



## **Forces and Magnets** Lower KS2

**Duration: 1 hour, max capacity: 30 students**

Gravity, friction, air resistance, and magnetism are explored as students use data loggers to compare how vehicles travel on different surfaces and investigate the magnetic properties of some familiar materials.

### **Key Words**

Forces, Magnets, Materials, Friction, Air resistance, Data loggers, Investigation.

### **Learning objectives**

Understand that forces are pushes and pulls and can move things.

Understand that gravity is a force that pulls things to the centre of the Earth.

Gain an appreciation of how things move differently on different surfaces.

Recognise that some forces need contact between two objects and some forces act at a distance.

Understand that magnets have two poles, and two magnets will attract or repel each other depending on which way these poles are facing.

Recognise that some everyday materials are magnetic.

### **Content**

Explore some of the forces needed for movement using our We The Curious truck.

Predict, compare and group a variety of everyday materials based on whether they are attracted to a magnet.

Think about the forces of gravity and air resistance and how they affect object movement.

Use ramps and data loggers in an investigation to find out how different surfaces affect how things move.

Carry out an investigation to find out how magnets can attract and repel one another.

### **Curriculum Links**

#### **Forces and magnets, Year 3**

Compare how things move on different surfaces

Notice that some forces need contact between two objects, but magnetic forces can act at a distance

Observe how magnets attract or repel each other and attract some materials and not others

Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials

Describe magnets as having two poles

Predict whether two magnets will attract or repel each other, depending on which poles are facing

Uses of everyday materials

### **Potential Hazards and accessibility**

Students will work with magnets, scissors, and toy cars travelling down ramps.