
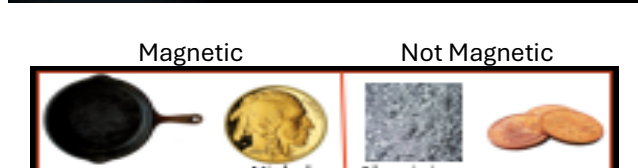
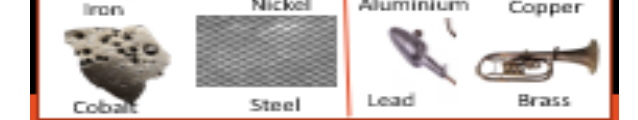




Autumn 2 Year 3 Science Knowledge Organiser

Forces and Magnets

Subject specific Vocabulary		Images/Diagrams/Maps	Important Knowledge
Attract	Causes something to move towards.	  <div><div>Magnetic</div><div>Not Magnetic</div></div>  <div>Writing/Provision/ Enrichment opportunities</div> <div>Make a compass</div> <div>Writing / History - The impact of John McAdam and his work on road surfaces</div>	<u>What is a force?</u> Forces are pushes or pulls. Push and pull forces can make things start and stop moving, make a moving object change direction and change the shape of an object.
Contact Force	Requires contact to happen.		<u>Friction</u> Friction is a force between two surfaces that are sliding, or trying to slide, across each other. For example, when you try to push a book along the floor, friction makes this difficult.
Forces	Changes the motion of an object. Pushes and pulls in a particular direction.		<u>Magnets</u> Magnets have North Poles and South Poles. Magnets can come in all shapes, sizes and strengths.
Gravity	A force which pulls things towards the centre of the Earth. Discovered by Sir Isaac Newton.		Opposite poles attract. (Stick together) The same poles repel. (Move away)
Magnetic Field	Magnets electric charge.		
Non-contact Force	Doesn't require contact.		
Poles	Magnets have a North and South Pole.		
Pull	Force which causes movement towards something.		
Push	Force which causes movement away from something.		
Repel	Causes something to move away.		
Scientific Enquiry Skills		Working Scientifically Skills	
			

Presentation	Working Scientifically and Scientific Enquiry Assessment		
	<ul style="list-style-type: none"> Children can identify some push and pull forces. They are able to explain that a force makes something move, change direction or change shape. They need some support identifying all forces and understanding the science behind their decisions. 	<ul style="list-style-type: none"> Children can make systematic and careful observations. They can observe how forces behave in relation to movement. They can sort forces based on their observations and scientific knowledge. 	<ul style="list-style-type: none"> Children can observe closely and add extra detail to aid their explanation. They can confidently group the forces and add arrows to show the direction of the force.
	<ul style="list-style-type: none"> With support can suggest improvements to their enquiries. They can talk about some changes that could be made. 	<ul style="list-style-type: none"> Children can suggest improvements and raise further questions. They use evidence and own subject knowledge when evaluating. They make basic statements about what worked well and what went wrong. 	<ul style="list-style-type: none"> They can independently evaluate and communicate their methods and findings. They can suggest ways to improve what they have done. They can begin to evaluate different aspects of the enquiry such as equipment.
	<ul style="list-style-type: none"> Children can draw on observations to make predictions. These can be a guess. They ask questions about their results and with help can begin to spot patterns. 	<ul style="list-style-type: none"> Children can make predictions on what they have observed. Children can use scientific knowledge to support their predictions. Children can spot patterns and use this to aid predictions. 	<ul style="list-style-type: none"> Children can use subject knowledge and research to make predictions. Their predictions become more accurate as they spot patterns. Children can find and research own materials and use patterns to predict.
	<ul style="list-style-type: none"> Carry out tests in a group using some of their own ideas. They can suggest some resources they may need and can carry out simple tests with support. 	<ul style="list-style-type: none"> Children can set up their own fair test using the post it note planning framework. They understand and can name some variables which need to be controlled. They can follow basic instructions scaffolded by the teacher. They use a range of equipment safely. 	<ul style="list-style-type: none"> Children can identify the type of enquiry. They can follow a plan to carry out observations or tests. They can elect from a range of resources. Can use post it note planning with more independence to plan their tests. Can identify variables.
	<ul style="list-style-type: none"> Children can communicate findings using drawings. They may need support with scientific language to accompany drawings. 	<ul style="list-style-type: none"> Record findings using scientific language, drawings and labelled diagrams. 	<ul style="list-style-type: none"> Record findings using systematic and careful observational drawings and labelled diagrams. Diagrams are clear and presented well.
	<ul style="list-style-type: none"> Communicate findings to an audience using scientific language and illustrations. Draws a basic conclusion (with support from teacher/peers) using own scientific ideas. 	<ul style="list-style-type: none"> Children can use their models to explain the science. They draw conclusions based on observations. They use simple scientific language to discuss ideas and communicate findings. They can explain any amendments and how this impacted the model. 	<ul style="list-style-type: none"> Draws simple conclusions from results to answer questions. They report findings to an audience using appropriate scientific vocabulary. They draw conclusions based on research and evidence and suggest improvements made or needed.