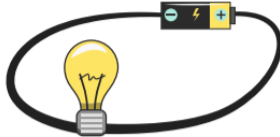

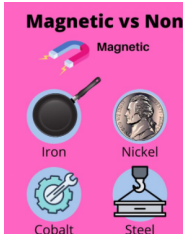





LKS2 Science Knowledge and Skills Organiser

Incredible Inventions

| Key Knowledge and Skills | | Key Vocabulary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|------------|------------|----------|------------------|-------|--------------|-------|---|-------------|--|----------------|--|---------------|---|-----------|--|---------|---|---------|---|------------|------------------------|-----------|---------------------------------------|-----------|--|------------|---|-------------|--|-------|---|--|
| <p>Forces</p> <p>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. We push and pull objects to do many different things. When we push or pull objects we can move the object, change the shape of the object or make the object change direction</p> | <p>Electrical Appliances</p> <p>Lots of appliances around our house use electricity to work. Most big appliances in our house have to be plugged in. These are powered by mains power. Some smaller appliances can be powered by batteries. Some appliances have batteries that need to be charged by mains power.</p> | <table><tr><th>Word</th><th>Definition</th></tr><tr><td>Attract</td><td>to pull towards.</td></tr><tr><td>Repel</td><td>to push away</td></tr><tr><td>Force</td><td>a push or pull that acts upon an object that can cause it to move, change shape or change direction</td></tr><tr><td>Friction</td><td>the force that acts upon one surface when it moves against another</td></tr><tr><td>Magnetic force</td><td>when a magnet pulls objects towards it or pushes objects away.</td></tr><tr><td>Magnetic pole</td><td>each end of the magnet where the force is the strongest</td></tr><tr><td>Appliance</td><td>a device or piece of equipment that has been made to perform a specific task</td></tr><tr><td>Battery</td><td>a small item used to power small appliances</td></tr><tr><td>Circuit</td><td>a route through which electricity flows</td></tr><tr><td>Components</td><td>the parts of a circuit</td></tr><tr><td>Conductor</td><td>allows electricity to flow through it</td></tr><tr><td>Insulator</td><td>doesn't allow electricity to flow through it</td></tr><tr><td>Electrical</td><td>something that uses electricity to work</td></tr><tr><td>Mains power</td><td>electricity provided by power stations</td></tr><tr><td>Pylon</td><td>a tower used for keeping electrical wires above the ground.</td></tr></table> | Word | Definition | Attract | to pull towards. | Repel | to push away | Force | a push or pull that acts upon an object that can cause it to move, change shape or change direction | Friction | the force that acts upon one surface when it moves against another | Magnetic force | when a magnet pulls objects towards it or pushes objects away. | Magnetic pole | each end of the magnet where the force is the strongest | Appliance | a device or piece of equipment that has been made to perform a specific task | Battery | a small item used to power small appliances | Circuit | a route through which electricity flows | Components | the parts of a circuit | Conductor | allows electricity to flow through it | Insulator | doesn't allow electricity to flow through it | Electrical | something that uses electricity to work | Mains power | electricity provided by power stations | Pylon | a tower used for keeping electrical wires above the ground. | |
| Word | Definition | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Attract | to pull towards. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Repel | to push away | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Force | a push or pull that acts upon an object that can cause it to move, change shape or change direction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Friction | the force that acts upon one surface when it moves against another | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Magnetic force | when a magnet pulls objects towards it or pushes objects away. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Magnetic pole | each end of the magnet where the force is the strongest | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Appliance | a device or piece of equipment that has been made to perform a specific task | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Battery | a small item used to power small appliances | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Circuit | a route through which electricity flows | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Components | the parts of a circuit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Conductor | allows electricity to flow through it | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Insulator | doesn't allow electricity to flow through it | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Electrical | something that uses electricity to work | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mains power | electricity provided by power stations | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pylon | a tower used for keeping electrical wires above the ground. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Magnets</p> <p>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. Magnets can be lots of different shapes, sizes and colours, but they will always have a north and south magnetic pole.</p> | <p>Simple Circuit</p> <div></div> <p>The circuit has to be complete to allow the electricity to travel all the way around it.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div><div><p>South magnetic pole</p></div><div><p>North magnetic pole</p></div></div> | <p>Switches</p> <p>When we put a switch in an electrical circuit and turn it to the on position, it completes the circuit and allows electricity to flow around the circuit. When we turn the switch to the off position, this creates a break in the circuit meaning the electricity cannot flow anymore and the appliance will not work.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Same poles repel</p> <p>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.</p> <p>Different poles attract</p> <p>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.</p> | <table><tr><th>Insulators</th><th>Conductors</th></tr><tr><td>fabric</td><td>tin foil</td></tr><tr><td>plastic</td><td>can</td></tr><tr><td>paper</td><td>tin</td></tr><tr><td>string</td><td>steel spoon</td></tr><tr><td>wood</td><td>penny</td></tr></table> | Insulators | Conductors | fabric | tin foil | plastic | can | paper | tin | string | steel spoon | wood | penny | | | | | | | | | | | | | | | | | | | | | | |
| Insulators | Conductors | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| fabric | tin foil | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| plastic | can | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| paper | tin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| string | steel spoon | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| wood | penny | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div><div><p>Magnetic vs Non-Magnetic Metals</p><div><div><p>Magnetic</p></div><div><p>Not Magnetic</p></div></div></div></div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Focus Scientists</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Joseph Swan</p> <p>Sir Joseph Wilson Swan was an English physicist and chemist who was well known because he created the incandescent light bulb, about a year before Thomas Edison. His house was the first in the world to be lit by electric light bulbs.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

