



Lesson Sequence



1. Explore contact and non-contact forces



2. Compare how things move on different surfaces



3. Explore different types of magnets



4. Explore the properties of magnets and everyday objects that are magnetic

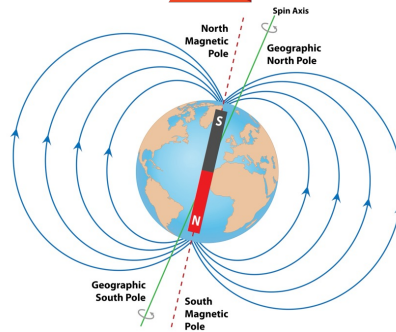


5. Understand that magnetic forces can act at a distance



6. Explore the everyday uses of magnets

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.

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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 which means that objects move across them slower.
- 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**.

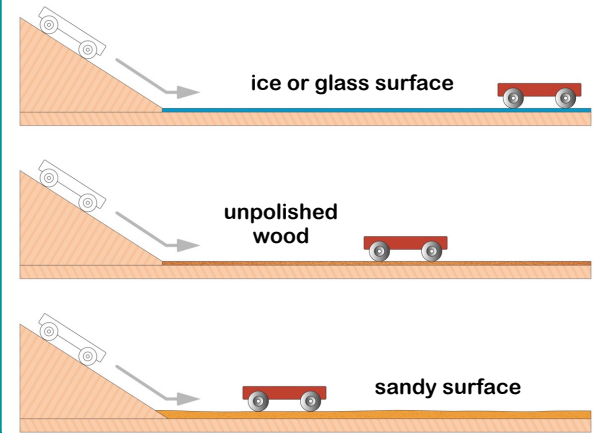
non-magnetic



magnetic

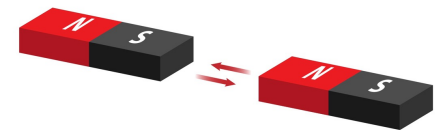


Friction

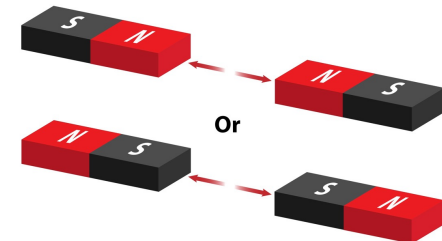


Magnetic Forces

Attraction



Repulsion





The pulling or pushing effect that something has on something else can be best described as a....		
	after	
	before	

Which force pulls objects towards the ground?	before	after
resistance		
magnetism		
gravity		
repel		

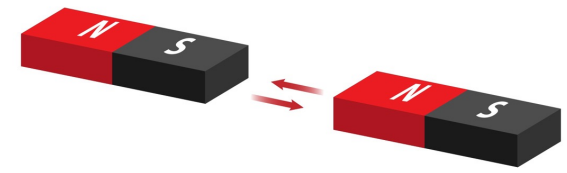
Which of these surfaces would create the most friction for a cyclist riding their bike?	before	after
sand		
polished wood		
carpet		

How can you test which materials are magnetic?	before	after
see which objects are attracted to a magnet		
see which objects are repelled by a magnet		
see which objects are not affected by a magnet at all.		

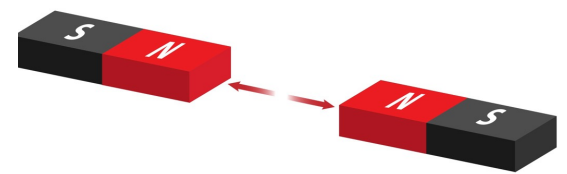
What does resistance mean?	before	after
a force which slows down a moving object or vehicle		
a force which speeds up a moving object or vehicle		
a force that stops an object or vehicle		
a force that changes the direction of an object or vehicle		

You design an experiment to see how far an object moves on ramps of different surfaces. What must you do to keep the test fair?	before	after
keep the objects the same for all ramps		
the ramps must all be the same length		
the object must have the same starting point before it		

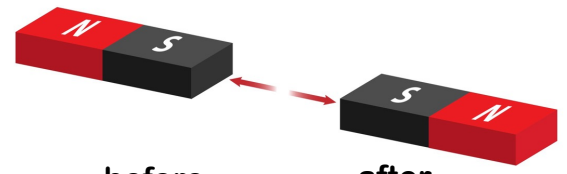
Are the magnets below attracting or repelling each other?



before after



before after



before after