

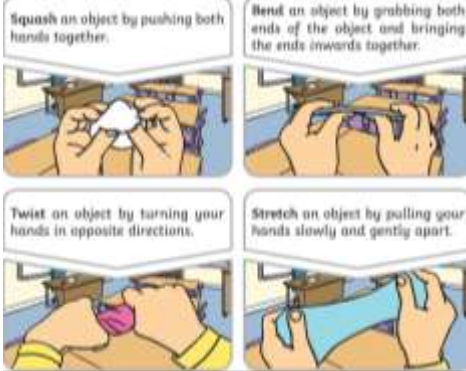






















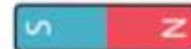







## Year 3 - Spring 2 - Forces and Magnets - Can something move without anything touching

Key Vocabulary		Prior knowledge	Sticky Knowledge							
<b>Force</b> 	A push or pull that acts upon an object that can cause it to move, change shape or change direction.	In year 2 we: <ul style="list-style-type: none"> <li>Found out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul>	A force is a push or pull that acts upon an object. We can't see forces, but they are an important part of our everyday lives.							
<b>Friction</b> 	The force that acts upon one surface when it moves against another.	 <p style="font-size: small;">                         Squash an object by pushing both hands together.                          Bend an object by grabbing both ends of the object and bringing the ends inwards together.                          Twist an object by turning your hands in opposite directions.                          Stretch an object by pulling your hands slowly and gently apart.                     </p>	We push and pull objects to do many different things. When we push or pull objects, we can move the object, change the object's							
<b>Magnet</b> 	A piece of iron that attracts and repels.		<h3 style="margin: 0;">Magnets</h3> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p style="font-size: x-small;">south magnetic pole</p>  </div> <div style="text-align: center;"> <p style="font-size: x-small;">north magnetic pole</p>  </div> </div>	<h3 style="margin: 0;">Examples of pushes and pulls</h3> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="background-color: #f8d7da; padding: 5px;">pushes</td> <td style="background-color: #d4edda; padding: 5px;">pulls</td> </tr> <tr> <td>  </td> <td>  </td> </tr> </table>	pushes	pulls				
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<b>Magnetic force</b> 	When a magnet pulls objects towards it or pushes objects away.		Magnets are usually made from iron. They can attract and repel other objects with their magnetic forces. Magnetic forces act at a distance meaning that a magnet does not need to be in contact with another object for the magnetic forces to act.	<h3 style="margin: 0;">Examples of magnetic objects:</h3> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="background-color: #d4edda; padding: 5px;"></td> <td style="background-color: #d4edda; padding: 5px;"></td> <td style="background-color: #d4edda; padding: 5px;"></td> </tr> <tr> <td style="font-size: x-small;">iron nails</td> <td style="font-size: x-small;">steel spoon</td> <td style="font-size: x-small;">steel paperclip</td> </tr> </table>				iron nails	steel spoon	steel paperclip
										
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<b>Magnetic pole</b> 	Each end of the magnet where the force is the strongest.		Magnets can be lots of different shapes, sizes and colours, but they will always have a north and south magnetic pole.							
<b>Pull</b> 	To move something towards.	<div style="display: flex; justify-content: space-around;">   </div>								
<b>Push</b> 	To move something away.	<b>Some poles repel.</b> If you try to put two magnets together with the same poles pointing towards one another, the magnets will push away from each other. We say they repel each other.								
<b>Repel</b> 	To push away.	<b>Different poles attract.</b> If you put two magnets together with different poles pointing towards one another, the magnets will pull towards each other. We say they attract each other.								
<b>Attract</b> 	To pull towards.									
<b>Contact</b> 	When objects touch.									
<b>Distance</b> 	The length between two objects.									

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