

Max and Nova's Forces Exploration Flashcards

Learning objective: To identify, describe, and explain the effects of different forces, including friction, air resistance, and magnetism.

Read each flashcard carefully. Use the front side to test your knowledge before revealing the answer on the back.

What is a force?

A force is a push or a pull that can change the speed, shape, or direction of an object.

What is friction?

Friction is a force that acts between two surfaces that are sliding, or trying to slide, across each other, which usually slows things down.

Why does a ball eventually stop rolling on grass?

Because of friction between the ball and the grass, which acts as a resistive force slowing the ball down.

What is air resistance?

A type of friction caused by air pushing against a moving object, often acting on objects moving through the air like a parachute.

Nova observes a magnet. What happens when two like poles (e.g., North and North) meet?

They repel each other, meaning they push away.

Max asks: What force pulls objects towards the center of the Earth?

Gravity.

Explain why a smooth surface like ice has less friction than a rough surface like carpet.

A smooth surface has fewer bumps and imperfections to catch on, allowing objects to slide more easily.

What happens when an object is pushed by balanced forces?

The object will either stay still or continue moving at the same speed and in the same direction.

What do we call the force that pulls metal objects towards a magnet?

Magnetic force (or magnetism).

If you drop a feather and a stone, why might they fall differently?

Air resistance has a greater effect on the feather's light, large surface area compared to the heavier, denser stone.

Compare and contrast: How is friction similar to air resistance?

Both are resistive forces that act to slow down moving objects.

Justify why a racing car is designed to be aerodynamic.

To reduce air resistance, allowing the car to move faster and use less energy to overcome the push of the air.