Progression Framework

Science

Year Two

Progression Frameworks

Introduction

The Progression Framework 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 'big ideas' have been identified and used to show how later statements progress from earlier ones. See below for more information about the big ideas.
- *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. As the Programme of Study statements are by Key Stage rather than by year, these have been taken as relating to the second year of each Key Stage and statements have been developed for the previous year that represent progress towards that.

Progression Framework for Science, Year Two

Domain: Biology

'Big idea'	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 for this Big Idea in Year 2.			
2) Habitats provide living things with what they need	2.2.1 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 LINK 1.4a.3	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.
	2.2.2 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.
	2.2.3 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.
	2.2.4 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

Progression Framework for Science, Year Two

Domain: Biology

'Big idea'	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) Living things exhibit variation and adaptation and these may lead to evolution	There is no content for this Big Idea in Year 2.			
4a) Life exists in a variety of forms and goes through cycles – Plants	2.4a.1 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	2.4b.1 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.
	2.4b.2 Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) LINK 2.5.1	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	2.5.1 Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene LINK 2.4b.2	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.

Progression Framework for Science, Year Two

Domain: Chemistry

'Big idea'	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) Different rocks have different properties and the formation of soil & fossils can be explained	There is no content for this Big Idea in Year 2.			
2) Materials have physical properties which can be investigated and compared	2.2.1 Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching LINK 2.3.1	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	2.3.1 Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses LINKS 1.2.1; 2.2.1	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 for this Big Idea in Year 2.			

Progression Framework for Science, Year Two

Domain: Physics

'Big idea'	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) There are contact and non-contact forces; these affect the motion of objects	There is no content for this Big Idea in Year 2.			
2) Day, night, month, seasonal change & year are caused by the position and movement of the Earth	There is no content for this Big Idea in Year 2.			
3) Light & sound can be reflected & absorbed and enable us to see & hear	There is no content for this Big Idea in Year 2.			
4) Electricity can make circuits work and can be controlled to perform useful functions	There is no content for this Big Idea in Year 2.			

Progression Framework for Science, Year Two

Domain: 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)
1) Planning investigations	a) Pupils can ask questions	2.1.a.1 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	2.1.b.1 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 for this sub-process in Year 2.			
2) Conducting experiments	a) Pupils can use equipment to take measurements	2.2.a.1 Observe closely, using simple equipment LINK 3.2.a.1	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.
		2.2.a.2 Perform simple tests LINK 3.2.a.1	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 for this sub-process for Year 2.			

Progression Framework for Science, Year Two

	c) Pupils understand the role of repeat readings	There is no content for this sub-process for Year 2.

Domain: 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	2.3.a.1 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 for this sub-process in Year 2.			
	c) Pupils can display data using line graphs	There is no content for this sub-process in Year 2.			
4) Reporting findings	a) Pupils process findings to develop conclusions and identify causal relationships	2.4.a.1 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 for this sub-process in Year 2.
	c) Pupils explain confidence in findings	There is no content for this sub-process in Year 2.

Domain: 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	2.5.a.1: 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	2.5.b.1 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 for this sub-process in Year 2.			