

Forces and Magnets

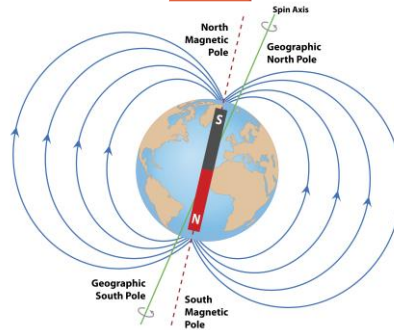
Careers connected to forces and magnets:
radiographer, magnetic engineer, railway engineer



In the unit, I will:

- ❑ Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance
- ❑ Compare how things move on different surfaces
- ❑ Describe magnets as having 2 poles
- ❑ Predict whether 2 magnets will attract or repel each other, depending on which poles are facing
- ❑ 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

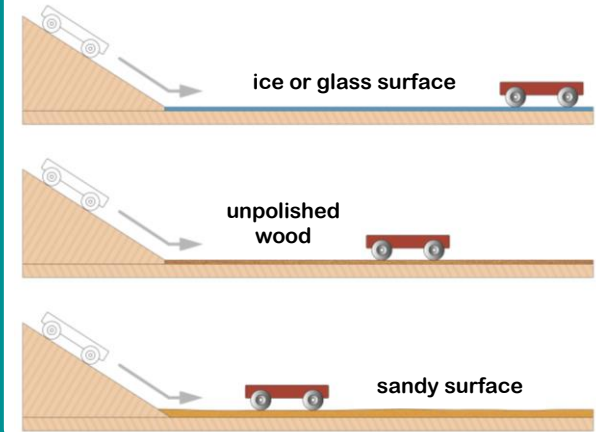
How do magnetic poles work?



The ends of a magnet are called poles. One end is called the north pole and the other end is called the south pole. Opposite poles attract; similar poles repel. If you place two magnets so the south pole of one faces the north pole of the other, the magnets will move towards each other.

This is called attraction. If you place the magnets so that two of the same poles face each other, the magnets will move away from each other. They are repelling each other.

Friction



Forces

- Forces act in opposite directions to each other.
- When an object moves across a surface, **friction** acts as an opposite force. Friction is a force that holds back the **motion** of an object.
- Some surfaces create more friction than others, meaning that objects move across them more slowly.
- On a ramp, the force that causes the object to move downwards is **gravity**.
- Objects move differently depending on the **surface** of the object itself and the surface of the **ramp**.

non-magnetic

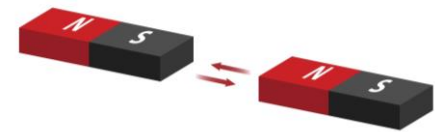


magnetic

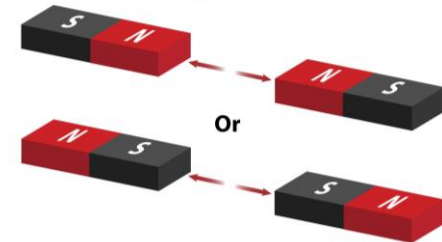


Magnetic Forces

Attraction



Repulsion



force	a power or strength that can cause an object to move
friction	the force that pulls backwards when objects rub against each other
motion	the process of movement
texture	the feel or look of a surface
magnet	an object that can pull some metal items towards it
attract	to pull towards
repel	to force back or push away
magnetic field	the force that surrounds a magnet and attracts magnetic objects
non-contact force	a force that occurs without objects touching each other
magnetism	the force of a magnet
compass	an instrument which shows direction
orienteering	a sport where you have to find your way across a route with the aid of a map and compass

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