sense. First, he said that objects have "inertia," which is a measure of resistance to changes in their motion. Inertia means that things remain still until you give them a push. Similarly, objects that are moving keep moving unless something stops or pushes on them. Second, the mass of the object determines what effect a particular push will have on the motion (or lack of it). The third law, which is the most famous, feels slightly different. It says that every action has an equal and opposite reaction. If I push you, I feel an equal push in return. This is the principle by which space rockets and jet engines work: When they push out an exhaust gas from the nozzle at the rear, the engines get a push forward. This is why you should be careful when you step off a boat. To move yourself forward, you inevitably move the boat backward. If you don't take that into account, you can end up taking a swim!

What are Isaac Newtons Laws of Motion all about?

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Describe Inertia

Newton's laws are simple but powerfully accurate. They are not accurate enough, however, to describe what happens when things are moving at close to the speed of light, or in strong gravitational fields. In such instances, Einstein's theory of relativity takes over and provides our ultimate laws of motion.

What principle moves a space rocket?

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Cite all information used in answers

Our goal is to find out about scientific theories and ideas

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