

Rose Wood Science Progression Matrix


Introduction

The matrix for science is divided into two parts:
Progression in concepts and Working Scientifically:


- Progression in concepts is based on the statements relating to key ideas in science. It is split into Biology, Chemistry and Physics; within each of these a number of 'aspects' have been identified and used to show how later statements progress from earlier ones.
- *Working Scientifically* is based on the main skill areas which are broadly viewed as processes (e.g. planning investigations, reporting findings). Each of these is then subdivided into individual skills.

Year 1


Rose Wood Progression Matrix for science Year 1

 Biology				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Living things can be classified according to observable features	There is no content in Year 1.			
2) Habitats provide living things with what they need	There is no content in Year 1.			
3) Living things exhibit variation and adaptation and these may lead to evolution.	There is no content in Year 1.			
4a) Life exists in a variety of forms and goes through cycles – Plants	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees	Identify and name a limited range of plants.	Identify a range of local plants.	Identify and notice similarities between various local plants.
	Identify and describe the basic structure of a variety of common flowering plants, including trees	Identify and describe the basic structure of a common flowering plant.	Name parts of a range of familiar plants.	Identify and notice similarities in the structure of various local plants.
	Explore and compare the differences between things that are living, dead, and things that have never been alive	Sort items into 'once living' and 'never lived'.	Compare and contrast a collection of items, sorting into categories: 'living', 'dead' and 'things that have never been alive'.	Research further examples to add to the categories: 'living', 'dead' and 'things that have never been alive'.


Rose Wood Progression Matrix for science Year 1

 Biology				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
4b) Life exists in a variety of forms and goes through cycles – Animals	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals	Identify and name a limited number of common animals.	Name a variety of common animals.	Identify common features of the main groups of vertebrates.
	Identify and name a variety of common animals that are carnivores, herbivores and omnivores	Recognise the difference between carnivores, herbivores and omnivores.	Identify and group a range of familiar animals.	Suggest whether an unfamiliar animal might be a carnivore, herbivore or omnivore.
5) The human body has a number of systems, each with its own function	Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	Identify key features of one or two common animals.	Identify key features of a range of common animals.	Compare key features of familiar and unfamiliar animals.
	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	Describe each of the human senses.	Relate each of the human senses to organs.	Suggest how the senses are used in an activity such as eating.


Rose Wood Progression Matrix for science Year 1

 Chemistry				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Different rocks have different properties and the formation of soil & fossils can be explained	There is no content in Year 1.			
2) Materials have physical properties which can be investigated and compared	Distinguish between an object and the material from which it is made	Identify the material from which an object has been made.	Correctly identify both object and material.	Compare the same object made from different materials in terms of its effectiveness.
	Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock	Identify and name a limited range of materials.	Identify and name a range of materials.	Identify typical uses of a range of materials.
	Describe the simple physical properties of a variety of everyday materials	Recognise that a material has properties.	Describe a range of properties of a variety of materials.	Compare the physical properties of different everyday materials.
	Compare and group together a variety of everyday materials on the basis of their simple physical properties	Compare and contrast two everyday materials.	Classify a variety of materials into groups based on physical properties.	Use simple physical properties to suggest classification of materials.
3) The physical properties of materials determine their uses	There is no content in Year 1.			
4) Materials can exist in different states and that these states can sometimes be changed	There is no content in Year 1.			


Rose Wood Progression Matrix for science Year 1

 Physics				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) There are contact and non-contact forces; these affect the motion of objects	There is no content in Year 1.			
2) Day, night, month, seasonal change & year are caused by the position and movement of the Earth	Observe changes across the four seasons	Recognise that there are seasonal changes.	Describe seasonal changes.	Recognise changes within seasons as well as between seasons.
	1) Observe and describe weather associated with the seasons and how day length varies	Recognise that day length alters in different seasons.	Relate weather patterns and day length to seasons.	Make and test predictions relating to changing day length and weather patterns.
3) Light & sound can be reflected & absorbed and enable us to see & hear	There is no content in Year 1.			
4) Electricity can make circuits work and can be controlled to perform useful functions	There is no content in Year 1.			


Rose Wood Progression Matrix for science, Year 1

 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Planning Investigations	a) Pupils can ask questions	Ask simple questions when prompted	Pupil can understand that questions can be answered by testing.	Pupil can, with prompting, ask simple questions that can be tested, e.g. about plants growing in their habitat.	Pupil can ask simple questions that can be tested.
	b) Pupils can plan an enquiry	Suggest ways of answering a question	Pupil can, with prompting, offer way of gathering evidence to answer a question.	Pupil can offer ways of gathering evidence to answer a question, e.g. by deciding on the best material to use for a particular application.	Pupil can suggest different ways of answering question.
	c) Pupils can identify and manage variables	There is no content in Year 1.			
2) Conducting experiments	a) Pupils can use equipment to take measurements	Make relevant observations	Pupil can examine objects, when prompted.	Pupil can examine objects to note key features, e.g. observe growth of plants they have planted.	Pupil can examine carefully, e.g. using a hand lens.
		Conduct simple tests, with support	Pupil can recognise a simple scientific test.	Pupil can, with support, conduct simple tests, e.g. comparing the properties of different materials.	Pupil can conduct simple tests.
	b) Pupils explore how to improve the quality of data	There is no content in Year 1.			
	c) Pupils understand the role of repeat readings	There is no content in Year 1.			

Rose Wood Progression Matrix for science, Year 1

 Working scientifically					
Process	Sub-process	Progression statement	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
3) Recording evidence	a) Pupils record work with diagrams and label them	With prompting, suggest how findings could be recorded	Pupil can recognise the purpose of an experiment.	Pupil can, with prompting, identify what might usefully be recorded, e.g. drawing structures of plants or recording changing day length.	Pupil can, with assistance, draw and label diagrams.
	b) Pupils can display data using labelled diagrams, keys, tables and bar charts	There is no content in Year 1.			
	c) Pupils can display data using line graphs	There is no content in Year 1.			
4) Reporting findings	a) Pupils process findings to develop conclusions and identify causal relationships	Recognise findings	Pupil can, with prompting, identify key findings from an enquiry.	Pupil can identify key findings from an enquiry, e.g. noting how plants have changed over time.	Pupil can identify and group key outcomes from an enquiry.
	b) Pupils use displays and presentations to report on findings	There is no content in Year 1.			
	c) Pupils explain confidence in findings	There is no content in Year 1.			

Rose Wood Progression Matrix for science, Year 1


 Working scientifically					
Process	Sub-process	Progression statement	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
5) Conclusions and predictions	a) Pupils can analyse data	Gather and record data (+)	Pupil can collect data, when prompted.	Pupil can collect data, e.g. comparing and contrasting familiar plants.	Pupil can collect data relevant to the answering of questions.
	b) Pupils can draw conclusions	Use observations to suggest answers to questions (+)	Pupil can. with prompting, suggest answers to enquiry questions using data.	Pupil can suggest answers to enquiry questions using data, e.g. describe how to group plants.	Pupil can answer enquiry questions using data and ideas.
	c) Pupils can develop investigation further	There is no content in Year 1.			

Rose Wood Progression Matrix for Science, Year 2


Year 2

Rose Wood Progression Matrix for Science, Year 2




 Biology				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Living things can be classified according to observable features	There is no content in Year 2.			
2) Habitats provide living things with what they need	Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other	Identify that a habitat supplies living things with what they need.	Explain how, for a named animal or plant, it gets what it needs from its habitat and other living things that are there.	Explain why there may be a limit as to how many of a certain living thing can live in a particular area.
	Identify and name a variety of plants and animals in their habitats, including microhabitats	Identify a limited range of living things in their habitats.	Identify a range of living things in habitats of various sizes.	Identify a range of living things and suggest why they may be found in that habitat.
	Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food	Identify a predator-prey relationship.	Construct a simple food chain and identify what is eating what.	Suggest, within a simple food chain, what might happen if one of the living things becomes scarce.
	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	Find out one thing that plants need to grow and stay healthy.	Explore and identify what plants need to thrive.	Identify the effects of a shortage of each of the things that plants need to grow and stay healthy


Rose Wood Progression Matrix for Science, Year 2

 Biology				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
3) Living things exhibit variation and adaptation and these may lead to evolution	There is no content in Year 2.			
4a) Life exists in a variety of forms and goes through cycles – Plants	Observe and describe how seeds and bulbs grow into mature plants	Identify that seeds and bulbs grow into mature plants.	Describe stages of development of a full grown plant.	Compare and contrast the growth patterns of different types of plants.
4b) Life exists in a variety of forms and goes through cycles – Animals	Notice that animals, including humans, have offspring which grow into adults	Recognise that all animals, including humans, have offspring.	Describe the relationship between adult animals and their offspring.	Compare and contrast adults and their offspring for different animals.
	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)	Identify the basic needs of animals, including humans, for survival (water, food and air).	Identify human's basic needs.	Suggest how the basic needs of different animals influences their choice of habitat.
5) The human body has a number of systems, each with its own function	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	Recognise the importance to humans of exercise, diet and hygiene.	Describe the importance of a healthy diet and exercise.	Suggest effects of poor diet and hygiene.


Rose Wood Progression Matrix for Science, Year 2

	Chemistry			
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Different rocks have different properties and the formation of soil & fossils can be explained	There is no content in Year 2.			
2) Materials have physical properties which can be investigated and compared	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	Identify that the shape of some objects can be changed.	Describe changes achieved by applying forces in different directions.	Identify that some changes to shapes are permanent and others are temporary, and that this can influence their uses.
3) The physical properties of materials determine their uses	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	Select and justify a material for a particular use.	For particular materials in particular uses, identify limitations as well as suitability.
4) Materials can exist in different states and that these states can sometimes be changed	There is no content in Year 2.			


Rose Wood Progression Matrix for Science, Year 2

 Physics				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) There are contact and non-contact forces; these affect the motion of objects	There is no content in Year 2.			
2) Day, night, month, seasonal change & year are caused by the position and movement of the Earth	There is no content in Year 2.			
3) Light & sound can be reflected & absorbed and enable us to see & hear	There is no content in Year 2.			
4) Electricity can make circuits work and can be controlled to perform useful functions	There is no content in Year 2.			


Rose Wood Progression Matrix for Science, Year 2

 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Planning investigations	a) Pupils can ask questions	Ask simple questions	Pupil can, with prompting, ask simple questions that can be tested.	Pupil can ask simple questions that can be tested, e.g. about the local environment and how organisms depend on each other.	Pupil can, with support, develop relevant, testable questions.
	b) Pupils can plan an enquiry	Recognise that questions can be answered in different ways	Pupil can offer way of gathering evidence to answer a question.	Pupil can suggest different ways of answering a question, e.g. testing the suitability of materials for different purposes.	Pupil can plan enquiry, such as a comparative or fair test.
	c) Pupils can identify and manage variables	There is no content in Year 2.			
2) Conducting experiments	a) Pupils can use equipment to take measurements	Observe closely, using simple equipment	Pupil can examine objects closely, e.g. pebbles.	Pupil can examine carefully, e.g. using a hand lens.	Pupil can observe carefully and suggest useful measurements, e.g. examine a leaf and suggest measuring its length.
		Perform simple tests	Pupil can, with support, conduct simple tests.	Pupil can conduct simple tests, e.g. setting up comparative tests to show that plants need water and light.	Pupil can conduct a series of simple tests.
	b) Pupils explore how to improve the quality of data	There is no content in Year 2.			
	c) Pupils understand the role of repeat readings	There is no content in Year 2.			

Rose Wood Progression Matrix for Science, Year 2

 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
3) Recording evidence	a) Pupils record work with diagrams and label them	Record and communicate their findings in a range of ways and begin to use simple scientific language	Pupil can, with prompting, identify what might usefully be recorded.	Pupil can, with assistance, draw and label diagrams, e.g. recording plants changing over time, starting from seed or bulb.	Pupil can, with prompting, draw and label diagrams.
	b) Pupils can display data using labelled diagrams, keys, tables and bar charts	There is no content in Year 2.			
	c) Pupils can display data using line graphs	There is no content in Year 2.			
4) Reporting findings	a) Pupils process findings to develop conclusions and identify causal relationships	Identify and classify	Pupil can identify key findings from an enquiry.	Pupil can identify and group key outcomes from enquiry, e.g. describing conditions in different habitats and how these affect the numbers and types of organisms.	Pupil can, with prompting, suggest what an enquiry shows.
	b) Pupils use displays and presentations to report on findings	There is no content in Year 2.			
	c) Pupils explain confidence in findings	There is no content in Year 2.			


Rose Wood Progression Matrix for Science, Year 2

 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
5) Conclusions and predictions	a) Pupils can analyse data	Gather and record data to help answer questions	Pupil can collect data.	Pupil can collect data relevant to the answering of questions, e.g. seeing how the shapes of some materials can be changed.	Pupil can recognise patterns that relate to scientific ideas, when prompted.
	b) Pupils can draw conclusions	Use their observations and ideas to suggest answers to questions	Pupil can suggest answers to enquiry questions using data.	Pupil can answer enquiry questions using data and ideas, e.g. to help decide how the properties of certain materials make them suitable for certain applications.	Pupil can, with support, use evidence to produce simple conclusion.
	c) Pupils can develop investigation further	There is no content in Year 2.			


Rose Wood Progression Matrix for Science, Year 2

Year 3


Rose Wood Progression Matrix for Science, Year 3

 Biology				
'Aspects'	Progression statement	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
1) Living things can be classified according to observable features	There is no content in Year 3.			
2) Habitats provide living things with what they need	Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant	Suggest how one of the requirements for plants to stay healthy could be explored.	Explain what all plants need to flourish and recognise how these requirements vary in amount.	Compare the requirements of different plants and link these to particular habitats.
3) Living things exhibit variation and adaptation and these may lead to evolution	There is no content in Year 3.			


Rose Wood Progression Matrix for Science, Year 3

 Biology				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
4a) Life exists in a variety of forms and goes through cycles – Plants	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers	Identify different parts of a flowering plant: roots, stem/trunk, leaves and flowers.	Describe what each part of a flowering plant does.	Suggest why parts may vary in size and shape from one species of flowering plant to another.
	Investigate the way in which water is transported within plants	Identify that water is transported within plants.	Explain, with the aid of a diagram or plant, how water is carried up from the soil.	Suggest how this process might vary from one type of plant to another.
	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal	Describe the processes of pollination, seed formation and seed dispersal.	Explain how pollination, seed formation and seed dispersal play a role in the reproduction of flowering plants.	Suggest why pollination, seed formation and seed dispersal may vary from one type of plant to another.
4b) Life exists in a variety of forms and goes through cycles – Animals	Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat	Identify that animals, including humans, need the correct nutrition.	Describe why animals depend on the correct nutrition.	Explain why a varied diet is important.
5) The human body has a number of systems, each with its own function	Construct and interpret a variety of food chains, identifying producers, predators and prey <i>(moved from Y4 to link with study of Arctic biomes)</i>	Understand the roles of producers, predators and prey.	Use a food chain to represent predator/prey relationships.	Suggest what might happen in a food chain if the population of one of the organisms changes.


Rose Wood Progression Matrix for Science, Year 3

 Chemistry				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Different rocks have different properties and the formation of soil & fossils can be explained	Describe in simple terms how fossils are formed when things that have lived are trapped within rock	Understand that fossils indicate the shape of previous life forms.	Explain how fossils are formed.	Explain the importance of studying fossils.
	Recognise that soils are made from rocks and organic matter	Describe the appearance of soil, recognising that it is a mixture of materials.	Describe how soil is made.	Compare different soils in terms of composition.
2) Materials have physical properties which can be investigated and compared	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties	Identify that rocks vary in terms of appearance and physical properties.	Examine and test rocks, grouping them according to the results.	Suggest uses for different kinds of rocks based on their properties.
3) The physical properties of materials determine their uses	There is no content in Year 3.			
4) Materials can exist in different states and that these states can sometimes be changed	There is no content in Year 3.			


Rose Wood Progression Matrix for Science, Year 3

 Physics				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) There are contact and non-contact forces; these affect the motion of objects	Compare how things move on different surfaces	Recognise that things may move differently on different surfaces.	Compare how an object, such as a toy car, will move on different surfaces.	Predict how an object will move on other surfaces and suggest why.
	Notice that some forces need contact between two objects, but magnetic forces can act at a distance	Recognise that magnetic forces don't require physical contact.	Recognise the difference between contact and contact forces.	Explore how magnetic attraction and repulsion are affected by distance.
	Observe how magnets attract or repel each other and attract some materials and not others	Identify that magnets affect each other.	Describe how magnets attract or repel each other, and attract magnetic materials.	Explore whether some magnets are stronger than others.
	Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials	Recognise that some materials are magnetic and that others are not.	Group materials on the basis of testing for being magnetic.	Identify some applications of magnets and magnetic materials.
	Describe magnets as having two poles	Recognise the term 'magnetic pole'.	Describe and identify the poles of a magnet.	Explore the similarities and differences between the two poles.
	Predict whether two magnets will attract or repel each other, depending on which poles are facing	Recognise that magnets affect each other differently, depending on which poles are facing.	Predict outcomes of a particular arrangement of magnets.	Apply ideas about the interaction of magnets to contexts such as toys.
2) Day, night, month, seasonal change & year are caused by the position and movement of the Earth	There is no content in Year 3.			


Rose Wood Progression Matrix for Science, Year 3

 Physics				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
3) Light & sound can be reflected & absorbed and enable us to see & hear	Recognise that they need light in order to see things and that dark is the absence of light	Identify that light is necessary for vision.	Relate being able to see to the presence of light.	Recognise that vision involves light travelling to the eyes.
	Notice that light is reflected from surfaces	Identify that mirrors reflect light.	Describe how some objects reflect light.	Recognise that some surfaces are better at reflecting light than others.
	Recognise that light from the sun can be dangerous and that there are ways to protect their eyes	Recognise that light from the sun can be dangerous.	Describe how and why our eyes should be protected from sunlight.	Explain why sunlight can be dangerous and how types of protection works.
	Recognise that shadows are formed when the light from a light source is blocked by a solid object	Recognise that light cannot pass through some objects.	Explain how shadows are made.	Suggest how light is travelling to form a shadow.
	Find patterns in the way that the size of shadows change	Identify that the size of shadows can be changed.	Describe how to change the size of a shadow.	Relate position of an object and position of a screen to the size of the shadow.
4) Electricity can make circuits work and can be controlled to perform useful functions	There is no content in Year 3.			

Rose Wood Progression Matrix for Science, Year 3

 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Planning investigations	a) Pupils can ask questions	Ask relevant questions when prompted	Pupil can ask simple questions that can be tested.	Pupil can, with support, develop relevant, testable questions, e.g. what happens to shadows when the light source moves.	Pupil can develop relevant, testable questions.
	b) Pupils can plan an enquiry	Set up simple and practical enquiries, comparative and fair tests	Pupil can suggest different ways of answering question.	Pupil can plan enquiry, such as comparative or fair test, e.g. comparing the effect of different factors on plant growth.	Pupil can plan investigations using different types of scientific enquiry.
	c) Pupils can identify and manage variables	Set up comparative tests	Pupil can, with support, set up a comparative test.	Pupil can set up a comparative test, e.g. how far things move on different surfaces.	Pupil can set up comparative and fair tests.
2) Conducting experiments	a) Pupils can use equipment to take measurements	Make systematic observations, using simple equipment	Pupil can use various equipment, with assistance, e.g. a thermometer.	Pupil can use various equipment, as instructed, e.g. using a hand lens to examine rocks.	Pupil can use various equipment, as instructed, repeatedly and with care.
	b) Pupils explore how to improve the quality of data	Use standard units when taking measurements	Pupil can recognise some standard measurements, e.g. cm.	Pupil can use standard measurements when taking measurements, e.g. measuring distances between a light source and an object.	Pupil can recognise the importance of using standard units and measure accurately.
	c) Pupils understand the role of repeat readings	There is no content in Year 3.			

Rose Wood Progression Matrix for Science, Year 3


 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
3) Recording evidence	a) Pupils record work with diagrams and label them	Record findings in various ways	Pupil can, with assistance, draw and label diagrams.	Pupil can, with prompting, draw and label diagrams, e.g. to show how water travels in a plant.	Pupil can use words and diagrams to record findings.
	b) Pupils can display data using labelled diagrams, keys, tables and bar charts	With prompting, suggest how findings may be tabulated	Pupil can recognise the function of a table.	Pupil can, with prompting, use tables to record evidence, e.g. recording what happens when various rocks are rubbed together.	Pupil can use various ways to record evidence.
	c) Pupils can display data using line graphs	With prompting, use various ways of recording, grouping and displaying evidence	Pupil can recognise different ways of gathering and displaying evidence.	Pupil can, with prompting, gather and display evidence in various ways, e.g. about the ways that magnets behave in relation to each other.	Pupil can use various ways to record, group and display evidence.
4) Reporting findings	a) Pupils process findings to develop conclusions and identify causal relationships	With prompting, suggest conclusions from enquiries	Pupil can, with prompting, suggest what enquiry shows.	Pupil can, with prompting, write a conclusion based on evidence, e.g. exploring the strengths of different magnets.	Pupil can write a conclusion based on evidence.
	b) Pupils use displays and presentations to report on findings	Suggest how findings could be reported	Pupil can, with support, indicate findings from an enquiry that could be reported.	Pupil can indicate findings from an enquiry that could be reported, e.g. answering questions about how rocks are formed.	Pupil can present findings either in writing or orally.
	c) Pupils explain confidence in findings	There is no content in Year 3.			

Rose Wood Progression Matrix for Science, Year 3


Domain: Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
5)Conclusions and predictions	a) Pupils can analyse data	Gather and record data about similarities, differences and changes	Pupil can collect data relevant to the answering of questions.	Pupil can, with prompting, recognise patterns that relate to scientific ideas, e.g. investigating the behaviour of magnets.	Pupil can recognise patterns that relate to scientific ideas.
	b) Pupils can draw conclusions	With prompting, suggest conclusions that can be drawn from data	Pupil can answer enquiry questions using data and ideas.	Pupil can, with support, use evidence to produce a simple conclusion, e.g. the changes that occur when rocks are in water.	Pupil can use evidence to produce a simple conclusion.
	c) Pupils can develop investigation further	Suggest possible improvements or further questions to investigate	Pupil can with prompting, suggest how an investigation could be extended.	Pupil can suggest how an investigation could be extended, e.g. suggesting creative uses for different magnets.	Pupil can use evidence to suggest further relevant investigations.

Year 4


Rose Wood Progression Matrix for Science, Year 4

 Biology				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Living things can be classified according to observable features	Recognise that living things can be grouped in a variety of ways	Suggest a way of grouping living things, e.g. sort shells by colour.	Suggest different ways of sorting the same group of living things, e.g. grouping birds according to where they live, what they eat and size of adults.	Suggest why some ways of grouping living things may be more useful than others, e.g. why grouping by number of legs is an easy aid to identification.
	Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment	Use classification keys to group and identify members from a small group of living things.	Use classification keys to group and identify members from a range of familiar and less familiar living things.	Devise own classification keys to group living things.
2) Habitats provide living things with what they need	Recognise that environments can change and that this can sometimes pose dangers to living things	Describe how environments might change.	Describe examples of living things that are threatened by changes to environments, e.g. owls and habitat loss.	Describe examples of living things adapting to environmental change, e.g. urban foxes, and examples of extinction due to environmental change.
3) Living things exhibit variation and adaptation and these may lead to evolution	There is no content in Year 4.			
4a) Life exists in a variety of forms and goes through cycles – Plants	There is no content in Year 4.			
4b) Life exists in a variety of forms and goes through cycles – Animals	There is no content in Year 4.			


Rose Wood Progression Matrix for Science, Year 4

 Biology				
'Aspects'	Progression statement	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)
5) The human body has a number of systems, each with its own function	Describe the simple functions of the basic parts of the digestive system in humans	Describe the purpose of the digestive system in humans.	Identify what each of the principal organs in the digestive system do.	Explain why the simple functions of the basic parts of the digestive system in humans are necessary.
	Identify the different types of teeth in humans and their simple functions	Recognise that humans have different types of teeth.	Describe the function of each type of tooth in the human skull.	Explain why humans have different types of teeth.
	Identify that humans and some other animals have skeletons and muscles for support, protection and movement (moved from Y3 to link with and follow on from teeth and digestion)	Recognise that humans and some other animals have skeletons and muscles.	Explain which parts of the skeleton provide support and protection, and how they allow for movement.	Compare the ways that the skeletons of different animals provide support, protection and movement.


Rose Wood Progression Matrix for Science, Year 4

 Chemistry				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Different rocks have different properties and the formation of soil & fossils can be explained	There is no content in Year 4.			
2) Materials have physical properties which can be investigated and compared	Compare and group materials together, according to whether they are solids, liquids or gases	Recognise the state of matter of different materials.	Group materials according to their state of matter.	Recognise that some materials (e.g. toothpaste) cannot be easily classified as solid. liquid or gas.
3) The physical properties of materials determine their uses	There is no content in Year 4.			
4) Materials can exist in different states and that these states can sometimes be changed	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	Relate the terms 'evaporation' and 'condensation' to water.	Describe how evaporation and condensation happen in the water cycle, and how temperature affects evaporation.	Apply the relationship between rate of evaporation with temperature to everyday contexts.
	Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)	Recognise that materials may change state.	Identify changes of state and research values of degrees Celsius at which changes happen.	Suggest patterns in which kinds of materials change state at higher or lower temperatures.


Rose Wood Progression Matrix for Science, Year 4

 Physics				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) There are contact and non-contact forces; these affect the motion of objects	There is no content in Year 4.			
2) Day, night, month, seasonal change & year are caused by the position and movement of the Earth	There is no content in Year 4.			
3) Light & sound can be reflected & absorbed and enable us to see & hear	4) Identify how sounds are made, associating some of them with something vibrating	Identify how an object may vibrate.	Explain, with reference to vibrations, how an object makes a sound.	Group sound-making objects in terms of how they make sounds.
	Recognise that vibrations from sounds travel through a medium to the ear	Recognise that the ear detects vibrations.	Describe the role of a medium in the transmission of sound.	Compare the effectiveness of different media in terms of their ability to transmit sound.
	Recognise that sounds get fainter as the distance from the sound source increases	Suggest why some sounds are louder than others.	Describe the effect of moving further from the source of a sound.	Explain with reference to examples how sounds get fainter as the distance from the source increases.
	Find patterns between the pitch of a sound and features of the object that produced it	Recognise that the pitch of a sound can be varied.	Explain with reference to a particular object how the pitch of the sound can be changed.	Identify generic features that cause the pitch of a note to be changed.
	Find patterns between the volume of a sound and the strength of the vibrations that produced it	Recognise that the volume of a sound can be varied.	Explain with reference to a particular object how the volume of the sound can be changed.	Identify generic features that cause the volume of a note to be changed.


Rose Wood Progression Matrix for Science, Year 4

 Physics				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
4) Electricity can make circuits work and can be controlled to perform useful functions	Identify common appliances that run on electricity	Recognise that some appliances run on electricity.	List examples of appliances that run on electricity.	Compare and contrast appliances that run on mains electricity with those that run on batteries.
	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers	Construct a simple circuit.	Construct a simple circuit and name its components.	Identify the functions of components within a circuit.
	4Recognise some common conductors and insulators, and associate metals with being good conductors	Identify metal as a conductor.	Sort materials into conductors and insulators, identifying metals as conductors.	Investigate graphite as a conductor and relate to other materials.
	Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery	Understand that a complete circuit is needed for a circuit to operate.	Predict whether a particular arrangement of components will result in a bulb lighting.	Explain why certain arrangements will not result in the bulb lighting.
	Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit	Describe the function of a switch.	Predict how the operation of a switch will affect bulbs lighting.	Explain how altering the location of a switch affects the operation of the circuit.


Rose Wood Progression Matrix for Science, Year 4

 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Planning investigations	a) Pupils can ask questions	Ask relevant questions	Pupil can, with support, develop relevant, testable questions.	Pupil can develop relevant, testable questions, e.g. based on observations of animals.	Pupil can develop a range of relevant testable questions.
	b) Pupils can plan an enquiry	Plan different types of scientific enquiries to answer questions	Pupil can plan enquiries, such as a comparative or fair test.	Pupil can plan investigations using different types of scientific enquiry, e.g. exploring various materials by observing change over time, running comparative tests and conducting surveys.	Pupil can, with support, answer questions using evidence gathered from different types of scientific enquiry.
	c) Pupils can identify and manage variables	Set up simple and practical enquiries, comparative and fair tests (Pupil can set up a comparative test.	Pupil can set up comparative and fair tests, e.g. finding patterns in the sounds made by elastic bands of different thicknesses.	Pupil can, with prompting, identify and manage variables.


Rose Wood Progression Matrix for Science, Year 4

 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
2) Conducting experiments	a) Pupils can use equipment to take measurements	Make systematic and careful observations using a range of equipment, including thermometers and data loggers	Pupil can use various equipment, as instructed, e.g. a thermometer.	Pupil can use various equipment, as instructed, repeatedly and with care, e.g. thermometers.	Pupil can select and use various equipment repeatedly and with care, e.g. measuring jug to measure volume, and discuss alternatives.
	b) Pupils explore how to improve the quality of data	Take accurate measurements using standard units, where appropriate	Pupil can use standard measurements when taking measurements.	Pupil can recognise the importance of using standard units and measures accurately, e.g. measuring temperature when investigating its effect on washing drying.	Pupil can take measurements that are precise as well as accurate.
	c) Pupils understand the role of repeat readings	There is no content in Year 4.			


Rose Wood Progression Matrix for Science, Year 4

 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
3) Recording evidence	a) Pupils record work with diagrams and label them	Record findings using simple scientific language, drawings and labelled diagrams	Pupil can, with prompting, draw and label diagrams.	Pupil can use words and diagrams to record findings, e.g. how habitats change during the year.	Pupil can start to use labelled diagrams to show more complex outcomes.
	b) Pupils can display data using labelled diagrams, keys, tables and bar charts	Record findings using keys, bar charts, and tables	Pupil can, with prompting, use tables to record evidence.	Pupil can use various ways to record evidence, e.g. comparing the teeth of herbivores and carnivores.	Pupil can, with prompting, use various ways to record complex evidence.
	c) Pupils can display data using line graphs	Gather, record, classify and present data in a variety of ways to help to answer questions	Pupil can, with prompting, gather and display evidence in various ways.	Pupil can use various ways to record, group and display evidence, e.g. grouping and classifying various materials.	Pupil can use line graph to record basic data.

Rose Wood Progression Matrix for Science, Year 4


 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
4) Reporting findings	a) Pupils process findings to develop conclusions and identify causal relationships	Report on findings from enquiries, including oral and written explanations, of results and conclusions	Pupil can, with prompting, write a conclusion based on evidence.	Pupil can write a conclusion based on evidence, e.g. effect on brightness of bulbs if more cells are added.	Pupil can, with prompting, write a conclusion using evidence and identifying causal links.
	b) Pupils use displays and presentations to report on findings	Report on findings from enquiries using displays or presentations	Pupil can indicate findings from an enquiry that could be reported.	Pupil can present findings either in writing or orally, e.g. relating to investigating which materials are conductors.	Pupil can, with support, display and present key findings from enquiries orally and in writing.
	c) Pupils explain confidence in findings	There is no content in Year 4.			

Rose Wood Progression Matrix for Science, Year 4


 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
5) Conclusions and predictions	a) Pupils can analyse data	Identify differences, similarities or changes related to simple scientific ideas and processes	Pupil can, with prompting, recognise patterns that relate to scientific ideas.	Pupil can recognise patterns that relate to scientific ideas, e.g. finding out which materials make better earmuffs.	Pupil can arrange data to make clear key characteristics.
	b) Pupils can draw conclusions	Use straightforward scientific evidence to answer questions or to support their findings	Pupil can, with support, use evidence to produce a simple conclusion.	Pupil can use evidence to produce a simple conclusion, e.g. the effect of temperature on various substances.	Pupil can show how evidence supports a conclusion.
	c) Pupils can develop investigation further	Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	Pupil can suggest how an investigation could be extended.	Pupil can use evidence to suggest further relevant investigations, e.g. making own instruments, using ideas about pitch and volume.	Pupil can suggest further relevant comparative or fair tests.

Year 5


Rose Wood Progression Matrix for Science, Year 5

 Biology				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Living things can be classified according to observable features	There is no content in Year 5.			
2) Habitats provide living things with what they need	There is no content in Year 5.			
3) Living things exhibit variation and adaptation and these may lead to evolution	There is no content in Year 5.			
4a) Life exists in a variety of forms and goes through cycles – Plants	There is no content in Year 5.			
4a) Life exists in a variety of forms and goes through cycles – Animals	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	Explain what a life cycle is, e.g. that kittens grow into cats, have kittens and die.	Identify similarities and differences in two different life cycles, e.g. sparrow and butterfly, with reference to eggs and intermediate stages.	Suggest similarities in the life cycles of a number of vertebrates, e.g. comparison of dog, human and bird embryos.
	Describe the changes as humans develop to old age	Identify that people change as they age, e.g. recognise differences in appearance, abilities etc.	Describe the changes as humans develop to old age, e.g. trends in changes to size, weight, mobility etc.	Suggest why some of the changes that take place in humans happen, e.g. suggest why babies have disproportionately large heads compared to adults.
5) The human body has a number of systems, each with its own function	Describe the life process of reproduction in some plants and animals	Describe the life process of reproduction in humans.	Describe in sequence the stages of reproduction in some plants and animals, e.g. dog and a thistle.	Compare the process of reproduction in animals and plants, e.g. compare and contrast fertilisation.


Rose Wood Progression Matrix for Science, Year 5

 Chemistry				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Different rocks have different properties and the formation of soil & fossils can be explained	There is no content in Year 5.			
2) Materials have physical properties which can be investigated and compared	Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets	Compare and group together everyday materials on the basis of their appearance and feel.	Test and sort a range of materials based on their physical properties.	Suggest why those properties might influence the selection of those materials for certain uses.
	Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution	Know that some materials will dissolve in liquid to form a solution.	Describe how some materials, e.g. sugar, will dissolve and can be retrieved.	Identify that some soluble materials are more soluble than others.
	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating	Suggest how mixtures might be separated.	Justify separation techniques proposed, with reference to materials being separated.	Explain why a particular separation method might be more effective.
	Demonstrate that dissolving, mixing and changes of state are reversible changes	Understand that some processes are reversible.	Show how the original materials can be retrieved from each of these changes.	Classify various processes relating to materials as reversible or irreversible.
	Explain that some changes result in the formation of new materials and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda	Understand that burning is irreversible.	Identify reactants and products of chemical changes and recognise these as being irreversible.	Provide examples of when changes being irreversible are a good thing, e.g. making bricks, or not, e.g. nonbiodegradable plastic bags.


Rose Wood Progression Matrix for Science, Year 5

 Chemistry				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
3) The physical properties of materials determine their uses	Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	Give reasons for the particular uses of everyday materials, including metals, wood and plastic.	Use evidence to justify the selection of a material for a purpose.	Suggest limitations of the uses of selected materials based on test results.
4) Materials can exist in different states and that these states can sometimes be changed	There is no content in Year 5.			


Rose Wood Progression Matrix for Science, Year 5

 Physics				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) There are contact and non-contact forces; these affect the motion of objects	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object	Describe the effect of gravity on unsupported objects.	Explain that gravity causes objects to fall towards Earth.	Recognise that gravity acts between all masses, e.g. the Sun and the Earth.
	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces	Recognise that motion may be resisted by forces.	Describe how motion may be resisted by air resistance, water resistance or friction.	Identify ways in which forces that oppose motion may be useful (e.g. bicycle handlebar grips) or a nuisance (e.g. bicycle chain).
	Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect	Recognise that simple machines transfer force.	Describe how some devices may turn a smaller force into a larger one.	Explain, with reference to everyday contexts, why a force multiplier might be useful.
2) Day, night, month, seasonal change & year are caused by the position and movement of the Earth	Describe the movement of the Earth, and other planets, relative to the Sun in the solar system	Recognise that the planets move, relative to the Sun.	Draw a diagram or use a model to describe planetary orbits.	Identify that the further out a planet is, the longer its orbit is around the Sun.
	Describe the movement of the Moon relative to the Earth	Recognise that the Moon moves relative to the Earth.	Draw a diagram or use a model to describe the Moon's orbit around the Earth.	Relate the Moon's orbit of the Earth to the Earth's orbit of the Sun.

Rose Wood Progression Matrix for Science, Year 5

 Physics				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
2) Day, night, month, seasonal change & year are caused by the position and movement of the Earth	Describe the Sun, Earth and Moon as approximately spherical bodies	Sketch the outlines of the Sun, Earth and Moon.	Describe the Sun, Earth & Moon as spheres.	Recognise that many heavenly bodies are approximately spherical.
	Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	Relate day and night to the apparent position of the Sun.	Use a diagram or model to explain why the Sun seems to travel across the sky, and what causes day and night.	Explain the effect of a planet in the solar system rotating at a different rate to Earth.
3) Light & sound can be reflected & absorbed and enable us to see & hear	There is no content in Year 5.			
4) Electricity can make circuits work and can be controlled to perform useful functions	There is no content in Year 5.			

Rose Wood Progression Matrix for Science, Year 5

 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Planning investigations	a) Pupils can ask questions	There is no content in Year 5.			
	b) Pupils can plan an enquiry	With prompting, plan different types of scientific enquiries to answer questions	Pupil can plan investigations using different types of scientific enquiry.	Pupil can, with support, can answer questions using evidence gathered from different types of scientific enquiry, e.g. comparing life cycles of different plants using change over time, surveys and secondary research.	Pupil can answer questions using evidence gathered from different types of scientific enquiry.
	c) Pupils can identify and manage variables	With prompting, recognise and control variables where necessary	Pupil can set up comparative and fair tests.	Pupil can, with prompting, identifies and manages variables, e.g. when exploring falling paper cones.	Pupil can identify and manage variables.
2) Conducting experiments	a) Pupils can use equipment to take measurements	Select, with prompting, and use appropriate equipment to take readings	Pupil can, following discussion, follow guidance to use equipment, e.g. timer.	Pupil can, following discussion of alternatives, selects appropriate equipment, e.g. using a shadow stick and measuring length and angle of shadow.	Pupil can use appropriate equipment, such as meter rule, to take measurements, such as distance travelled.
	b) Pupils explore how to improve the quality of data	Take precise measurements using standard units	Pupil can recognise importance of using standard units and measures accurately.	Pupil can take measurements that are precise as well as accurate, e.g. measuring the force needed to pull different shapes of boat through the water.	Pupil can consider how by modifying instrument or technique, measurements can be improved.
	c) Pupils understand the role of repeat readings	Take and process repeat readings	Pupil can, with prompting, can take repeat readings.	Pupil can know how to process repeat readings, e.g. when timing falling objects.	Pupil can identify situations in which taking repeat readings will improve the quality of evidence.

Rose Wood Progression Matrix for Science, Year 5


Domain: Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
3) Recording evidence	a) Pupils record work with diagrams and label them	Record data and results	Pupil can use words and diagrams to record findings.	Pupil can start to use labelled diagrams to show more complex outcomes, e.g. comparing the time of day at different places on the earth.	Pupil can use labelled diagrams to show complex outcomes.
	b) Pupils can display data using labelled diagrams, keys, tables and bar charts	Record data using labelled diagrams, keys, tables and charts	Pupil can use various ways to record evidence.	Pupil can, with prompting, use various ways to record complex evidence, e.g. when investigating how gears and levers enable a small force to have a larger effect.	Pupil can use various ways, as appropriate, to record complex evidence.
	c) Pupils can display data using line graphs	Use line graphs to record data	Pupil can, with prompting, use line graphs.	Pupil can use a line graph to record basic data, e.g. length and mass of a baby as it grows.	Pupil can use line graphs to display complex data.
4) Reporting findings	a) Pupils process findings to develop conclusions and identify causal relationships	Report and present findings from enquiries, including conclusions and, with prompting, suggest causal relationships	Pupil can write a conclusion based on evidence.	Pupil can, with prompting, write a conclusion using evidence and identifying causal links, e.g. investigating what makes a parachute fall quicker.	Pupil can write a conclusion using evidence and identifying causal links.
	b) Pupils use displays and presentations to report on findings	With support, present findings from enquiries orally and in writing	Pupil can present findings either in writing or orally.	Pupil can, with support, display and present key findings from enquiries orally and in writing, e.g. suggesting reasons for similarities and differences between various animals.	Pupil can display and present key findings from enquiries orally and in writing.
	c) Pupils explain confidence in findings	With prompting, identify that not all results may be trustworthy (Pupil can indicate individual results that might be suspect.	Pupil can, with support, indicate why some results may not be entirely trustworthy, e.g. when timing falling objects.	Pupil can, in conclusions, indicate how trustworthy they are.

Rose Wood Progression Matrix for Science, Year 5


Domain: Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
5) Conclusions and predictions	a) Pupils can analyse data	There is no content for this sub-process in Year 5.			
	b) Pupils can draw conclusions	Suggest how evidence can support conclusions	Pupil can, with prompting, show how evidence supports a conclusion.	Pupil can show how evidence supports a conclusion, e.g. researching gestation periods of various mammals and relating them to adult mass.	Pupil can identify how an idea is supported or refuted by evidence.
		Suggest further comparative or fair tests	Pupil can, with prompting, suggest further relevant comparative or fair tests.	Pupil can suggest further relevant comparative or fair tests, e.g. when testing materials for various properties to determine their suitability for an application.	Pupil can use evidence to suggest further comparative or fair tests that would develop the investigation.

Year 6


Rose Wood Progression Matrix for Science, Year 6

 Biology				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Living things can be classified according to observable features	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals	Identify the broad groups into which living things are classified, e.g. mammals.	Use similarities and differences in observable features to decide how living things should be grouped, e.g. a cat is a mammal because it is warm blooded and gives birth to live young.	Explore why some living things, such as the duck billed platypus, don't neatly fit into one group.
	Give reasons for classifying plants and animals based on specific characteristics	State how plants and animals can be classified using specific characteristics.	Explain why certain features are useful in classifying living things, e.g. backbones in animals and flowers in plants.	Explain why other features are less useful as a basis for classification, such as size or colour.
2) Habitats provide living things with what they need	There is no content for this in Year 6.			
3) Living things exhibit variation and adaptation and these may lead to evolution	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago	Recognise that fossils provide information about living things from millions of years ago, e.g. understand that they are preserved remains of extinct living things.	Use fossils as evidence that living things have changed over time, e.g. explain that these have died out and others have taken their place.	Suggest possible reasons for changes to living things over time, e.g. why penguins can't fly but are good at swimming.
	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents	Recognise that living things produce offspring of the same kind, but normally offspring vary, e.g. that puppies have common features but are not identical.	Recognise that offspring normally vary from each other and from their parents, e.g. that puppies vary from each other and from their parents.	Recognise that selective breeding may result in offspring with certain features, e.g. pedigree dogs with a certain shape or colour.
	Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution	Identify ways in which certain animals and plants are adapted to suit their environment in different ways.	Describe examples of a living thing that has adapted to live in a particular habitat and evolved as a result, e.g. a polar bear or cactus.	Give examples of living things that have evolved in different ways, e.g. different types of finch.


Rose Wood Progression Matrix for Science, Year 6

 Biology				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
4a) Life exists in a variety of forms and goes through cycles – Plants	There is no content for this in Year 6.			
4b) Life exists in a variety of forms and goes through cycles – Animals	There is no content for this in Year 6.			
5) The human body has a number of systems, each with its own function	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood	Name the main parts of the human circulatory system, e.g. heart, arteries, veins.	Describe what heart, blood vessels and blood do, e.g. carry oxygen to all parts of the body.	Explain some characteristics of the heart, blood vessels and blood, e.g. explain that the arteries are thicker because they carry blood at a higher pressure.
	Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function	Recognise that diet, exercise, drugs and lifestyle impact on the way the body functions, e.g. knowing that exercise changes the body.	Suggest how their bodies are affected by substances and actions, e.g. that a high fat diet coupled with little exercise is likely to lead to obesity.	Explain how decisions about lifestyle can affect the quality of life, e.g. recognise that making excessive use of convenience foods may introduce more additives into the diet.
	Describe the ways in which nutrients and water are transported within animals, including humans	Describe that nutrients and water are transported within humans.	Describe with aid of diagrams the route that water takes within animals, e.g. through the human body.	Compare the ways in which nutrients and water are transported in two animals that are quite different.


Rose Wood Progression Matrix for Science, Year 6

 Chemistry				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Different rocks have different properties and the formation of soil & fossils can be explained	There is no content in Year 6.			
2) Materials have physical properties which can be investigated and compared	There is no content in Year 6.			
3) The physical properties of materials determine their uses	There is no content in Year 6.			
4) Materials can exist in different states and that these states can sometimes be changed	There is no content in Year 6.			


Rose Wood Progression Matrix for Science, Year 6

 Physics				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) There are contact and non-contact forces; these affect the motion of objects	There is no content in Year 6.			
2) Day, night, month, seasonal change & year are caused by the position and movement of the Earth	There is no content in Year 6.			
3) Light & sound can be reflected & absorbed and enable us to see & hear	Recognise that light appears to travel in straight lines	Recognise that light travels from one point to another.	Represent light using straight line ray diagrams.	Recognise that even when light changes in direction, the path is still continuous.
	Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye	Recognise that some objects reflect light.	Draw diagrams using straight lines showing light travelling to the eye.	Draw diagrams using straight lines showing light reflecting off objects and into the eye.
	Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes	Describe how light travels from light sources to our eyes.	Explain how we can see an object by referring to light travelling into the eye.	Refer to the idea that some objects may be better reflectors than others.


Rose Wood Progression Matrix for Science, Year 6

 Physics				
Aspects	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
	Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	Relate the shape of shadows to the shape of the object that makes them.	Draw a diagram showing an object, shadow and light to relate object shape to shadow shape.	Use a diagram to explain that although a shadow is the same shape as the object, it may not be the same size.
4) Electricity can make circuits work and can be controlled to perform useful functions	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in a circuit	Recognise that changing the number and voltage of cells may alter the operation of a circuit.	Explain how number and voltage of cells affects the lamp or buzzer.	Relate the number or voltage of cells to the number and operation of bulbs or buzzers that can be run from them.
	Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches	Identify the function and operation of different components.	Explain the use of switches, how bulbs can be made brighter and buzzers made louder.	Explain the effect of changing the order of the components in a circuit.
	Use recognised symbols when representing a simple circuit in a diagram	Understand that components can be represented by symbols.	Represent a circuit that has been constructed using symbols.	Design circuits using symbols.


Rose Wood Progression Matrix for Science, Year 6

 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
1) Planning investigations	a) Pupils can ask questions	There is no content in Year 6.			
	b) Pupils can plan an enquiry	Plan different types of scientific enquiries to answer questions	Pupil can, with support, can answer questions using evidence gathered from different types of scientific enquiry.	Pupil can answer questions using evidence gathered from different types of scientific enquiry, e.g. operation of circulatory system from experiment, survey and secondary research.	Pupil can suggest which type of enquiry is likely to be more successful at providing answers to a particular question.
	c) Pupils can identify and manage variables	Recognise and control variables where necessary	Pupil can, with prompting, identifies and manages variables.	Pupil can identify and manage variables, e.g. distances and sizes in shadow formation.	Pupil can identify and manage variables and recognises variables that cannot be easily managed.
2) Conducting experiments	a) Pupils can use equipment to take measurements	Take measurements using a range of scientific equipment	Pupil can, following discussion of alternatives, select appropriate equipment, e.g. measuring jug to measure volume.	Pupil can use appropriate equipment, such as meter rule, to take measurements, such as distance travelled by light.	Pupil can recognise limitations of available equipment, e.g. accuracy of balance.
	b) Pupils explore how to improve the quality of data	Take measurements with increasing accuracy and precision	Pupil can take measurements that are precise as well as accurate.	Pupil can consider how by modifying instrument or technique, measurements can be improved, e.g. when recording route of light rays.	Pupil can evaluates different techniques, with reference to accuracy and precision.
	c) Pupils understand the role of repeat readings	Take repeat readings when appropriate	Pupil can know how to process repeat readings.	Pupil can identify situations in which taking repeat readings will improve the quality of evidence, e.g. investigating the behaviour of components in a circuit.	Pupil can explain why repeatedly taking repeat readings is of little value.

Rose Wood Progression Matrix for Science, Year 6

 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
3) Recording evidence	a) Pupils record work with diagrams and label them	Record data and results of increasing complexity using scientific diagrams and labels	Pupil can start to use labelled diagrams to show more complex outcomes.	Pupil can use labelled diagrams to show complex outcomes, e.g. relating specific adaptations of organisms to environmental factors.	Pupil can explain why a labelled diagram may be particularly effective.
	b) Pupils can display data using labelled diagrams, keys, tables and bar charts	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar charts	Pupil can, with prompting, uses various ways to record complex evidence.	Pupil can use various ways, as appropriate, to record complex evidence, e.g. in the construction of a key to aid plant identification.	Pupil can evaluate various ways of recording complex data.
	c) Pupils can display data using line graphs	Record data and results of increasing complexity using line graphs	Pupil can use a line graph to record basic data.	Pupil can use line graphs to display complex data, e.g. size of object in relation to the size of the shadow it casts.	Pupil can explain the advantages of using line graphs.
4) Reporting findings	a) Pupils process findings to develop conclusions and identify causal relationships	Report and present findings from enquiries, including conclusions and causal relationships	Pupil can, with prompting, write a conclusion using evidence and identifying causal links.	Pupil can write a conclusion using evidence and identifying causal links, e.g. in the design of a periscope.	Pupil can suggest possible limits to causal relationships.
	b) Pupils use displays and presentations to report on findings	Report and presents findings from enquiries in oral and written forms such as displays and other presentation	Pupil can, with support, display and present key findings from enquiries orally and in writing.	Pupil can display and present key findings from enquiries orally and in writing, e.g. deciding how well classifications fit unfamiliar animals and plants.	Pupil can evaluate the best way of displaying and presenting key findings.
	c) Pupils explain confidence in findings	Report and present findings from enquiries, including explanations of, and degree of, trust in results	Pupil can, with support, indicate why some results may not be entirely trustworthy.	Pupil can, in conclusions, indicate how trustworthy they are, e.g. in relating brightness of bulb to voltage supplied.	Pupil can, in conclusions, indicate, if appropriate, why the results may not be entirely trustworthy.

Rose Wood Progression Matrix for Science, Year 6

 Working scientifically					
Process	Sub-process	Progression statement	Working towards expectations	Meeting expectations	Exceeding expectations
5) Conclusions and predictions	a) Pupils can analyse data	There is no content in Year 6.			
	b) Pupils can draw conclusions	Identify scientific evidence that has been used to support or refute ideas or arguments	Pupil can show how evidence supports a conclusion.	Pupil can identify how an idea is supported or refuted by evidence, e.g. selective breeding to produce animals or plants with desirable characteristics.	Pupil can suggest how factors other than evidence may support or oppose an idea.
		Use test results to make predictions to set up further comparative and fair tests	Pupil can suggest further relevant comparative or fair tests.	Pupil can use evidence to suggest further comparative or fair tests that would develop the investigation, e.g. in the design of rear view mirrors for cars.	Pupil can evaluate which further comparative or fair tests would be particularly useful.

