



Year 3  
Spring Term 2:  
Forces - Friction and  
Magnets

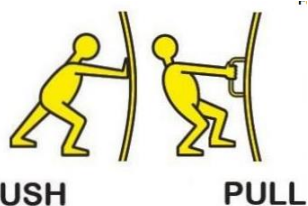
**William Gilbert**

(born May 24, 1544, Colchester, Essex, England—died November 30th, 1603) observed that magnetic forces often produced circular motions. He began to connect magnetism with the rotation of the earth. This led to his discovery of the earth's own magnetism.



**André-Marie Ampère,**

(born January 20, 1775, Lyon, France—died June 10, 1836, Marseille), French physicist who founded and named the science of electrodynamics, now known as electromagnetism. His name continues in everyday life in the ampere, the unit for measuring electric current.



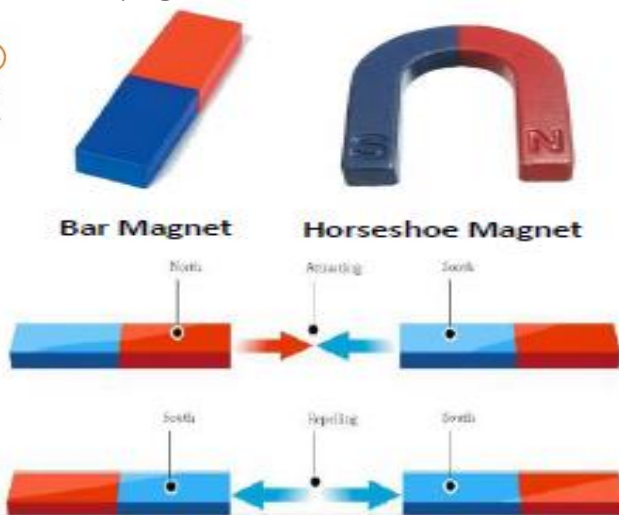
PUSH

PULL



Key Questions we will investigate

- What are magnetic materials? How can we find out?
- Can I make a magnetic material non-magnetic?
- How far away does a magnet have to be before it attracts a magnetic material?
- How far away can the magnetic attraction between two magnets be experienced?
- Is the repulsive force the same size?
- How is the magnetic attraction of repulsion force affected by putting materials between the magnets?
- Are bigger magnets stronger?
- How could you use magnets to measure the number of pages in a book?



**Vocabulary Dozen**

<b>attract</b>	To <b>pull</b> towards. Opposite of <b>repel</b> .
<b>pull</b>	A force used to <b>pull</b> an object towards another.
<b>repel</b>	To <b>push</b> away. Opposite of <b>attract</b> .
<b>push</b>	A force used to <b>push</b> an object away.
<b>pole</b>	Ends of a magnet. One is <b>North</b> and the other is <b>South</b> .
<b>magnet</b>	Object that <b>pulls</b> or <b>pushes</b> things with an invisible <b>force</b> called <b>magnetism</b> .
<b>force</b>	The <b>push</b> or <b>pull</b> on an object
<b>compass</b>	An instrument to help follow directions using a <b>magnetic</b> needle that always points <b>North</b> .
<b>magnetic</b>	The force of <b>attraction</b> and <b>repelling</b> caused by a <b>magnet</b> .
<b>friction</b>	The rubbing of one object against another.
<b>gravity</b>	A <b>force</b> that causes things to drop to the ground.
<b>surface</b>	The outside edge of an object.