# ST BERNADETTE'S RC PRIMARY SCHOOL



WORKING SCIENTIFICALLY MILESTONES





EYFS	To ask scientific	To plan an enquiry	To observe closely	To take measurement	To gather/record	To present results	To interpret results	To draw conclusions	To make a prediction	To evaluate an enquiry
	questions	5q,	3.255.,	S	results	. 554.15	. 555.15	23	p. 5551.	5qs <i>j</i>
Classifying	Ask simple questions to sort objects/ pictures into 2 groups		Be able to compare objects based on obvious, observable features e.g. size, shape, colour, texture etc.			Sort objects/living things into two groups	Talk about the number of objects in each group i.e. which has more or less	Children in EYFS are not expected to make	Children in EYFS are not expected to make	
Researching	Ask simple questions to find out more					Present their ideas through pictures, in role-play & simple tally charts/block graphs (with adult support)	Be able to answer simple questions	scientific predictions as they do not have the subject knowledge to do this.	scientific predictions as they do not have the subject knowledge to do this.	Children in EYFS are not expected to evaluate. However,
Comparative/Fair Testing		Choose the	Know about similarities and differences in relation to objects/materials/livin g things	Carry out a fair test as part of a group.	Record data in simple prepared tables,		Talk about	That does not mean that you should not ask children what they think may	That does not mean that you should not ask children what they think may	children should be encouraged to consider their method and adapt this where necessary.
Observing Over Time	Ask a question about what	resources they need for their chosen activities and say when they do or don't need help	Make simple observations over time	Watch changes over time and use simple methods of measuring	pictorially or by taking photographs	Present what they learnt verbally or using pictures	observable features, explain why some things happen and talk about changes	happen, but this will be based on experience or may simply be a	happen, but this will be based on experience or may simply be a	
Pattern Seeking	might happen next				Record data in simple, prepared tables and tally charts			guess.	guess.	





	To ask scientific	To plan an	To observe	To take	То	To present	To interpret	To draw	To make a	To evaluate an
KS1	questions	enquiry	closely	measurements	gather/record	results	results	conclusions	prediction	enquiry
			5 11 1		results	6 1 1: 1	<b>-</b> 11 1			
			Be able to compare			Sort objects and	Talk about the number of			
		Identify the	objects			living things	objects			
50	Be able to ask a	headings for	based on			into	in each group			
, Air	Yes/No	the	obvious,			two group	i.e.			
Classifying	questions	two groups	observable			using a	which has more			
Cla	to aid sorting	(it is, it is	features e.g.			basic Venn	or			
	0	not)	size,			diagram	less	Children in KS1	Children in KS1	
		,	shape, colour,			or simple table		are not	are not	
			texture etc.					expected to	expected to	
	Ask one or two					Present what	Be able to	make scientific	make scientific	
Researching	simple					they	answer their	predictions as	predictions as	
l 5	questions					have learnt	questions	they	they	
sea	linked to a					verbally or	using simple	do not have the	do not have the	
Re	topic					using	sentences	subject	subject	Children in KS1
						pictures		knowledge	knowledge	are not expected
	Identify the				Record data in	Present what		to do this. That	to do this. That	to
ä	question to				simple	they		does not mean that	does not mean that	evaluate. However, children should be
) S	investigate from a				prepared tables,	learnt verbally, using pictures		you should not	you should not	encouraged to
arative, Testing	scenario or				pictorially or	or		ask	ask	consider their
ara Tes	choose				by taking	block diagrams		children what	children what	method and adapt
Comparative/Fair Testing	a question from	Choose			photographs	Stock diagrams		they	they	this where
3	а	equipment		When	p.v.e.seg. april		Answer their	think may	think may	necessary.
	range provided	to use and		appropriate,			question in	happen,	happen,	·
	Ask a question	decide	Make	measure using	Record data in	Present what	simple	but this will be	but this will be	
Observing Over Time	about what	what to do and what to	observations linked to	standard units	simple	they	sentences using	based on	based on	
e Q	might	observe or	answering the	where all the	prepared	learnt verbally	their	experience or	experience or	
i vi E	happen in the	measure in	question	numbers are	tables,	or	observations	may	may	
ser	future based on	order	question	marked on the	pictorially or	using pictures	or	simply be a	simply be a	
o	an	to answer the		scale	by taking		measurements	guess.	guess.	
	observation	question			photographs		-			
	Ask a question	•			Record data in	Present what				
LJ 8U	that				simple,	they				
Pattern Seeking	is looking for a pattern based				prepared	learnt verbally				
Pa Se	on pattern based				tables and tally					
	observations				charts					
L	ODSEL VALIDITS						1			





11/62	To ask scientific	To plan an	To observe	To take	То	To present	To interpret	To draw	To make a	To evaluate an
LKS2	questions	enquiry	closely	measurements	gather/record results	results	results	conclusions	prediction	enquiry
Classifying	Be able to ask a Yes/No questions to aid sorting	Be able to put appropriate headings onto intersecting Venn and Carroll diagrams	Compare objects based on more sophisticated, observable features. Present observations in labelled diagrams			Sort objects and living things into groups using intersecting Venn and Carroll diagrams	Spot patterns in the data particularly two criteria with no examples e.g. there are no living things with wings and no legs	Draw simple conclusions, when appropriate, for patterns e.g. a flying insect with no legs might always crash land		Suggest improvement e.g. a wider range of objects – only looked at British trees. Suggest new questions arising from the investigation.
Researching		Choose a source from a range provided				Present what they learnt verbally or using labelled diagrams	Be able to answer their questions using simple scientific language			Suggest limitations e.g. only had one book. Suggest new questions arising from the investigation
Comparative/ Fair Testing	Ask a range of questions linked to a topic	Decide what to change and what to measure or observe	Make observations linked to answering the question	Measure using standard units where not all the numbers are marked on the scale, and take repeat readings where necessary	Prepare own tables to record	Present data in bar charts	Refer directly to their evidence when	Where appropriate provide oral or	Use results from an investigation to make a	Suggest improvements e.g. to method of taking measurements.
Observing Over Time		Decide what to measure or observe. Decide how often to take a measurement.	Make a range of relevant observations	Measure using standard units where not all the numbers are marked on the scale. Use dataloggers to measure over time.	data	Present data in time graphs	answering their question	written explanations for their findings	prediction about a further result	Suggest new questions arising from the investigation.





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Pattern Seeking		Decide what to measure or observe	Make observations linked to answering the question	Measure using standard units where not all the numbers are marked on the scale		Use ICT package to present data as a scattergram				
UKS2	To ask scientific questions	To plan an enquiry	To observe closely	To take measurements	To gather/record results	To present results	To interpret results	To draw conclusions	To make a prediction	To evaluate an enquiry
Classifying	Be able to ask a range of Yes/No questions to aid sorting and decide which ways of sorting will give useful information	Identify specific clear questions that will help to sort without ambiguity	Be able to compare not only based on physical properties but also on knowledge gained through previous enquiry			Create branching databases (tree diagrams) and keys to enable others to name livings things and objects	Be able to talk about the features that objects and living things share and do not share based on the information in the key etc	Be able to use data to show that livings things and materials that are grouped together have more things in common than with things in other groups		Be able to explain using evidence that the branching database or classification key will only work for the living things or materials it was created for
Researching	Ask a range of questions recognising that some can be answered through research and others may not	Choose suitable sources to use				Present what they learnt in a range of ways e.g. different graphic organisers	Be able to answer their questions using scientific evidence gained from a range of sources			Be able to talk about their degree of trust in the sources they used
Comparative/ Fair Testing	Ask a range of questions and identify the type of enquiry that will help to	Recognise and control	Make observations linked to answering the question	Measure using standard units using	Prepare own tables to record data, including	Choose an appropriate form of	Be able to answer their question, describing causal relationships	Provide oral or written	Use test results to make	Explain their degree of trust in their results e.g. precision in taking measurements,
Observing Over Time	answer the questions. Ask further questions based on results	variables where necessary	Make a range of relevant observations	equipment that has scales involving decimals	columns for taking repeat readings	presentation, including line graphs	Be able to answer their questions, describing the change over time	explanations for their findings	predictions for further investigations	variables that may not have been controlled, and accuracy of results



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Make observations linked to answering the question answering the question  Make observations linked to answering the question  Choose an appropriate form of presentation, including scatter graphs
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