Aberford C of E Primary School – Science Progression of skills



Cla	ss 2	Clas	ss 3	Class 4	
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Working Sc	ientifically		
To use the following practical scientific methods, processes and skills (adult support may be needed) –	To use the following practical scientific methods, processes and skills with increasing confidence –	To use the following practical scientific methods, processes and skills –	To use the following practical scientific methods, processes and skills-	To use the following practical scientific methods, processes and skills –	To use the following practical scientific methods, processes and skills –
		Questioning a	and enquiring		
Ask simple questions about the world around us. Begin to recognise that they can be answered in different ways (different types of enquiry including - observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests, finding things out from secondary sources).	Ask questions about the world around us. Recognise that they can be answered in different ways (different types of enquiry including - observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests, finding things out from secondary sources). I can ask simple questions	Ask some relevant questions and use different types of scientific enquiries to answer them. Begin to explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop their ideas about functions, relationships and interactions.	Ask relevant questions and use different types of scientific enquiries to answer them. Explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop their ideas about functions, relationships and interactions.	Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically. Begin to recognise more
I can ask a few simple questions about the world around us.	about the world around us.	Begin to raise their own questions about the world around them.	Raise their own questions about the world around them.	Begin to recognise some more abstract ideas and begin to recognise how these ideas help them to	abstract ideas and begin to recognise how these ideas help them to understand how the world operates.

I can begin to use some	I can begin to use	Begin to make some	Make some decisions	understand how the	
different types of enquiry	different types of enquiry	decisions about which	about which types of	world operates.	Begin to recognise
to answer questions.	to answer questions.	types of enquiry will be the	enquiry will be the best		scientific ideas change
		best way of answering	way of answering	Begin to recognise	and develop over time
		questions including	questions including	scientific ideas change	
		observing changes over	observing changes over	and develop over time.	Select the most
		time, noticing patterns,	time, noticing patterns,		appropriate ways to
		grouping and classifying,	grouping and classifying,	Begin to select the most	answer science question
		carrying out simple	carrying out simple	appropriate ways to	using different types o
		comparative and fair tests,	comparative and fair	answer science questions	scientific enquiry
		finding things out using	tests, finding things out	using different types of	(including observing
		secondary sources.	using secondary sources.	scientific enquiry	changes over different
		·		(including observing	periods of time, notici
		I can ask some relevant	I can ask relevant	changes over different	patterns, grouping and
		questions about the world	questions about the world	periods of time, noticing	classifying, carrying ou
		around us.	around us.	patterns, grouping and	comparative and fair t
				classifying, carrying out	and finding things out
		I can use some different	I can use different types of	comparative and fair tests	using a wide range of
		types of scientific enquiry	scientific enquiry to	and finding things out	secondary sources of
		to answer questions.	answer questions.	using a wide range of	information.)
		'	·	secondary sources of	,
		I am beginning to decide	I am beginning to decide	information.)	I can explore ideas and
		which type of enquiry is	which type of enquiry is	,	ask my own questions
		best to answer my	best to answer my	I am beginning to explore	about scientific
		question.	question.	ideas and ask my own	phenomena.
		·		questions about scientific	
				phenomena.	
				•	I can plan different typ
				I am beginning to plan	of scientific enquiry to
				different types of	answer questions.
				scientific enquiry to	4
				answer questions.	I can decide which
				4.000.00	variables to control.
				I am beginning to decide	
				which variables to	
				control.	

Observing and measuring - Pattern seeking

Begin to observe closely, using simple equipment.

Use simple observations and ideas to suggest answers to questions.

To observe simple changes over time and, with guidance, begin to notice patterns and relationships.

To say what I am looking for and what I am measuring.
To know how to use simple equipment safely.

Use simple measurements and equipment with support (e.g. hand lenses and egg timers)

Begin to progress from non-standard units, reading cm, m, cl, l, °C

I can begin to observe changes over time.

Observe closely, using simple equipment.

Use **observations and ideas** to suggest answers to questions.

To observe changes over time and, with guidance, begin to notice patterns and relationships.

To say what I am looking for and what I am measuring.
To know how to use simple equipment safely.

Use simple measurements and equipment with increasing independence (e.g. hand lenses and egg timers)

Begin to progress from non-standard units, reading mm, cm, m, ml, l, °C

I can observe changes over time.

Begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.

Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them.

Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used.

Learn to use some new equipment appropriately (e.g. data loggers).
Begin to see a pattern in my results.

Begin to choose from a selection of equipment.

Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.

Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them.

Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used.

Learn to use new equipment appropriately (e.g. data loggers).

Can see a pattern in my results.

Can choose from a selection of equipment.
Can observe and measure accurately using

Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.

Begin to identify patterns that might be found in the natural environment.

Begin to make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them

Choose the most appropriate equipment and explain how to use it accurately.

Begin to interpret data and find patterns.
Select equipment on my own.

Can make a set of observations and say

Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.

Identify patterns that might be found in the natural environment.

Make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them.

Choose the most appropriate equipment and explain how to use it accurately.

Can interpret data and find patterns.
Select equipment on my own.

Can make a set of observations and say what the interval and range are.

I can begin say what I am looking for and what I am measuring. I can measure with nonstandard units and can begin to use simple standard units e.g., mm, cm, m, mI, I, °C I can use some simple equipment e.g. hand lenses, egg timers. I am beginning to notice patterns.	I can say what I am looking for and what I am measuring. I can measure with nonstandard units and can begin to use simple standard units e.g., mm, cm, m, mI, I, °C I can use simple equipment e.g. hand lenses, egg timers. I am beginning to notice patterns.	Begin to observe and measure accurately using standard units including time in minutes and seconds. I can make systematic and careful observations. I can decide what to observe and how long to collect observations. I can take accurate measurements using standard units e.g. mm, cm, m, ml, I, °C, seconds, minutes I can decide which equipment to use and can use new equipment e.g. data loggers. I can look for patterns and relationships.	standard units including time in minutes and seconds. I can make systematic and careful observations. I can decide what to observe and how long to collect observations. I can take accurate measurements using standard units e.g. mm, cm, m, ml, I, °C, seconds, minutes I can decide which equipment to use and can use new equipment e.g. data loggers. I can look for patterns and relationships.	what the interval and range are. Begin to take accurate and precise measurements – N, g, kg, mm, cm, mins, seconds, cm²V, km/h, m per sec, m/ sec Graphs – pie, line I can make accurate and precise measurements. I can decide what to observe, how long to observe for and whether to repeat them. I can take accurate and precise measurements using standard units N, g, kg, mm, cm, mins, seconds, cm²V, km/h, m per sec, m/ sec. I can select equipment on my own and can explain	Accurate and precise measurements – N, g, kg, mm, cm, mins, seconds, cm²V, km/h, m per sec, m/ sec Graphs – pie, line, bar (Year 6) I can make accurate and precise measurements. I can decide what to observe, how long to observe for and whether to repeat them. I can take accurate and precise measurements using standard units N, g, kg, mm, cm, mins, seconds, cm²V, km/h, m per sec, m/ sec. I can select equipment or my own and can explain how to use it accurately.
				my own and can explain how to use it accurately.	·
		Invest	igating		
Perform simple tests with support.	Perform simple tests. To discuss my ideas about how to find things out.	Set up some simple practical enquiries, comparative and fair tests.	Set up simple practical enquiries, comparative and fair tests.	Begin to use test results to make predictions to set up further comparative and fair tests.	Use test results to make predictions to set up further comparative and fair tests.

I am beginning to suggest improvements to my test, giving reasons.	To begin to discuss my ideas about how to find things out. To begin to say what happened in my investigation. I can begin to perform simple tests. I can begin to discuss my ideas. I can begin to say what happened in an investigation.	To say what happened in my investigation. I can perform simple tests. I can discuss my ideas. I can say what happened in an investigation.	Begin to recognise when a simple fair test is necessary and help to decide how to set it up. Begin to think of more than one variable factor. I can set up some simple practical enquiries. Including comparative and fair tests. I am beginning to help decide which variables to keep the same and which to change.	Recognise when a simple fair test is necessary and help to decide how to set it up. Can think of more than one variable factor. I can set up simple practical enquiries. Including comparative and fair tests. I can help decide which variables to keep the same and which to change.	Begin to recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. Begin to suggest improvements to my method and give reasons. Begin to decide when it is appropriate to do a fair test. I can sometimes set up a range of comparative and fair tests. I am beginning to explain which variables need to be controlled and why.	Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. Suggest improvements to my method and give reasons. Decide when it is appropriate to do a fair test. I can set up a range of comparative and fair tests. I can explain which variables need to be controlled and why.
					improvements to my test,	
	Gather and record data	Gather and record data to	Gather, record, and begin	Gather, record, classify	Begin to record data	Record data and results
Gather and record data Gather and record data to Gather, record, and begin Gather, record, classify Regin to record data Record data and results	with some adult support, to help in answering questions.	help in answering questions.	to classify and present data in a variety of ways to help in answering questions.	and present data in a variety of ways to help in answering questions.	and results of increasing complexity using scientific	increasing complexity using scientific diagrams
with some adult support, to help in answering to help in answering questions. to help in answering questions. to classify and present data and present data in a variety of ways to help in increasing complexity using scientific diagrams.	Begin to record simple data.	Record simple data.	Begin to record findings using simple scientific	Record findings using simple scientific language,	diagrams and labels, classification keys,	keys, tables and bar and line graphs.

drawings, labelled Record and communicate language, drawings, tables and bar and Begin to record and their findings in a range of labelled diagrams, keys, bar diagrams, keys, bar charts Report and present line graphs. findings from enquiries. and tables. communicate their ways. charts and tables. findings in a range of Begin to report and Decide how to record Can show my results in a Begin to report on findings Report on findings from ways. present findings from table that my teacher has from enquiries, including enquiries, including oral data from a choice of enquiries. Can show my results in a provided. oral and written and written explanations, familiar approaches. simple table that my explanations, displays or displays or presentations Begin to decide how to teacher has provided. I can collect simple data. presentations of results and of results and conclusions. Can choose how best to record data from a conclusions. present data. choice of familiar I can begin to collect I can record data in a Use notes, simple tables approaches. simple data. table my teacher has Begin to use notes, simple and standard units and I can record data and provided. tables and standard units help to decide how to results of increasing Begin to choose how I can begin to record data and help to decide how to record and analyse their complexity using best to present data. in a table my teacher has I can communicate my record and analyse their scientific diagrams and data. provided. findings in a variety of labels, classification keys data. I am beginning to tables, bar graphs, line Can record results in ways. record data and results Begin to record results in I can begin to tables and bar charts. graphs of increasing communicate my findings tables and bar charts. complexity using in a variety of ways. I can collect data in a I can choose how best to scientific diagrams and I am beginning to collect variety of ways, including present data. labels, classification data in a variety of ways, labelled diagrams, bar keys, tables, bar including labelled diagrams, charts and tables. I can communicate graphs, line graphs bar charts and tables. findings using detailed I can help decide how to scientific language. I am beginning to I am beginning to help record data. choose how best to decide how to record data. present data. I can communicate I am beginning to findings using simple I am beginning to communicate findings using scientific language communicate findings simple scientific language. using detailed scientific language.

Identifying, grouping and classifying

Identify and classify with Identify and classify. Begin to identify Identify differences, Begin to use and develop Use and develop keys and some support. differences, similarities or similarities or changes kevs and other other information records Observe and identify, related to simple scientific to identify, classify and information records to changes related to simple scientific ideas and ideas and processes. describe living things and To begin to observe and compare and describe. identify, classify and identify, compare and describe living things and materials. processes. Use simple features to describe. Talk about criteria for materials. compare objects, Begin to talk about criteria I can use keys and other grouping, sorting and materials and living things I am beginning to use keys information records to To begin to use simple for grouping, sorting and classifying and use simple features to compare and, with help, decide classifying and use simple keys. and other information classify and describe living how to sort and group things, materials and records to classify and objects, materials and keys. living things and, with Compare and group describe living things, other scientific them. Begin to compare and according to behaviour or help, decide how to sort materials and other phenomena. I can identify a variety of and group them. group according to properties, based on scientific phenomena. objects, materials and I can develop my own behaviour or properties, testing. keys and other I can begin to identify a living things. I am beginning to develop based on testing. variety of objects, I can talk about and my own keys and other information records to identify differences and materials and living I can compare, sort and I am beginning to talk classify and describe. information records to group a range of objects, classify and describe. things. about and identify similarities in the materials and living things I can identify changes differences and similarities properties or behaviour of I am beginning to identify I can begin to compare, in the properties or living things, materials related to scientific sort and group a range of behaviour of living things, and other scientific changes related to phenomena. scientific phenomena. objects, materials and materials and other phenomena. scientific phenomena. living things. I can identify simple I am beginning to identify changes related to simple simple changes related to scientific phenomena. simple scientific phenomena. I can discuss criteria for grouping and sorting and I am beginning to discuss can classify using simple criteria for grouping and keys. sorting and can classify using simple keys.

Research

To begin to use simple secondary sources to find answers. To begin to find information to help me from books and computers with help. I can begin to find information to help me from books, computers and other familiar	Use simple secondary sources to find answers. Can find information to help me from books and computers with help. I can find information to help me from books, computers and other familiar sources.	Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. I can begin to decide when research will help in my enquiry. I am beginning to carry out simple research on	Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. I can begin to decide when research will help in my enquiry. I can carry out simple	Begin to recognise which secondary sources will be most useful to research their ideas. I am beginning to recognise which secondary source will be most useful to my research. I can begin to carry out research independently.	Recognise which secondary sources will be most useful to research their ideas. I can recognise which secondary source will be most useful to my research. I can carry out research independently.
sources.		my own.	research on my own.		
Begin to talk about what	Talk about what they	Conclu Begin to use results to draw	Using results to draw	Begin to report and	Reporting and presenting
they have found out and	have found out and how	simple conclusions, make	simple conclusions, make	present findings from	findings from enquiries,
how they found it out.	they found it out.	predictions for new values, suggest improvements and	predictions for new values, suggest	enquiries, including conclusions, causal	including conclusions, causal relationships and
To begin to say what happened in my investigation.	To say what happened in my investigation. To say whether I was	raise further questions. Begin to use straightforward scientific	improvements and raise further questions. Use straightforward	relationships and explanations of and degree of trust in results, in oral and written forms	explanations of and degree of trust in results, in oral and written forms such as displays and other
To begin to say whether I was surprised at the results or not.	surprised at the results or not. To say what I would	evidence to answer questions or to support their findings.	scientific evidence to answer questions or to support their findings.	such as displays and other presentations. Begin to identify scientific	presentations. Identify scientific evidence that has been
To begin to say what I would change about my investigation.	change about my investigation.	With help, begin to look for changes, patterns, similarities and differences in their data in order to	With help, look for changes, patterns, similarities and differences in their data in	evidence that has been used to support or refute ideas or arguments.	used to support or refute ideas or arguments. Draw conclusions based
I can begin to talk about what I have found out.	have found out.	draw simple conclusions and answer questions. With support, am beginning to	order to draw simple conclusions and answer questions. With support,	Begin to draw conclusions based on their data and observations, use	on their data and observations, use evidence to justify their

		I	T		
•	I can explain how I carried	identify new questions	identify new questions	evidence to justify their	ideas, use scientific
I carried out my enquiry.	out my enquiry.	arising from the data, make	arising from the data,	ideas, use scientific	knowledge and
		new predictions and find	make new predictions and	knowledge and	understanding to explain
	I can suggest simple	ways of improving what	find ways of improving	understanding to explain	their findings.
simple changes to my	changes to my enquiry.	they have already done.	what they have already	their findings.	
enquiry.			done.		Use test results to make
		Begin to see a pattern in		Begin to use test results	predictions to set up
		my results.	Can see a pattern in my	to make predictions to set	further comparatives and
			results.	up further comparatives	fair tests.
		Begin to say what I found	Can say what I found out,	and fair tests.	
		out, linking cause and	linking cause and effect.		Look for different causal
		effect.		Begin to look for different	relationships in their data
			Can say how I could make	causal relationships in	and identify evidence that
		Begin to say how I could	it better.	their data and identify	refutes or supports their
		make it better.		evidence that refutes or	ideas.
			Can answer questions	supports their ideas.	
		Begin to answer questions	from what I have found	• •	Use their results to
		from what I have found	out.	Use their results to	identify when further
		out.		identify when further	tests and observations are
			I can draw simple	tests and observations are	needed.
		I am beginning to draw	conclusions based on the	needed.	
		simple conclusions based	results of my enquiry.		Separate opinion from
		on the results of my	, , ,	Begin to separate opinion	fact.
		enquiry.	I can answer my questions	from fact.	
			using the results of my		Can draw conclusions and
		I am beginning to answer	enquiry.	Begin to draw conclusions	identify scientific
		my questions using the	, ,	and identify scientific	evidence.
		results of my enquiry.	I can use my findings to	evidence.	
		l results of my enquiry.	make new predictions,		Can use simple models.
		I am beginning to use my	suggest improvements	Can use simple models.	Know which evidence
		findings to make new	and think of new	Know which evidence	proves a scientific point.
		predictions, suggest	questions.	proves a scientific point.	proved a concurrence pound.
		improvements and think of	4		Use test results to make
		new questions.	I can begin to think of	Begin to use test results	predictions to set up
		new questions.	cause and effect in my	to make predictions to set	further comparative and
			explanations.	up further comparative	fair tests.
		Ī		ap an ener compandence	

		I am beginning sometimes to think of cause and effect in my explanations.		I am beginning to draw scientific, causal conclusions using the results of an enquiry to justify my ideas. I am beginning to explain my conclusion using scientific knowledge and understanding. I am beginning to distinguish opinion and facts. I am beginning to use my findings to make predictions and set up further enquiries.	I can draw scientific, causal conclusions using the results of an enquiry to justify my ideas. I can explain my conclusion using scientific knowledge and understanding. I can distinguish opinion and facts. I can use my findings to make predictions and set up further enquiries I can begin to use abstrate models to explain my ideas.
Use some simple scientific language	Use simple scientific language and some science words.	Begin to use some scientific language to talk and, later, write about what they have	Use some scientific language to talk and, later, write about what	models to explain my ideas. Begin to read, spell and pronounce scientific vocabulary correctly.	Read, spell and pronounce scientific vocabulary correctly.
Begin to use some science words. Use comparative language with support.	Use comparative language – bigger, faster etc.	found out. Begin to use relevant scientific language.	they have found out. Use relevant scientific language.	Begin to use relevant scientific language and illustrations to discuss, communicate and justify scientific ideas.	Use relevant scientific language. And illustrations to discuss, communicate and justify scientific ideas.

I can begin to use simple	I can use simple scientific	Begin to use comparative	Use comparative and		
scientific language.	language.	and superlative language.	superlative language	Begin to confidently use a	Can confidently use a
scientific language.	language.	and superfactive language.	Superlative language	range of scientific	range of scientific
the state of the design	Land day the ballon	to a feet at a to the control of	1	_	
I can begin to describe	I can describe what I see.	I am beginning to use some	I can use some scientific	vocabulary.	vocabulary.
what I see e.g. something		scientific language in my	language in my work.		
is long.	I can compare e.g.	work.		Begin to use conventions	Can use conventions such
	something is longer or		I can describe my	such as trend, rogue	as trend, rogue result,
I can begin to compare	shorter.	I am beginning to describe	observations and my	result, support prediction	support prediction and -
e.g. something is longer		my observations and my	findings.	and -err word	err word generalisation.
or shorter.		findings.		generalisation.	
			I can use comparative and		Can use scientific ideas
		I am beginning to use	superlative descriptions	Begin to use scientific	when describing simple
		comparative and	e.g. long <u>er</u> / short <u>er</u> than,	ideas when describing	processes. Can use the
		superlative descriptions	longest / shortest.	simple processes.	correct science
		e.g. long <u>er</u> / short <u>er</u> than,			vocabulary
		longest / shortest.		Begin to use the correct	
			I can begin to describe	science vocabulary	I can read, spell and
		I can begin to describe	cause and effect.		pronounce scientific
		cause and effect.		I am beginning to read,	vocabulary correctly.
				spell and pronounce	
				scientific vocabulary	I can confidently use the
				correctly.	correct scientific language
				·	when appropriate.
				I am beginning to	
				confidently use the	I can explain my ideas
				correct scientific language	with scientific reasons.
				when appropriate.	
					I can use scientific
				I am beginning to explain	conventions e.g. trends,
				my ideas with scientific	rogue result, support
				reasons.	prediction.
				10030113.	prediction.
				I am beginning to use	
				scientific conventions e.g.	
				trends, rogue result,	
				support prediction.	
				Support prediction.	
		<u>l</u>			