

## Bonneygrove Primary School Progression of skills - Science

E,	Y	FS	5:	

Understanding the World - Children at the expected level of development will: - Explore the natural world around them, making observations and drawing pictures of animals and plants; 15 - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6				
	(KS1 skills)	(KS1 skills)	(Lower KS2 skills)	(Lower KS2 skills)	(Upper KS2 skills)	(Upper KS2 skills)				
Working Scientifically	To use the following practical scientific methods, processes and skills (adult port may be needed) –	To use the following practical scientific methods, processes and skills with increasing nfidence -	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 and enquiring Planning	Ask simple questions about the world around us.  Begin to recognise that	Recognise that they can	Ask some relevant questions and use different types of scientific enquiries to answer them.  Begin to explore everyday phenomena and the relationships between living	Ask relevant questions and use different types of scientific enquiries to answer them.  Explore everyday phenomena and the	Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.				
	they can be answered in different ways (diifferent types of enquiry including - observing changes over time, noticing patterns, grouping and	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	things and familiar environments.  Begin to develop their ideas about functions, relationships and interactions.  Begin to raise their own questions about the world around them.	relationships between living things and familiar environments.  Begin to develop their ideas about functions, relationships and interactions.  Raise their own questions	Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.  Begin to recognise some more abstract ideas and begin to recognise how these ideas	Explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.  Begin to recognise more abstract ideas and begin to recognise how these ideas help them to				
	classifying, carrying out simple	finding things out from secondary sources).  I can ask simple questions about the	from secondary	from secondary	from secondary sources).	from secondary sources).	Begin to make some decisions about which types of enquiry will	about the world around them.  Make some decisions	help them to understand how the world operates.	understand how the world operates.
	comparative tests, finding things out from secondary		be the best way of answering questions including observing changes overtime, noticing patterns, grouping and	about which types of enquiry will be the best way of answering	Begin to recognise scientific ideas change and develop over time.	Begin to recognise scientific ideas change and develop over time.				
	sources).	world around us.	classifying, carrying out simple comparative and fair tests, finding things out using secondary	observing changes over time, noticing patterns,	Begin to select the most appropriate ways to answer science questions using	Select the most appropriate ways to answer science questions using different types				

	Begin to observe	Observe closely,				
Observing and	closely, using	using simple	Begin to make systematic and	Make systematic and	Begin to take measurements,	Take measurements, using a
measuring Pattern	simple	equipment.	careful observations and,	careful observations and,	using a range of scientific	range of scientific equipment,
seeking	equipment.	equipment.	where appropriate, take	where appropriate, take	equipment, with increasing	with increasing accuracy and
Secking	equipment.	Use observations and		••••		· ·
	Lico cimania		accurate measurements	accurate measurements	accuracy and precision, taking	precision, taking repeat
	Use simple	ideas to suggest	using standard units, using a	using standard units,	repeat readings where	readings where appropriate.
	observations and	answers to questions.	range of equipment,	using a range of	appropriate.	
	ideas to suggest		including thermometers and	equipment, including		Identify patterns that might be
	answers to	To observe changes	data loggers.	thermometers and data	Begin to identify patterns	found in the natural
	questions.	over time and, with		loggers.	that might be found in the	environment.
		guidance, begin to	Begin to look for naturally		natural environment.	
	To observe simple	notice patterns and	occurring patterns and	Begin to look for naturally		
	changes over time	relationships.	relationships and decide what	occurring patterns and	Begin to make their own	Make their own decisions about
	and, with guidance,		data to collect to identify	relationships and decide	decisions about what	what observations to make,
	begin to notice		them.	what data to collect to	observations to make, what	what measurements to use and
	patterns and	To say what I am		identify them.	measurements to use and how	how long to make them for and
	relationships.	looking for and what I	Help to make decisions about		long to make them for and	whether to repeat them. Choose
		am measuring.	what observations to make,	Help to make decisions	whether to repeat them.	the most appropriate equipment
	To say what I am	To know how to use	how long to make them for	about what observations	Choose the most appropriate	and explain how to use it
	looking for and	simple equipment	and the type of simple	to make, how long to	equipment and explain how to	accurately.
	what I am	safely.	equipment that might be	make them for and the	use it accurately.	
	measuring.		used.	type of simple equipment		Can interpret data and
	To know how to use	Use simple		that might be used.	Begin to interpret data and	find patterns.
	simple equipment	measurements and			find patterns.	Select equipment on my own.
	safely.	equipment with		Learn to use new	Select equipment on my own.	Can make a set of observations
		increasing	I amount a common and a	equipment	Can make a set of observations	and say what the interval and
	Use simple	independence (eg	Learn to use some new	appropriately (eg data	and say what the interval and	range are.
	measurements and	hand lenses and egg	equipment appropriately (eg	loggers).	range are.	
	equipment with	timers)	data loggers).			Accurate and precise
	support (eg hand			Can see a pattern in	Begin to take accurate and	measurements
	lenses and egg	Begin to progress	Begin to see a pattern in	my results.	precise measurements – N, g,	– N, g, kg, mm, cm, mins,
	timers)	from non-standard	my results.	,	kg, mm, cm, mins, seconds,	seconds, cm²V, km/h, m per
	timers,	units, reading mm,		Can choose from a	cm <sup>2</sup> V, km/h, m per sec, m/ sec	sec, m/ sec Graphs – pie,
	Begin to progress	cm, m, ml, l,	Begin to choose from a	selection of equipment.	Graphs – pie, line	line, bar (Year 6)
	from non-standard	°C	selection of equipment.	concentration of equipments	propried	2, 22 ( 22 2,
	units, reading cm,			Can observe and	I can make accurate and	
	m, cl, l, °C	I can observe	Begin to observe and	measure accurately	precise measurements.	
	111, 01, 1, 0	changes over time.	measure accurately using	using standard units	precise measurements.	
	I can begin to		standard units including	including time in	I can decide what to observe,	I can make accurate and
	observe changes	I can say what I am	time in minutes and	minutes and seconds.	how long to observe for and	precise measurements.
	_	looking for and what I	seconds.	initiates alla secolias.	whether to repeat them.	
	over time.	am measuring.		Lean make systematic	whether to repeat them.	I can decide what to observe,
	Land banks and a second of the		I can make systematic and	I can make systematic and careful	I can take accurate and presice	how long to observe for and
	I can begin say what I	I can measure with	careful observations.	observations.	I can take accurate and precise measurements using standard	whether to repeat them.
	am looking for and	non- standard units		observations.	units N, g, kg, mm, cm, mins,	
	what I am	and can begin to use	I can decide what to observe	Loan docido what to	seconds, cm <sup>2</sup> V, km/h, m per	I can take accurate and precise
	measuring.	simple standard	and how long to collect	I can decide what to	seconds, cit v, kill/ll, lll pel	measurements using standard

	I am beginning to notice patterns.	I am beginning to notice patterns.	I can decide which equipment to use and can use new equipment eg. data loggers.  I can look for patterns and relationships.	units eg. mm, cm, m, ml, l, ºC, seconds, minutes,  I can decide which equipment to use and can use new equipment eg. data loggers.  I can look for patterns and relationships.		
Investigating	Perform simple tests with support.  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.	Perform simple tests.  To discuss my ideas about how to find things out.  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.	Set up some simple practical enquiries, comparative and fair tests.  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.	Set up simple practical enquiries, comparative and fair tests.  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 use test results to make predictions to set up further comparative and fair tests.  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.	Use test results to make predictions to set up further comparative and fair tests.  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.  I can suggest improvements to my test, giving reasons.

Recording and	Gather and record					Record data and results of
reporting findings	data with some	Gather and record data	Gather, record, and begin to	Gather, record, classify and	Begin to record data and	increasing complexity using
reporting infames	adult support, to	to help in answering	classify and present data in a	present data in a variety of	results of increasing	scientific diagrams and labels,
	help in answering	questions.	variety of ways to help in	ways to help in answering	complexity using scientific	classification keys, tables and
	questions.	questions.	answering questions.	-	diagrams and labels,	bar and line graphs.
	questions.		answering questions.	questions.	classification keys, tables and	bar and line graphs.
	Begin to record	Record simple data.	Begin to record findings using	Record findings using	bar and line graphs.	
	simple data.	necord simple data.	simple scientific language,	simple scientific	Sar and mie Brakmer	Report and present findings
		Record and	drawings, labelled diagrams,	language, drawings,	Begin to report and	from enquiries.
	Begin to record	communicate their	keys, bar charts and tables.	labelled diagrams, keys,	present findings from	1 1
	and communicate	findings in a range of	,.,	bar charts and tables.	enquiries.	
	their findings in a	ways.	Begin to report on findings from			Decide how to record data
	range of ways.	l ways.	enquiries, including oral and	Report on findings from	Begin to decide how to	from a choice of familiar
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Can show my results in	written explanations, displays	enquiries, including oral and	record data from a choice	approaches.
	Can show my results	a table that my	or presentations of results and	written explanations,	of familiar approaches.	approudites.
	in a simple table that	teacher has provided.	conclusions.	displays or presentations of	or rammar approaches.	Can choose how best to
	my teacher has	teacher has provided.	Concresions	results and conclusions.	Begin to choose how	present data.
	provided.		Begin to use notes, simple tables	results and conclusions.	best to present data.	present data.
	provided.		and standard units and help to	Use notes, simple tables	best to present data.	
	I can begin to		decide how to record and analyse	and standard units and		
	collect simple		their data.	help to decide how to		
	data.	I can collect simple data.	their data.	record and analyse their		I can record data and results
	data.	real concet simple data.	Begin to record results in tables	data.	I am beginning to record	of increasing complexity
	I can begin to	I can record data in	and bar charts.	duta.	data and results of	using – scientific diagrams
	record data in a	a table my teacher	und bui chares.	Can record results in tables	increasing complexity using	and labels classification keys
	table my teacher	has provided.	I am beginning to collect data	and bar charts.	<ul><li>scientific diagrams and</li></ul>	tables
	has provided.	nas providea.	in a variety of ways, including		labels, classification keys,	bar
	nas providea.	I can communicate	labelled diagrams, bar charts	I can collect data in a variety	tables ,bar graphs, line	graphs
	I can begin to	my findings in a	and tables.	of ways, including labelled	graphs	line .
	communicate my	variety of ways.		diagrams, bar charts and		graphs
	findings in a variety	variety or ways.	I am beginning to help decide	tables.	I am beginning to choose	
Identifying,	Identify and		- 11 <b>0</b> 011 1 p 1111		Begin to use and develop keys	Use and develop keys and
grouping and	classify with some	Identify and classify.	Begin to identify differences,		and other information	other information records to
classifying	support.	lacitity and classify.	similarities or changes related to	Identify differences,	records to identify, classify	identify, classify and describe
Ciussilying	зарроги.	Observe and	simple scientific ideas and	similarities or changes	and describe living things and	living things and materials.
	To begin to observe	identify, compare	processes.	related to simple scientific	materials.	iving timigs and materials.
	and identify,	and describe.	processes.	ideas and processes.		
	compare and	and describe.	Begin to talk about criteria for	lucus and processes.		I can use keys and other
	describe.		grouping, sorting and classifying	Talk about criteria for	I am beginning to use keys and	information records to classify
	describe.	Use simple features	and use simple keys.	grouping, sorting and	other information records to	and describe living things,
	To begin to use	to compare objects,	und use simple keys.	classifying and use simple	classify and describe living	materials and other scientific
	simple features to	materials and living	Begin to compare and group	keys.	things, materials and other	phenomena.
	compare objects,	things and, with	according to behaviour or	Keys.	scientific phenomena.	priorition.
	materials and living	help, decide how to	properties, based on testing.	Compare and group	Statistic prictionicia.	I can develop my own keys
	things and, with	sort and group	properties, basea off testing.	according to behaviour or	I am beginning to develop my	and other information
	help, decide how to	them.	I am beginning to talk about and	properties, based on	own keys and other	records to classify and
	sort and group them.	Circiii.	identify differences and	testing.	information records to classify	describe.
	23. Cana Group cheffi.		similarities in the properties or		and describe.	
			behaviour of living things,	I can talk about and identify		I can identify changes related
	Lean hagin to identify		materials and other scientific	differences and similarities in	Lam beginning to identify	to scientific phenomena

	T		1	I	T	T
	I can begin to	I can compare, sort	I am beginning to identify	I can identify simple		
	compare, sort and	and group a range of	simple changes related to	changes related to simple		
	group a range of	objects, materials and	simple scientific phenomena.	scientific phenomena.		
	objects, materials	living things				
	and living things.		I am beginning to discuss criteria	I can discuss criteria for		
			for grouping and sorting and can	grouping and sorting and		
			classify using simple keys.	can classify using simple		
			classify asing simple keys.	keys.		
Dagagala			Begin to recognise when	Reys.		Recognise which secondary
Research	To begin to use	Use simple secondary	and how secondary	Begin to recognise when	Begin to recognise which	sources will be most useful to
	simple secondary	sources to find	-	and how secondary	secondary sources will be most	research their ideas.
			sources might help to		useful to research their ideas.	research then lucas.
	sources to find	answers.	answer questions that	sources might help to	userui to research their ideas.	
	answers.		cannot be answered	answer questions that		
		Can find information	through practical	cannot be answered	I am beginning to recognise	I can recognise which
	To begin to find	to help me from		through practical	which secondary source will	secondary source will be
	information to help	books and	investigations.	investigations.	be most useful to my	most useful to my research.
	me from books and	computers with help.			research.	
	computers with		I can begin to decide	I can begin to decide		I can carry out
	help.		when research will help	when research will help	I can begin to carry out	research
			·	in my enquiry.	research independently.	independently.
	I can begin to find		in my enquiry.	, , ,	, ,	, ,
	information to help	I can find information		I can carry out		
	me from books,	to help me from	I am beginning to carry	simple research on		
	computers and	books, computers	out simple research on	my own		
Conclusions	Begin to talk about	Talk about what they		Using results to draw simple	Am beginning to report and	Reporting and presenting
Conclusions	what they have	have found out and	I am beginning to use results to	conclusions , make	present findings from enquiries	findings from enquiries,
	found out and how	how they found it out.	draw simple conclusions , make	predictions for new values,	, including conclusions, causal	including conclusions, causal
	they found it out.	,	predictions for new values,	suggest improvements and	relationships and explanations	relationships and explanations
	,	To say what	suggest improvements and raise	raise further questions.	of and degree of trust in	of and degree of trust in results,
	To begin to say	happened in my	further questions.	raise fartifer questions.	results, in oral and written	in oral and written forms such
	what happened in	investigation.	Tarther questions.		forms such as displays and	as displays and other
		_	Am beginning to use	Lico straightforward	other presentations.	presentations.
	my investigation.	To say whether I was		Use straightforward	other presentations.	presentations.
	To begin to say	surprised at the	straightforward scientific	scientific evidence to		
	whether I was	results or not.	evidence to answer questions or	answer questions or to		
	surprised at the	To say what I	to support their findings.	support their findings.	Begin to identify scientific	
	results or not.	would change			evidence that has been	Identify scientific evidence that
	To begin to say	about my			used to support or refute	has been used to support or
	what I would	investigation.	With help, am beginning to look		ideas or arguments.	refute ideas or arguments.
	change about my		for changes, patterns, similarities	With help, look for changes,		. s. accided of diguillenes.
	investigation.		and differences in their data in	-	Begin to draw conclusions	Draw conclusions based on their
			order to draw simple conclusions	patterns, similarities and	based on their data and	Draw conclusions based on their
			and answer questions. With	differences in their data in	observations, use evidence to	data and observations, use
	I can begin to talk		support, am beginning to identify	order to draw simple	justify their ideas, use scientific	evidence to justify their ideas,
	about what I have	I can talk about	new questions arising from the	conclusions and answer	knowledge and understanding	use scientific knowledge and
	found out.	what I have found	data, make new predictions and	questions. With support,	to explain their findings.	understanding to explain their
	. Juliu Juli	out.	find ways of improving what they	identify new questions	to explain their illiangs.	findings.
	I can begin to	out.	have already done.	arising from the data, make	Pagin to use test results to	
	explain how I	Lean avalaire have l	nave already dolle.	new predictions and find	Begin to use test results to	
	carried out my	I can explain how I	And having in the second setting	ways of improving what they	make predictions to set up	Use test results to make
		carried out my	Am beginning to see a pattern	have already done.	further comparatives and fair	predictions to set up further
	enguiry.	enquiry	in my results	<u>'</u>	tests	<u>'</u>

			Am beginning to answer	Can say how I could	Use their results to identify	Use their results to identify
			questions from what I have	make it better.	when further tests and	when further tests and
			found out.	make it better.	observations are needed.	observations are needed.
			Tourid out.	Can answer questions from	observations are needed.	observations are needed.
			Lam basinning to draw simple	1	Designate consents emission	Consumts animism from foot
			I am beginning to draw simple	what I have found out.	Begin to separate opinion	Separate opinion from fact.
			conclusions based on the		from fact.	
			results of my enquiry.	I can draw simple		Can draw conclusions and
				conclusions based on the	Begin to draw conclusions	identify scientific evidence.
			I am beginning to answer my	results of my enquiry.	and identify scientific	Can use simple models.
			questions using the results of my		evidence. Can use simple	Know which evidence
			enquiry.	I can answer my questions	models.	proves a scientific point.
				using the results of my	Know which evidence	
			I am beginning to use my	enquiry.	proves a scientific point.	Use test results to make
			findings to make new			predictions to set up further
			predictions, suggest	I can use my findings to	Begin to use test results to	comparative and fair tests.
			improvements and think of new	make new predictions,	make predictions to set up	
			questions.	suggest improvements and	further comparative and fair	
				think of new questions.	tests.	I can draw scientific, causal
			I am beginning sometimes to	4400000		conclusions using the results
			think of cause and effect in my	I can begin to think of cause	I am beginning to draw	of an enquiry to justify my
			explanations.	and effect in my	scientific, causal conclusions	ideas
			explanations.	explanations.	using the results of an enquiry	racas
				explanations.	to justify my ideas	I can explain my conclusion
					to justify fify lideas	using scientific knowledge
					I am beginning to explain	and understanding.
					my conclusion using	
					scientific knowledge and	I can distinguish opinion and facts.
					understanding.	
						I can use my findings to
					I am beginning to	make predictions and set
					distinguish opinion and	up further enquiries
					facts.	
Vocabulary	Use some	Use simple scientific				Read, spell and pronounce
	simple scientific	language and some	Begin to use some scientific	Use some scientific language	Am beginning to read, spell	scientific vocabulary correctly.
	language	science words.	language to talk and, later, write	to talk and, later, write	and pronounce scientific	
			about what they have found	about what they have found	vocabulary correctly.	Use relevant scientific language.
	Begin to use		out.	out.	Am beginning to use relevant	And illustrations to discuss,
	some science	Use comparative			scientific language and	communicate and justify
	words.	language	Begin to use relevant	Use relevant scientific	illustrations to discuss,	scientific ideas.
		_	scientific language.	language.	communicate and justify	
	Use comparative	bigger, faster etc	co.c.itiiic idiigaage.		scientific ideas.	
	language with		Begin to use comparative	Use comparative and	S. S	Can confidently use a
	support.		and superlative language.	·	Am beginning to confidently	range of scientific
	Support.	I can use simple	and supenative idliguage.	superlative language		_
	Lean hagin to	scientific language.	Laure la catacata a Ac		use a range of scientific	vocabulary.
	I can begin to	00.	I am beginning to use some	I can use some	vocabulary.	
	use simple	I can describe what I see.	scientific language in my work.	scientific language in		Can use conventions such as
	scientific	. can acsenbe what i see.		my work.	Am beginning to use	trend, rogue result, support
	language.	I can compare eg	I am beginning to describe		conventions such as trend,	prediction and
			my observations and my	I can describe my	rogue result, support	-er word generalisation.
	I can begin to	something is longer	findings	observations and my	nrediction and -er word	1

		1			processes Am boginning to	
			I can begin to describe cause		processes. Am beginning t0 use the correct science vocabulary	I can read, spell and
			and effect.	I can begin to describe	the correct science vocabalary	pronounce scientific
				cause and effect.	I am beginning to read, spell	vocabulary correctly.
					and pronounce scientific	1000001011
					vocabulary correctly.	I can confidently use the correct
					, ,	scientific language when
					I am beginning to confidently	appropriate.
					use the correct scientific	
					language when appropriate.	I can explain my ideas with
						scientific reasons.
					I am beginning to explain my	
					ideas with scientific reasons.	I can use scientific conventions
						eg trends, rogue result,
					I am beginning to use	support prediction.
					scientific conventions eg	
					trends, rogue result,	
	Can begin to talk	Can talk about how	Begin to know which things in	Knows which things in	support prediction.  Am beginning to talk about	Can talk about how scientific
Understanding	about how science	science helps us in our	science have made our lives	science have made our	how scientific ideas have	ideas have changed over time.
	helps us in our daily	daily lives eg. torches	better.	lives better.	changed over time.	lueas have changed over time.
	lives eg. torches and	and lights help us see	better.	iives better.	Am beginning to explain the	Can explain the positive and
	lights help us see	hen it is dark.	Can begin to understand	Can understand there is	positive and negative effects	negative effects of scientific
	hen it is dark.	Herricis dark.	risk in science.	some risk in science.	of scientific development.	development.
		Am beginning to	The state of the s		Am beginning to see how	
	Am beginning to	understand science			science is useful in everyday	Can see how science is
	understand science	can sometimes be	I am beginning to know which	I know some things in science	life.	useful in everyday life.
	can sometimes be	dangerous.	things in science have made our	which have made our lives	Am beginning to say which	Can say which parts of our lives
	dangerous.		lives better eg computers in	better eg computers in	parts of our lives rely on	rely on science.
		I can say how science	schools, hospitals etc	schools, hospitals etc	science.	
	I can say how	helps us in our daily				
	science helps us in	lives.	I can begin to understand	I understand there is some	I am beginning to see how	I can see how science is
	our daily lives.		risk in science	risk in science	science is useful in lots of	useful in lots of different
		I can say how science			different ways.	ways.
	I can say how	can be dangerous eg				
	science can be	electricity can give you			I am beginning to say which	I can say which parts of our
	dangerous eg	a shock.			parts of our lives rely on	lives rely on science.
	electricity can give				science.	
	you a shock.				Land backward of	I can explain the positive
					I am beginning to explain	and negative effects of
					the positive and negative effects of scientific	scientific developments
					developments.	
					developments.	