



Energy		<ul style="list-style-type: none"> <li>• Calculate the cost of using fuel in the home.</li> <li>• Identify changes and transfers in energy in a variety of contexts such as heating and simple machines</li> <li>• Compare the energy transferred in different situations.</li> </ul>	<ul style="list-style-type: none"> <li>• Calculate the energy stored in different objects.</li> <li>• Define Power as the rate or transfer of energy</li> <li>• Identify non-renewable and renewable energy sources and their benefits and drawbacks</li> </ul>
Waves	<ul style="list-style-type: none"> <li>• Identify objects that make sound.</li> <li>• Describe properties of sound such as pitch and loudness.</li> <li>• Understand that light travels in straight lines</li> <li>• Recognise that some objects emit light whilst some reflect light into the eye</li> </ul>	<ul style="list-style-type: none"> <li>• Identify different waves a longitudinal and transverse</li> <li>• Explain properties of waves using frequency and amplitude.</li> <li>• Describe how waves travel through different materials</li> <li>• Describe how waves interact with different materials</li> </ul>	<ul style="list-style-type: none"> <li>• Describe how velocity, frequency and wavelengths of waves are related.</li> <li>• Explain how the velocity of waves change when they interact with different media.</li> <li>• Describe how waves can be used and</li> </ul>
Forces	<ul style="list-style-type: none"> <li>• Know forces as push and pull.</li> <li>• Compare how objects move on different surfaces.</li> <li>• Identify a variety of forces and how they effect the movement of objects</li> <li>• .</li> </ul>	<ul style="list-style-type: none"> <li>• Calculate the speed of objects</li> <li>• Draw force diagrams and identify balanced and unbalanced forces.</li> <li>• Define a moment as the turning effect of a force.</li> <li>• Describe how forces stretch or compress objects</li> </ul>	<ul style="list-style-type: none"> <li>• Calculate the force acting on an object in one or two dimensions</li> <li>• Represent the motion of objects on a graph.</li> <li>• Calculate acceleration</li> <li>• Describe Hooke's Law for elastic objects</li> </ul>

## Magnetism

- Notice that the magnetic force acts at a distance.
  - Observe how magnets interact with some materials but not others
  - Describe magnets as having 2 poles.
  - Predict whether magnets will attract or repel each other
- Describe when magnets will attract or repel.
  - Describe the magnetic field around a bar magnet and electromagnet.
  - Describe how the earth's magnetic field can be used for navigation.
- Describe the magnetic fields of permanent and induced magnets.
  - Describe the magnetic effect of current and how it can be enhanced.
  - Describe how transformers are used in the national grid.