

SCIENCE

Investigative Skills – plan, do, record, evaluate

Progression in Skills at Fawkham CEP School

PLAN - 'plan' investigative skills are woven across all science topics

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Seasonal Changes (taught each term across Year 1 and Year		<u>Term 1:</u>	<u>Term 1:</u>	<u>Term 1:</u>	Term 1:
	2)		Make a Splash! - Sound	Trash or treasure -	Space – Earth and Space	All about me – Electricity
Year 1 cvcle	Term 1:	Term 1:	<u>Term 2:</u>	Electricity	<u>Term 2:</u>	Term 2:
+	Where I live - Light	Space - Uses of everyday	Rainforest - Plants	<u>Term 2:</u>	Fawkham Child – Properties	Shakespeare -Changes of
Year 2 cvcle	<u>Term 2:</u>	materials	<u>Term 3:</u>	Frozen Kingdom - Living	of Materials	Materials
	Once upon a time -Everyday	<u>Term 2:</u>	Pre-historic World – Rocks	things and their habitats	<u>Term 3:</u>	Term 3:
See arid below for	Materials	Space - Sound	including fossils	<u>Term 3:</u>	Raging Rivers – Living things	WW2 - Light
detailed overview of	<u>Term 3:</u>	<u>Term 3:</u>	<u>Term 4:</u>	Scrumdiddlyumptious! –	and their habitats	Term 4:
science	Frozen Kingdom-Animals	Looking after our world-	Classics -Light	Animals including humans	<u>Term 4:</u>	Classics -Living things and
opportunities in	including humans	Plants	<u>Term 5:</u>	<u>Term 4:</u>	Classics -Animals including	their habitats
EYFS*	<u>Term 4:</u>	<u>Term 4:</u>	Dragons -Animals	Classics -Forces and	humans	Term 5:
	Super heroes-Forces	Looking after our world	including skeletons	magnets	<u>Term 5:</u>	Egyptians -Forces 2
	<u>Term 5:</u>	Animals including humans	<u>Term 6:</u>	<u>Term 5:</u>	Ancient Greece -Forces 1	<u>Term 6:</u>
	African Safari - Plants	<u>Term 5:</u>	Science Week	Extreme Earth -States of	<u>Term 6:</u>	What a performance! –
	<u>Term 6:</u>	Big city - Living things and		matter	What a performance! -	Animals including humans
	Science Week	their habitats		<u>Term 6:</u>	Evolution and Inheritance	+
		<u>Term 6:</u>		Science Week	+	Science Week
		Science Week			Science Week	





PLAN - 'plan' investigative skills are woven across all science topics

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
EYFS – Understanding	-asking simple questions	-asking simple	-ask relevant	-ask relevant questions	-plan different types of	-plan different types of
<u>the World</u> ELG 40-60 months	and recognising that	questions and	questions and using	and using different	scientific enquiries to	scientific enquiries to
	they can be answered in	recognising that they	different types of	types of scientific	answer questions,	answer questions,
None for 'plan'	different ways	can be answered in	scientific enquiries to	enquiries to answer	including recognising	including recognising
investigative		different ways	answer them	them	and controlling	and controlling
skills.					variables where	variables where
			-set up simple	-set up simple practical	necessary	necessary
			practical enquiries,	enquiries, comparative		
			comparative and fair	and fair tests	-use test results to	-use test results to
			tests		make predictions to set	make predictions to set
					up further comparative	up further comparative
					and fair tests	and fair tests
	<u>Greater Depth</u>	<u>Greater Depth</u>	Greater Depth	<u>Greater Depth</u>	<u>Greater Depth</u>	<u>Greater Depth</u>
	-ask relevant questions	-ask relevant questions	-plan different types	-plan different types of	-ask questions and	-ask questions and
	and using different	and using different	of scientific enquiries	scientific enquiries to	develop a line of	develop a line of
	types of scientific	types of scientific	to answer questions,	answer questions,	enquiry based on	enquiry based on
	enquiries to answer	enquiries to answer	including recognising	including recognising	observations of the real	observations of the real
	them	them	and controlling	and controlling	world alongside prior	world alongside prior
			variables where	variables where	knowledge and	knowledge and
	-set up simple practical	-set up simple practical	necessary	necessary	experience	experience
	enquiries, comparative	enquiries, comparative				
	and fair tests	and fair tests	-use test results to	-use test results to	-make predictions using	-make predictions using
			make predictions to	make predictions to set	scientific knowledge	scientific knowledge
			set up further	up further comparative	and understanding	and understanding
			comparative and fair	and fair tests		
			tests			





DO - 'do' investigative skills are woven across all science topics

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Seasonal Changes (taught eac	h term across Year 1 and	<u>Term 1:</u>	Term 1:	<u>Term 1:</u>	<u>Term 1:</u>
Year 1 cycle	Year 2)		Make a Splash! - Sound	Trash or treasure -	Space – Earth and Space	All about me – Electricity
+	<u>Term 1:</u>	<u>Term 1:</u>	<u>Term 2:</u>	Electricity	<u>Term 2:</u>	<u>Term 2:</u>
Year 2 cycle	Where I live - Light	Space - Uses of	Rainforest - P lants	Term 2:	Fawkham Child – Properties	Shakespeare -Changes of
•	<u>Term 2:</u>	everyday materials	<u>Term 3:</u>	Frozen Kingdom - Living	of Materials	Materials
See grid below for detailed	Once upon a time -Everyday	<u>Term 2:</u>	Pre-historic World –	things and their	<u>Term 3:</u>	<u>Term 3:</u>
overview of science opportunities	Materials	Space - Sound	Rocks including fossils	habitats	Raging Rivers – Living things	WW2 - Light
in EYFS*	<u>Term 3:</u>	<u>Term 3:</u>	<u>Term 4:</u>	<u>Term 3:</u>	and their habitats	<u>Term 4:</u>
	Frozen Kingdom- Animals	Looking after our world-	Classics -Light	Scrumdiddlyumptious!	<u>Term 4:</u>	Classics -Living things and
	including humans	Plants	<u>Term 5:</u>	 Animals including 	Classics -Animals including	their habitats
	<u>Term 4:</u>	<u>Term 4:</u>	Dragons -Animals	humans	humans	<u>Term 5:</u>
	Super heroes-Forces	Looking after our world-	including skeletons	<u>Term 4:</u>	<u>Term 5:</u>	Egyptians -Forces 2
	<u>Term 5:</u>	-Animals including	<u>Term 6:</u>	Classics -Forces and	Ancient Greece -Forces 1	<u>Term 6:</u>
	African Safari - Plants	humans	Science Week	magnets	<u>Term 6:</u>	What a performance! –
	<u>Term 6:</u>	<u>Term 5:</u>		<u>Term 5:</u>	What a performance! -	Animals including humans
	Science Week	Big city - Living things		Extreme Earth -States	Evolution and Inheritance	+
		and their habitats		of matter	+	Science Week
		<u>Term 6:</u>		<u>Term 6:</u>	Science Week	
		Science Week		Science Week		





DO - 'do' investigative skills are woven across all science topics

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
EYFS – Understanding the	-observe closely, using	-observe closely,	-make systematic	-make systematic	-take measurements,	-take measurements,
World	simple equipment	using simple	and careful	and careful	using a range of	using a range of
ELG 40-60 months		equipment	observations and,	observations and,	scientific equipment,	scientific equipment,
	-perform simple tests		where appropriate,	where appropriate,	with increasing	with increasing
-They look closely at and		-perform simple	taking accurate	taking accurate	accuracy and precision,	accuracy and precision,
knows about similarities	-identify and classify	tests	measurements	measurements	taking repeat readings	taking repeat readings
and differences in relation			using standard	using standard	when appropriate	when appropriate
to places, objects, materials		-identify and classify	units, using a range	units, using a range	-group and classify	-group and classify
and living things.			of equipment,	of equipment,	things and recognize	things and recognize
			including	including	patterns.	patterns.
- They make observations of			thermometers and	thermometers and	(*non-statutory)	(*non-statutory)
animals and plants			data loggers	data loggers	-find out using a wide	-find out using a wide
					range of secondary	range of secondary
					sources of information.	sources of information.
					(*non-statutory)	(*non-statutory)
EYFS – Understanding the	Greater Depth	Greater Depth	<u>Greater Depth</u>	<u>Greater Depth</u>	Greater Depth	Greater Depth
World	-make systematic and	-make systematic	-take	-take	select, plan and carry	-select, plan and carry
Exc ELG 40-60 + months	careful observations	and careful	measurements,	measurements,	out the most	out the most
- They demonstrate	and, where	observations and,	using a range of	using a range of	appropriate types of	appropriate types of
familiarity with basic	appropriate, taking	where appropriate,	scientific	scientific	scientific enquiries to	scientific enquiries to
scientific concepts such as	accurate	taking accurate	equipment, with	equipment, with	test predictions.	test predictions.
floating, sinking when	measurements using	measurements	increasing accuracy	increasing accuracy		
experimenting	standard units, using a	using standard	and precision,	and precision,		
-They know the properties	range of equipment,	units, using a range	taking repeat	taking repeat		
of some materials when	including	of equipment,	readings when	readings when		
experimenting	thermometers and data	including	appropriate	appropriate		
	loggers	thermometers and				
-They describe some		data loggers				
actions which people in						
his/her own community do						
that help to maintain the						
area he/she lives in						





RECORD - 'record' investigative skills are woven across all science topics

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Year 1 cycle + Year 2 cycle See grid below for detailed overview of science opportunities in EYFS*	Seasonal Changes (taught each <u>Term 1:</u> Where I live - Light <u>Term 2:</u> Once upon a time -Everyday Materials <u>Term 3:</u> Frozen Kingdom-Animals including humans <u>Term 4:</u> Super heroes-Forces <u>Term 5:</u> African Safari -Plants <u>Term 6:</u> Science Week	term across Year 1 and Year 2) Term 1: Space - Uses of everyday materials Term 2: Space - Sound Term 3: Looking after our world- Plants Term 4: Looking after our worldAnimals including humans Term 5: Big city - Living things and their habitats Term 6: Science Week	Term 1: Make a Splash! - Sound Term 2: Rainforest - Plants Term 3: Pre-historic World - Rocks including fossils Term 4: Classics -Light Term 5: Dragons -Animals including skeletons Term 6: Science Week	Term 1: Trash or treasure - Electricity <u>Term 2:</u> Frozen Kingdom -Living things and their habitats <u>Term 3:</u> Scrumdiddlyumptious! – Animals including humans <u>Term 4:</u> Classics -Forces and magnets <u>Term 5:</u> Extreme Earth -States of matter <u>Term 6:</u> Science Week	Term 1: Space – Earth and Space Term 2: Fawkham Child – Properties of Materials Term 3: Raging Rivers – Living things and their habitats Term 4: Classics -Animals including humans Term 5: Ancient Greece -Forces 1 Term 6: What a performance! - Evolution and Inheritance +	Term 1: All about me – Electricity <u>Term 2:</u> Shakespeare -Changes of Materials <u>Term 3:</u> WW2 - Light <u>Term 4:</u> Classics -Living things and their habitats <u>Term 5:</u> Egyptians -Forces 2 <u>Term 6:</u> What a performance! – Animals including humans + Science Week
<u>EYFS –</u> <u>Understanding</u> <u>the World</u> <u>ELG 40-60</u> <u>months</u> None for 'record' investigative skills.	-gather and record data to help in answering questions	-gather and record data to help in answering questions	-gather, record, classify and present data in a variety of ways to help in answering questions -record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	-gather, record, classify and present data in a variety of ways to help in answering questions -record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	-record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs,	-record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs,
	Greater Depth -gather, record, classify and present data in a variety of ways to help in answering questions -record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	<u>Greater Depth</u> -gather, record, classify and present data in a variety of ways to help in answering questions -record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	<u>Greater Depth</u> -record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs,	<u>Greater Depth</u> -record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs,	Greater Depth -make and record observations and measurements using a range of methods for different investigations; and evaluate the reliability of methods and suggest possible improvements -present observations and data using appropriate methods, including tables and graphs	Greater Depth -make and record observations and measurements using a range of methods for different investigations; and evaluate the reliability of methods and suggest possible improvements -present observations and data using appropriate methods, including tables and graphs



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Investigative Skills – plan, do, record, evaluate

Progression in Skills at Fawkham CEP School

EVALUATE - 'evaluate' investigative skills are woven across all science topics

EYFS	Year 1	Year 2	2	Year 3		Year 4	Year 5	Year 6
	Seasonal Changes (taught each	n term across Year 1	L and Year	<u>Term 1:</u>		<u>Term 1:</u>	<u>Term 1:</u>	Term 1:
Year 1 cycle	2)			Make a Splash! -	Sound	Trash or treasure -	Space – Earth and Space	All about me – Electricity
+	<u>Term 1:</u>	Term 1	<u>-</u>	<u>Term 2:</u>		Electricity	<u>Term 2:</u>	<u>Term 2:</u>
Year 2 cycle	Where I live - Light	Space - Uses of	everyday	Rainforest - P la	nts	Term 2:	Fawkham Child – Properties of	Shakespeare -Changes of Materials
	<u>Term 2:</u>	materia	ls	<u>Term 3:</u>		Frozen Kingdom -	Materials	<u>Term 3:</u>
See arid below for	Once upon a time - Everyday	Term 2	<u>.</u>	Pre-historic Wo	rld –	Living things and their	<u>Term 3:</u>	WW2 - Light
detailed overview	Materials	Space - So	und	Rocks including f	ossils	habitats	Raging Rivers – Living things	<u>Term 4:</u>
of science	<u>Term 3:</u>	Term 3	<u>.</u>	<u>Term 4:</u>		Term 3:	and their habitats	Classics -Living things and their
opportunities in	Frozen Kingdom- Animals	Looking after ou	ur world-	Classics -Ligh	t	Scrumdiddlyumptious!	<u>Term 4:</u>	habitats
EYFS*	including humans	Plants		Term 5:		 Animals including 	Classics -Animals including	<u>Term 5:</u>
-	<u>Term 4:</u>	Term 4	<u>.</u>	Dragons -Anim	als	humans	humans	Egyptians -Forces 2
	Super heroes-Forces	Looking after ou	r world	including skelet	tons	<u>Term 4:</u>	<u>Term 5:</u>	<u>Term 6:</u>
	<u>Term 5:</u>	Animals includin	g humans	<u>Term 6:</u>		Classics -Forces and	Ancient Greece -Forces 1	What a performance! -Animals
	African Safari - Plants	<u>Term 5</u>	<u>.</u>	Science Wee	k	magnets	<u>Term 6:</u>	including humans
	<u>Term 6:</u>	Big city - Living t	hings and			<u>Term 5:</u>	What a performance! -	+
	Science Week	their habit	ats			Extreme Earth -States	Evolution and Inheritance	Science Week
		Term 6	<u>.</u>			of matter	+	
		Science W	eek			<u>Term 6:</u>	Science Week	
						Science Week		
EYFS – Understanding	-use their observations and	-use their	-report on f	indings from	-report of	on findings from enquiries,	-report and present findings from	-report and present findings from
the World	ideas to suggest answers to	observations and	enquiries, in	nclude oral and	include	oral and written	enquiries, including conclusions,	enquiries, including conclusions, causal
ELG 40-60 months	questions	ideas to suggest	written exp	lanations, displays or	explanat	tions, displays or	causal relationships and	relationships and explanations results,
They talk about the		answers to	presentatio	ns of results and	presenta	ations of results and	of and dogroe of trust in results, in	explanations of and degree of trust in
features of their own		questions	conclusions		conclusi	0115	oral and written forms such as	as displays and other presentations
immediate			use results	to draw simple	-use res	ults to draw simple	displays and other presentations	as asplays and other presentations
environment and how			conclusions	, make predictions	conclusi	ons, make predictions for		-identify scientific evidence that has
environments might			for new value	ues, suggest	new valu	ues, suggest improvements	-identify scientific evidence that has	been used to support or refute ideas or
vary from one			improveme	nts and raise further	and rais	e further questions	been used to support or refute	arguments.
another.			questions				ideas or arguments.	
The second state of the			1.	The second second second second second	-identify	differences, similarities or		-describe and evaluate their own and
- They explain why			-Identify dif	related to simple	changes	related to simple scientific	-describe and evaluate their own	other people's scientific ideas related to
some things occur,			or changes	related to simple	ideas an	a processes	and other people's scientific ideas	the topics in the national curriculum
changes.			scientific lu		-use stra	aightforward scientific	curriculum (including ideas that	time) using evidence from a range of
onangeon			-use straigh	tforward scientific	evidence	e to answer questions or to	have changed over time) using	sources. (*non-statutory)
			evidence to	answer questions or	support	their findings.	evidence from a range of sources	
			to support 1	their findings.			(*non-statutory)	-use appropriate scientific language and ideas to explain evaluate and
							-use appropriate scientific language	communicate the methods and findings.
							and ideas to explain, evaluate and	(*non-statutory)
							communicate the methods and	
							findings. (*non-statutory)	







EVALUATE - 'evaluate' investigative skills are woven across all science topics

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<u>EYFS –</u>	Greater Depth	Greater Depth	Greater Depth	Greater Depth	Greater Depth	Greater Depth
<u>Understanding</u>	-report on findings	-report on findings	-report and present	-report and	-interpret observations	-interpret observations and
<u>the World</u>	from enquiries, include	from enquiries,	findings from	present findings	and data, including	data, including identifying
Exc ELG 40-60 +	oral and written	include oral and	enquiries, including	from enquiries,	identifying patterns and	patterns and using
<u>months</u>	explanations, displays	written explanations,	conclusions, causal	including	using observations,	observations, measurements
They talk about	or presentations of	displays or	relationships and	conclusions,	measurements and data	and data to draw conclusions
the living	results and conclusions	presentations of	explanations results,	causal	to draw conclusions	
environment		results and	explanations of and	relationships and		-present reasoned
and know that	-use results to draw	conclusions	degree of trust in	explanations	-present reasoned	explanations, including data
living things are	simple conclusions,		results, in oral and	results,	explanations, including	in relation to predictions and
influenced by	make predictions for	-use results to draw	written forms such	explanations of	data in relation to	hypotheses
human activity	new values, suggest	simple conclusions,	as displays and other	and degree of	predictions and	
	improvements and	make predictions for	presentations	trust in results, in	hypotheses	evaluate data, showing
-They suggest	raise further questions	new values, suggest		oral and written		awareness of potential
some of the		improvements and	-identify scientific	forms such as	evaluate data, showing	sources of error
purposes	-identify differences,	raise further questions	evidence that has	displays and other	awareness of potential	
materials are	similarities or changes		been used to support	presentations	sources of error	-identify further questions
used for	related to simple	-identify differences,	or refute ideas or			arising from results
	scientific ideas and	similarities or changes	arguments.	-identify scientific	-identify further	
	processes	related to simple		evidence that has	questions arising from	
		scientific ideas and		been used to	results	
	-use straightforward	processes		support or refute		
	scientific evidence to			ideas or		
	answer questions or to	-use straightforward		arguments.		
	support their findings.	scientific evidence to				
		answer questions or to				
		support their findings.				

***EYFS Science opportunities**

Year R	Understanding the World									
(Yr1)	<u>Term 1:</u>	<u>Term 2:</u>	<u>Term 3:</u>	<u>Term 4:</u>	<u>Term 5:</u>	<u>Term 6:</u>				
. ,	About me	When I go to sleep	Who can help me?	In the land of make	In the garden	Under the sea				
				believe						
	-Spiders- making	-Nocturnal animals-	-Labelling body parts		-Growing plants-	-Floating and sinking				
	water channels	identifying	-Exploring senses	-Making potions and	naming parts of a plant/	Making boats-				
	-Which materials will	Investigating light and	-How do we keep	observing reactions	observing growth and	waterproof/ not				
	protect Humpty	dark	healthy? - healthy	-Unicorn/ rainbow-	talking about conditions	waterproof				
	Dumpty	-Learning about	practices including	colour experiments	for growth	-Whale blubber				
	-Which animals	different light sources	tooth brushing etc	e.g. skittles		experiment				
	come out of eggs?	-What is in the sky at		experiment/ dying						
		night?		carnations						
	<u>Term 1:</u>	<u>Term 2:</u>	<u>Term 3:</u>	<u>Term 4:</u>	<u>Term 5:</u>	<u>Term 6:</u>				
Year R	About me	Into the woods	Once upon a time	Yum yum	Down on the farm	Where shall we go				
(Yr2)						today?				
	-Sorting materials-	-Which animals live in	-Growing Beanstalks -	-Comparing different	-Identifying different					
	hard/soft	our woodland?	labelling a plant	countries	farm animals	-Making flying				
	 Making porridge 	-Forest school focus	-Discussing conditions	(Africa/England)	-Matching animals to	machines and testing				
	-Where do bears	identifying different	for growing plants	-Bread experiment-	their home	them				
	live?	trees	-What would happen	which condition	-Naming animals and	-Building bridges				
	-Bear hunt- exploring	-Seasonal changes	to the Gingerbread	causes the bread to go	their young	-Ramps science				
	textures		man if he swam across	mouldy?	-Learning about Bees-	experiment				
			the river?	-Observing decay on	growing flowers to	-Which material				
			-Building houses for	different foods	encourage the bees.	makes the best boat?				
			the Three Little Pigs-							
			choosing materials							