

KS3 Science : Key Skills & Concepts	Emerging	Developing	Securing	Mastering
Natural Phenomena Scientists communicate their understanding of natural phenomena.	Identify natural phenomena using scientific words. Describe natural phenomena simply, using everyday language.	Describe natural phenomena using scientific language. Identify natural phenomena in novel situations.	Explain natural phenomena using scientific terminology. Describe natural phenomena in novel situations.	Explain how a natural phenomenon links to a wider context using scientific terminology.
Science and Society Scientists understand the relationship between humans and natural phenomena including in the fields of medicine, technology and environment.	List ways humans use science or humans impact the natural world.	Describe, using scientific language, a human activity that impacts the natural world or a scientific phenomenon can be used in technology.	Explain how several human factors can impact the natural world or a scientific phenomenon can be used in technology.	Evaluate the most important impacts humans have on natural phenomena. Explain in detail how scientific phenomena are linked to technology or human activity.
Visualising Natural Phenomena Scientists use equipment and models to visualise and simplify natural phenomena.	Follow simple instructions to visualise natural phenomena using equipment or models. Identify structures and equipment using some scientific words.	Use equipment or models to visualise natural phenomena. Identify structures and equipment using a range of scientific words. Explain why models are used and relate parts of the model to the phenomenon.	Describe in detail how a piece of equipment can be used to visualise scientific phenomenon. Explain how a model represents a scientific phenomenon. Suggest improvements to a model.	Explain how a piece of equipment helps us visualise scientific phenomenon. Evaluate 2 or more models to represent a scientific phenomenon.
Experiments Scientists carry out experiments to test hypotheses.	Ask a question about the natural world. Follow simple instructions to carry out an investigation, recording measurements, stating one risk or safety precaution.	Identify the variables from a scientific question. Describe simply how to carry out an experiment. Make a prediction. Follow instructions to carry out an investigation recording measurements. Identifying some hazards or safety precautions.	Write a scientific question, identifying its variables and describe how to investigate it. Make a prediction explained using scientific language. Carry out an investigation recording observations appropriately. Identify possible hazards and link these to safety precautions.	Write a detailed method or evaluate a method to test a hypothesis. Carry out an investigation with minimal prompting, recording results appropriately. Write a risk assessment where hazards are linked to risk level and safety precautions given.
Data Scientists use quantitative and qualitative methods to present, analyse and make conclusions about natural phenomena.	Name different types of graphs and plot data on axis. Calculate a mean. State a simple conclusion from data.	Plot data and label axes correctly. Describe patterns shown in graphs and make a conclusion using a piece of data. Calculate the mean and range. Identify anomalies.	Draw the correct type of graph explaining why the type of graph was chosen. Describe data in detail. Make conclusions using data and explain them by linking to natural phenomena. Calculate the mean and range. Identify anomalies and suggest why they have arisen.	Draw graphs showing more than one set of data. Describe and compare two sets of data in detail. Make a conclusion justified with a calculation and linked in detail to natural phenomena. Evaluate whether a set of data supports a hypothesis.