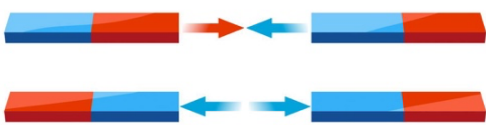




### Key Knowledge


What is a force?	A force is a push or pull on an object which can cause it to move, change speed, direction or shape. Force is measured in Newtons (N).
What is friction?	A force that acts between two surfaces or objects that are moving, or trying to move, across each other.
What is a magnet?	Magnets produce an area of magnetic force called a magnetic field. Magnetic fields cannot be seen; however, their effect can be seen using iron filings.
Poles apart?	North and south poles are found at different ends of a magnet. Like poles <b>repel</b> (push apart). Opposite poles <b>attract</b> (pull together). 
Are all materials affected by magnets?	Most magnetic materials are metals. However, not all metals are attracted to <b>magnets</b> . Objects that contain iron, nickel or cobalt are attracted to <b>magnets</b> . 


### How does friction vary?

Different surfaces create different amounts of **friction**. The amount of **friction** created by an object moving over a surface depends on the roughness of the surface and the object, and the force between them.



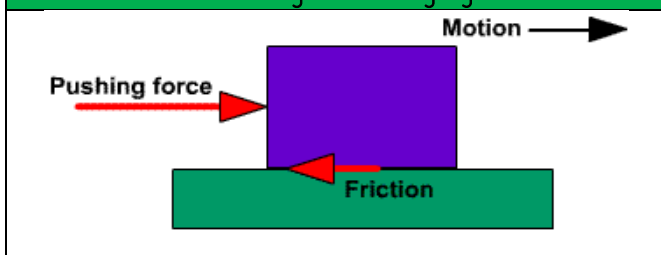
The driving force pushes the bike making it move forward.





Friction pushes on the bike, slowing it down

### Forces acting on a moving object

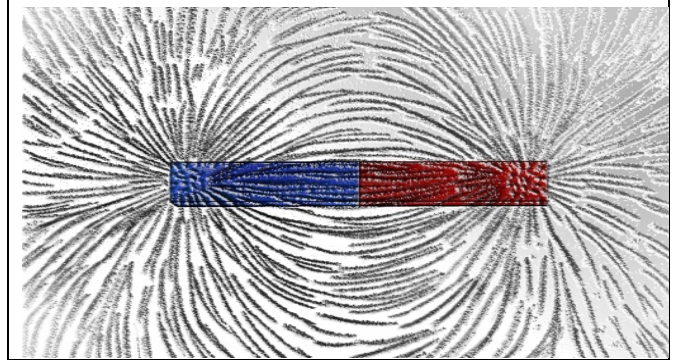


### Investigate

How strong are magnets?  
Which materials are attracted to a magnet (magnetic)?  
What everyday objects use magnets?

### Diagram - Magnetic field

A magnetic field is invisible. You can see the magnetic field here though. This is what happens when iron filings are placed on top of a piece of paper with a magnet underneath.



### Key Vocabulary

force	A push or pull on an object which can cause it to move, change speed, direction or shape. Measured in Newtons (N)
friction	The resistance of motion when one object rubs against another. Friction causes objects to slow down, and the energy becomes heat.
attract	To pull towards.
repel	To push away. The opposite of attract
poles	A <b>magnet</b> has two ends called <b>poles</b> : a <b>north pole</b> and a <b>south pole</b> . The north <b>pole</b> of one <b>magnet</b> attracts the south <b>pole</b> of a second <b>magnet</b> . The north <b>pole</b> of one <b>magnet</b> repels the north <b>pole</b> of a second <b>magnet</b> . The south <b>pole</b> of one <b>magnet</b> repels the south <b>pole</b> of a second <b>magnet</b> .
magnet	A material or object that produces a magnetic field. It attracts or repels other magnets and attracts magnetic materials, including iron.
magnetic	A material that is attracted to (moves towards) a magnet.
non-magnetic	A material that is not attracted towards a magnet.