	EYFS: Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Posing questions	With support, asking questions about the natural world.	Exploring the world around them and raising their own simple questions. Recognising there are different types of enquiry (ways to answer a question). Responding to suggestions on how to answer questions.		Beginning to raise further questions during the enquiry process. Considering what makes a testable question. Beginning to recognise that there are different types of enquiry and that they are suitable for different questions. Beginning to make suggestions about how different questions could be answered.		Raising questions throughout the enquiry process. Identifying testable questions. Selecting the most appropriate enquiry method to answer questions and give justification.	
Planning	Beginning to share ideas and suggestions about what to do, when working practically.	Beginning to recognise whether a test is fair. With support, deciding if suggested observations are suitable. Ordering a simple method.		Beginning to select from options which variables will be changed, measured and controlled. Beginning to suggest what observations to make and how long to make them for. Planning a simple method, verbally and in writing. Beginning to write a simple method in numbered steps. Selecting and beginning to decide what simple equipment might be used to aid observations and measurements.		Suggesting which variables will be changed, measured and controlled. Making and explaining decisions about what observations to make and how long to make them for. Writing a method including detail about how to ensure control variables are kept the same. Writing a method that considers reliability by ...ning repeated readings. Suggesting the most appropriate equipment to make observations and measurements and justifying their choices.	
Predicting	Beginning to make guesses about what might happen.	Suggesting what might happen, often justifying with personal experience.		Making predictions about what they think will happen by: • Using scientific knowledge and/or personal experience to explain their prediction (because...) • Beginning to consider cause and effect when making predictions, where appropriate. • Predicting a trend by considering how the changing variable will affect the measured variable. (The smoother the surface, the longer the distance the car will travel)		Making increasingly scientific predictions by: • Using previous scientific knowledge and evidence to inform their predictions. • Using scientific language to describe a potential outcome or explain why they think something will happen. • Making links between topics to evidence a prediction.	

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Observing (qualitative data)	Commenting on what they see and hear in the natural world.	Using their senses to describe, in simple terms, what they notice or what has changed.		Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed.		Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed.	
Measuring (quantitative data)	Using non-standard units to measure.	Using non-standard units to measure and compare. Beginning to use standard units and read simple scales to measure and compare. Beginning to use simple measuring equipment to make approximate measurements.		Using standard units to measure and compare. Using measuring equipment with increasing accuracy. Reading scales with unmarked intervals between numbers.		Using standard units to measure and compare with increasing precision (decimals). Reading a wider variety of scales with unmarked intervals between numbers.	
Researching	Recognising that information can be found online and in books.	Gathering specific information from one simplified, specified source.		Gathering specific information from a variety of sources.		Gathering answers to open-ended questions from a variety of sources.	
Recording (diagrams)	Drawing and labelling pictures of plants and animals.	Drawing and labelling simple diagrams.		Beginning to draw more scientific diagrams by: • Using some standard symbols. • Drawing in 2D to produce simple line diagrams. • Labelling with more scientific vocabulary.		Drawing scientific diagrams by: • Using a wider range of standard symbols. • Drawing with increasing accuracy. • Labelling with a broader range of scientific vocabulary. • Annotating diagrams to explain concepts and convey opinions.	
Recording (tables)	Recognising that tables can be used to record information.	Using a prepared table to record results including: • Numbers. • Simple observations. • Tally frequency.		Using a prepared table to record results including more detailed observations. Using tables with more than two columns. Identifying and adding headings to tables. Beginning to design simple results tables.		Using tables with columns that allow for repeat readings. Suggesting headings to tables, including units. Designing results tables with increasing independence with consideration of variables where applicable. Calculating the mean average.	
Grouping and classifying	With support, grouping objects, plants and animals.	Grouping based on visible characteristics. Organising questions to create a simple classification key.		Grouping based on visible characteristics and measurable properties. Populating a pre-prepared branching and number key. Choosing appropriate questions for classification keys.		Grouping in a broader range of contexts. Organising the layout of number and branching keys. Formulating appropriate questions for classification keys.	

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Graphing	N/A	Representing data using pictograms and block graphs.		Representing data using bar charts. Drawing bars with greater accuracy. Reading the value of bars with greater accuracy.		Representing data by using line graphs and scatter graphs. Plotting points with greater accuracy. Reading the value of plotted points with greater accuracy.	
Analysing and drawing conclusions	Describing their discoveries when working practically.	Using their results to answer simple questions. Beginning to recognise when results or observations do not match their predictions.		Writing a conclusion to summarise findings using simple scientific vocabulary. Beginning to suggest how one variable may have affected another. Beginning to quote results as evidence of relationships. Identifying data that does not fit a pattern (anomalous data). Recognising when results or observations do not match their predictions. Beginning to use identified patterns to predict new values or trends.		Writing a conclusion to summarise findings using increasingly complex scientific vocabulary. Suggesting with increasing independence how one variable may have affected another. Quoting relevant data as evidence of relationships. Identifying anomalies in repeat data and excluding results where appropriate. Comparing individual, class and/or model data to the prediction and recognising when they do not match. Using identified patterns to predict new values or trends.	
Evaluating	N/A	N/A		Beginning to identify steps in the method that need changing and suggest improvements. Beginning to identify which variables were difficult to control and suggesting how to better control them. Commenting on the degree of trust by reflecting on: • Results that do not fit a pattern (anomalies). • The quality of results (accurate measurements and maintaining control variables). Beginning to identify new questions that would further the enquiry.		Identifying steps in the method that need changing and suggesting improvements. Identifying which variables were difficult to control and suggesting how to control them better. Commenting on the degree of trust by also reflecting on: • Accuracy (human error with equipment). • Reliability (repeating results). • Sources of information (e.g. websites, books). Posing new questions in response to the data that would extend the enquiry. Deciding what data to collect to further test direct relationships.	