



Science Autumn 1 Year 3 Physics -Magnets and Forces

TAPS Assessment: Magnet Tests

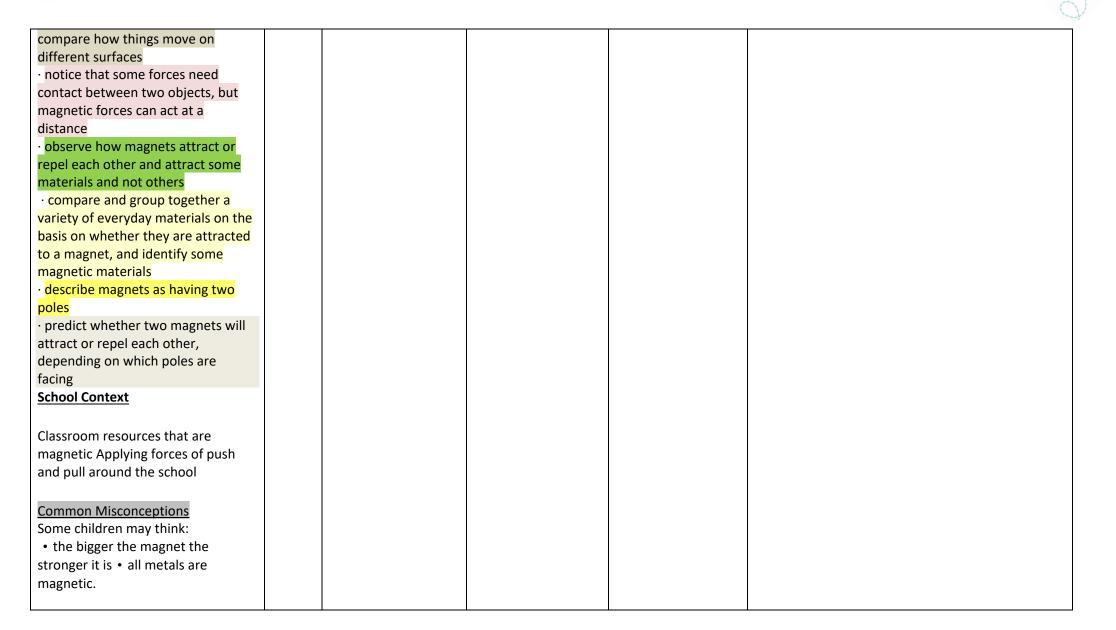
Key vocabulary: Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole

National Curriculum	Week	NC - Coverage	Disciplinary	Substantive	Activity Outline
			Knowledge	Knowledge	
The national curriculum for Science aims to ensure that all pupils: <u>Working Scientifically Lower KS2</u> pupils should be taught to use the following practical scientific	1	Notice that some forces need contact between two objects.	Observing closely, using simple equipment.	Knows that some forces need contact between two objects	Give children a carousel of activities where they explore a range of toys/games that involve forces to move them. Ask children to identify how them move. Teacher to demonstrate a push and a pull and ask children to think of things that they could move by pushing, pulling or both. Ask children to
methods, processes and skills through the teaching of the programme of study content: § asking relevant questions and using different types of scientific enquiries to answer them § setting up simple practical enquiries, comparative and fair tests § making	2	Compare how things move on different surfaces. Notice that some forces need contact between two objects.	Setting up simple practical enquiries, Involving how things move on different surfaces	Knows that some forces need contact between two objects	record this in a way of their choosing. Give children a ramp and four surfaces. Leave a range of measuring equipment left out for them to choose from. Give children a table to record their results and prompt them to try each surface three times.
systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment,	3	Notice that some forces need contact between two objects.	Record and report on findings from investigations, involving how things move on different surface	Knows that some forces need contact between two objects.	Present results (lesson 2) in a bar chart and the teacher to ask them to talk to each other about their graph.



including thermometers and data loggers § gathering, recording, classifying and presenting data in a variety of ways to help in answering questions § recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	4	Describe magnets as having two poles Predict whether two magnets will attract or repel each other, depending on which poles are facing	Make and investigate predictions on whether two magnets will attract or repel, depending on which poles are facing.	Knows whether two magnets will attract or repel each other, depending on which poles are facing Knows that some forces need contact between two objects, but magnetic forces can act at a distance	Give children some magnets and other resources in a box to explore 'attraction and repulsion'. Teacher to show an animation of the poles of two magnets attracting and repelling each other highlighting this new key vocabulary. The children then verbally explaining what they had learnt to a partner and then consolidate it in writing and drawings
§ reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions § using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions § identifying differences, similarities or changes related to simple scientific ideas and processes § using straightforward scientific evidence to answer questions or to support their findings	5&6	Compare and group together a variety of everyday materials on the basis on whether they are attracted to a magnet, and identify some magnetic materials	Compare and group materials following magnetic testing, recording findings and use the outcome to answer questions about which materials are magnetic.	Knows that magnets attract or repel each other and attract some materials and not others	Ask children to use their strongest magnet and test how the surface affects the distance the paperclip needs to be from the magnet in order to be attract to it. Record results in a table and then draw their own conclusions e.g. the best surface was









Science Autumn 2 Year 3 Physics - Light

TAPS Assessment: Making Shadows

Key vocabulary: Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous

National Curriculum	Week	NC - Coverage	Disciplinary Knowledge	Substantive Knowledge	Activity Outline
The national curriculum for Science aims to ensure that all pupils: Working Scientifically Lower KS2 pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: § asking relevant questions and using different types of scientific enquiries to answer them § setting up simple practical enquiries, comparative and fair tests § making systematic and careful observations and, where appropriate, taking accurate measurements	1	Recognise that they need light in order to see things and that dark is the absence of light. • Notice that light is reflected from surfaces Recognise that they need light in order to see things and that dark is the absence of light. • Notice that light is reflected from surfaces.	To make predictions about how easy it would be to see different objects if there were different amounts of light. of light. To observe that light can be reflected off surfaces.	Knows that light is needed to see things and that dark is the absence of light Knows that light is reflected from surfaces. Knows that light is needed to see things and that dark is the absence of light Knows that light is reflected from surfaces.	KWL grid: Ask children to think about what they already know about light and shadow and give some key words to prompt them – see, dark, light, reflection, shadow. Ask children to make predictions about how easy it would be to see different objects if there were different amounts of light. Children to work in pairs, choose from a selection of closed boxes that each contain a different object and try to identify the object by looking through a small eye hole. Make sure there is a second small hole in each box so children can control the amount of light entering by covering it with their hand or tracing paper or leaving it uncovered. Children to write their findings from their testing in the previous lesson. Provide writing frames to clearly identify pupils understanding.
using standard units, using a range of equipment, including	3	Recognise that they need light in order to see things and that dark is the	<pre>'Investigate the visibility of different materials (eg shiny; foil,</pre>	Knows that shadow are formed when the	Give children different materials and a torch and allowed time to explore their

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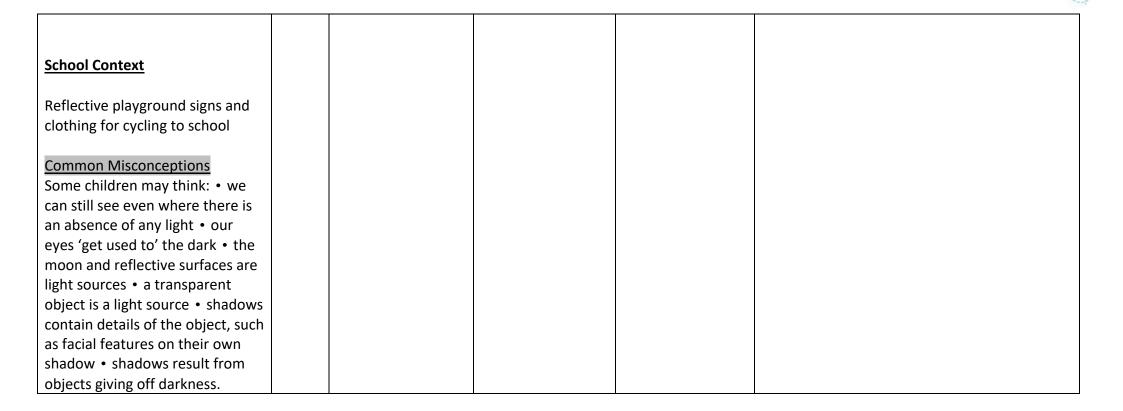
thermometers and data loggers § gathering, recording,	• 1	osence of light. Notice that light is eflected from	mirrors and matt; sugar paper) in a darker	light from a light source is blocked	reflectiveness, children to then write up their findings.
classifying and presenting data in a variety of ways to help in answering	su	urfaces.	environment according to which reflect most light.'	by an opaque object.	
questions § recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables § reporting on findings from enquiries, including oral and written explanations, displays or	ne to th	ecognise that they eed light in order o see things and nat the dark is the osence of light	Observe and identify the difference in shadows of opaque, translucent and transparent objects/materials.	Knows how the shadows of transparent, opaque and translucent materials vary.	Teacher to define key vocabulary – opaque, transparent and translucent. Ask children to find objects around the room and record whether they were opaque, transparent or translucent.
presentations of results and conclusions § using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions § identifying differences, similarities or changes related to simple scientific ideas and processes	wa	nd patterns in the ay that the size of adows changes	Observe how shadows are formed and affected by different circumstances. Use oral and written explanations to report on why shadows are formed and how the length and size	Knows and can explain some of the reasons why the size of shadows changes.	Take children outside into the playground and allow them to explore making different shaped shadows with their bodies. Bring children inside and give them a circular object. Ask children to move the torch in various ways to see the effect on the shadow. Ask children to determine what happens to the size and shape of the shadow.



§ using straightforward			of a shadow can be		
scientific evidence to answer questions or to		Recognise that light	changed. Classify materials	Knows that light	Show a film of people watching the eclipse to
support their findings		from the sun can	according to their	from the sun can	the children. Ask children to consider why
		be dangerous and	properties	be dangerous and	people are wearing glasses or looking through
Subject Content		that there are ways	(opaque,	that there are	colanders. Remind children this so to prevent
		to protect their	translucent,	ways to protect	people damaging their eyes. Give children a
 recognise that they need light in order to see things and that the dark is the absence of light notice that light is reflected from surfaces recognise that light from the sun can be dangerous and that there are ways to protect their eyes recognise that shadows are formed when the light from a light source is blocked by a solid object find patterns in the way that the size 	6	eyes	transparent)	the eyes	range of materials and ask them to test them to consider which would be most suitable for making a pair of sunglasses. The children shone a torch through the material and observed the light coming through.
of shadows changes					

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