To Expected and Beyond (Exceeding)

A resource to help teachers assess pupils against the individual statements in the science programme of study

Key Stage 1 - Years 1 and 2

Introduction

This resource is designed to help teachers when assessing pupils against the individual statements of science in the national curriculum. It is to help teachers decide whether a pupil is working at expected or exceeding for any particular statement.

There are no success criteria in this document for emerging, it was decided that assessing a pupil as emerging was reasonably straightforward.

The document focuses on the knowledge part of the curriculum, not Working Scientifically.

The criteria must not become a tick list! The document is not a planning tool.
The success criteria represent a selection of things that a pupil at a particular age/stage <u>might</u> be able to do. There will be many exceptions to the examples given here. A pupil <u>does not</u> have to be able to do each of the bullet points under a statement in order to be assessed as expected or exceeding.

On some occasions the criteria for ‘exceeding’ includes material from the next stage. This DOES NOT imply that the teacher has taught this material, or needs to teach this material, but that the pupil already has a knowledge beyond expected, perhaps due to a personal interest in that particular subject area.

It is assumed that a pupil who is assessed as ‘exceeding,’ also meets the criteria for expected.

Animals, including humans Year 1

Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals	
Expected *N.B. Ks1 children do not need to be able to name the above five animal groups, but will have been made aware of them.* • Recognises and names a variety of animals from the following examples of the most well known vertebrates, (certain animals may be specific to the child's particular local environment) **fish** *e.g. shark, goldfish, haddock, cod, salmon, carp, pike, trout* **amphibians** (amphibians can live on land and in water, they have lungs and gills) *e.g. frog, newt, toad, salamander* **reptiles** (reptiles live on land, they have lungs but no gills) *e.g. snake, lizard, chameleon, crocodile, alligator, lizard, turtle, tortoise* **birds** *e.g. robin, blackbird, sparrow, pigeon, thrush, blue-tit, owl, peacock, eagle, hawk, seagull* **mammals** *e.g. human, cow, horse, elephant, dog, cat, fox, badger, whale*	Exceeding • Understands why animals are grouped • Knows that all animals can be grouped into one of six groups - fish, amphibians, reptiles, birds, mammals and invertebrates • Knows that five groups of animals - fish, amphibians, reptiles, birds and mammals are called vertebrates (i.e. have a backbone) and knows that other animals are invertebrates (i.e. do not have a backbone) • Identifies some of the similarities and differences between the animals in the five vertebrate groups, *e.g. all mammals produce milk, all birds have feathers* • Knows that some vertebrates are cold blooded and some are warm blooded

Identify and name a variety of common animals that are carnivores, herbivores and omnivores	
Expected *N.B. Ks1 children do not need to remember the words omnivore, carnivore and herbivore but will have been made aware of these words - they could just say that some animals eat plants or meat or both plants and meat.* • Knows the difference between a herbivore, carnivore and omnivore and names the types of foods that each eats • Names some common animals belonging to each group: **herbivores** *e.g. deer, rabbit, horse, sheep, cow, elephant, giraffe, panda* **carnivores** *e.g. cat, dog, lion, snake, owl, fox, badger* **omnivores** *e.g. humans, pigs, hedgehogs, chickens*	Exceeding • Uses the terms herbivore, carnivore and omnivore correctly • Classifies an animal as being a carnivore, herbivore or omnivore by describing what it eats • Knows that herbivores are often prey for carnivores

Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	
Expected • Talks about the similarities and differences of common animals using language such as, wing, gill, beak, leg, feather, fur, scales, backbone, skeleton, shell • Groups pictures of animals on the basis of their structural similarities and differences, *e.g. wing, gill, beak, leg, feather, fur, scales, backbone, skeleton, shell*	Exceeding • Identifies the group that an animal belongs to by looking at its structure • Describes and compares the structure of less common 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	
Expected • Names, draws and labels the basic parts of the human body, *e.g. head, arms, legs, fingers, toes, knees, elbows, shoulders, neck* • Names, draws and labels the basic parts of the human face, *e.g. nose, mouth, eyes, ears* • Names the five senses and matches these with the part of the body associated with each sense	Exceeding • Names more of the parts of the human body including some internal organs, *e.g. brain, heart, lungs, skeleton, muscles, stomach, intestines* • Explains in simple terms the function of some of the human body parts • Talks about why the senses are important to humans (and other animals) • Describes what it would be like for a human if one of their senses did not function correctly, *e.g. loss of sight, loss of hearing*

Plants Year 1

Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees	
Expected *N.B. Ks1 children do not need to remember the names evergreen and deciduous, but will have been made aware of what these terms mean.* • Recognises and names a variety of plants from the following examples (certain plants may be specific to the child's particular local environment) N.B. one of the plants named MUST be a deciduous or evergreen tree: **wild plants** *e.g. grass, dandelion, daisy, buttercup, nettle, dock, clover, thistle, poppy, bluebell* **garden plants** *e.g. grass, rose, daffodil, sunflower, tulip, snowdrop, crocus, carrot, potato, radish, leek, tomato, onion, beetroot* **herbs** *e.g. mint, lavender, rosemary, thyme, chive, basil* **trees** *e.g. oak, ash, pine, horse chestnut, yew, sycamore, beech* **hedgerows/bushes** *e.g. elderflower, holly, hawthorn, laurel, bramble* • Knows that trees can be deciduous or evergreen	Exceeding • Identifies a large variety of common wild and garden plants including deciduous and evergreen trees • Explains the difference between a deciduous and an evergreen tree (i.e. states that the leaves fall from a deciduous tree in autumn) • Sorts and/or groups common plants and trees and can justify their groupings • Matches flowers or fruits to plants or trees, *e.g. conker to horse chestnut, dandelion flower to dandelion plant, blackberry to bramble*

Identify and describe the basic structure of a variety of common flowering plants, including trees	
Expected • Names(or labels a picture of) the following parts of a real plant: stem, flower, leaf, root • Without a real plant or a picture of a plant in front of them, says what the stem (and flower, leaf, root) looks like and where this would be in relation to the rest of the plant • Knows which part of the plant is usually in the soil	Exceeding • Explains in simple terms what each part of the plant does • Names other parts of a plant, *e.g. seeds, stones, stamens, petals, stigma* • Knows that some plants bear fruit • Names a variety of plants/fruits that humans can eat, *e.g. celery, orange, carrot, cabbage* • Researches where on a plant the edible part grows, *e.g. cabbages, apples, carrots, potatoes, strawberries, bananas, pineapples, coconuts*

Everyday materials Year 1

Distinguish between an object and the material from which it is made	
Expected • Knows that the term material does not just apply to fabric • Recognises different common materials, *e.g. wood, plastic, glass, metal and rock* • Identifies the material an object is made from, *e.g. a plastic knife, a wooden train, a glass ornament of a bird* • Sorts a collection of objects according to the materials they are made of • Identifies common materials in their immediate environment, *e.g. outdoors can say the fence is made of wood, the bike shelter roof is made of plastic*	Exceeding • Names objects that, *e.g. metal* could be used to make • Says that an item is made of metal but also identifies the metal, *e.g. a gold ring, copper wire (or any other types of common materials)*

Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock	
Expected • As above	Exceeding • As above

Describe the simple physical properties of a variety of everyday materials	
Expected • Uses adjectives and their antonyms to describe materials such as hard/soft, stiff/bendy, shiny/dull, rough/smooth, waterproof/not waterproof OR describes materialsusing their own (correct) vocabulary, *e.g. see through, doesn't let water through*	Exceeding • Uses more complex adjectives to describe materials, *e.g. absorbent, transparent, opaque, flexible, rigid*

Compare and group together a variety of everyday materials on the basis of their simple physical properties	
Expected • Sorts a collection of objects according to the simple physical properties of the materials • Given two different materials can say, *e.g. which is the hardest, which is the roughest*	Exceeding • Devises and explains their own method of grouping materials based on simple physical properties • Sorts a collection of objects using more than one physical property of the material it is made from, *e.g. smooth and shiny, rough and hard*

Seasonal changes Year 1

Observe changes across the four seasons	
Expected • Names the four seasons • Knows that there are four seasons in a year, every year • Describes the changes they observe in the school outdoor environment and/or the local area, throughout the seasons, *e.g. the changes in the trees – leaves changing colour, leaves falling off*	Exceeding • Names and correctly orders the four seasons • Knows that certain plants and animals respond to seasonal change, *e.g. some birds migrate, some animals hibernate* • Describes the effect that the changing seasons has on their own life, *e.g. can play outside longer in summer*

Observe and describe weather associated with the seasons and how day length varies	
Expected • Says which season is likely to be the warmest in Great Britain (and which is likely to be the coldest) • Talks about and compares the different weather associated with the four seasons • Describes the clothing suitable for a particular season • Predicts what the weather might typically be like for a day in any given season, *e.g. summer* • Compares the weather in Great Britain with the current weather in another country (that has contrasting weather) • Knows that in Great Britain there is more hours of daylight in summer than in winter	Exceeding • Describes typical weather and temperature in Great Britain associated with each of the seasons • Knows that the weather in another country, at the same time of the year, may be very different to the weather in Great Britain • Knows that the length of the day (hours of daylight), in another country at the same time of the year, may be different to the length of a day in Great Britain • Describes how the length of the day (hours of daylight) changes from season to season • Says which months are associated with each season

Animals, including humans Year 2

Notice that animals, including humans, have offspring which grow into adults	
Expected • Name some common animals and their offspring, *e.g. sheep and lamb, horse and foal, dog and puppy, human and baby* • Order the simple stages of a human life from birth to death, *e.g. baby, child, teenager, adult, elderly adult* • Describes how a newly born animal (other than a human) changes as it grows and ages	Exceeding • Names a wider range of animals and their offspring • Knows that some animals give birth to live young, some lay eggs • Knows that different animals live (on average) different lengths of time, *e.g. butterfly, dog, human*

Find out about and describe the basic needs of animals, including humans, for survival (water, food, air)	
Expected • Knows that an animal needs water, food and air in order to survive • Knows that animals need air to breath and food and water to stay alive and healthy – explains the short term effect of not having water (thirst) and the short term effect of not having food (hunger)	Exceeding • Explains why an animal needs water, food and air • Knows that animals can only survive for a very short time without air • Knows the short term effects on an animal of having no water/having no food • Knows that animals need shelter • Explains the dangers to the health of an animal that does not have its basic needs • Talks about animals in the wild that can no longer find food/shelter i.e. extinct or endangered species

Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	
Expected • Explains the word healthy and talks about a human that is unhealthy • Knows that it is important to be healthy • Knows that exercise can help a human to stay healthy • Knows that eating the right amount of different types of food can help humans to stay healthy • Knows that a human who only ever eats, *e.g. chips* will not remain healthy • Knows that having good hygiene (keeping clean) can help humans stay healthy	Exceeding • Explains why exercise helps to keep a human healthy • Has some knowledge of the term 'balanced diet' and knows that eating some of every food type can be beneficial to health • Knows that eating too much of a particular food type can lead to a human becoming unhealthy, *e.g. obesity, diabetes* • Explains the effects on a human body of not having good hygiene, *e.g. tooth decay, upset tummy, disease*

Plants Year 2

Observe and describe how seeds and bulbs grow into mature plants	
Expected • Describes how a seed/bulb grows roots, a stem, leaves and flowers having observed the growth of, *e.g. a broad bean seed, a daffodil bulb* • Talks about the stages of plant growth from seed/bulb to mature plant • Correctly sequences a set of pictures that show the growth of a plant	Exceeding • Knows that mature plants have seeds and that the seeds will make more plants • Knows that bulbs make more bulbs i.e. they multiply • Identifies a variety of plants which grow from bulbs, *e.g. daffodil, tulip, snowdrop, crocus* and a variety that grow from seeds, *e.g. lettuce, grass, radish*

Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	
Expected • Describes what a healthy and an unhealthy plant looks like • Knows what a plant needs to grow and to be healthy i.e. water, light and a suitable temperature • Describes what will happen to a plant if it does not have any one of the above, *e.g. plants kept in the dark will become yellow/less healthy, plants without water will wither and eventually die*	Exceeding • Explains why it is important to have healthy plants, *e.g. better fruit crops* • Raises own questions for an investigation about further conditions affecting plant growth, *e.g. effect of plant food on plant growth*

Uses of everyday materials Year 2

Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses	
Expected • From memory, names a number of objects that are made out of a particular material, *e.g. glass - marbles, windows, drinking glasses, vases* • Explains why a material is used for a particular use, *e.g. glass for windows because you can see through it and it is strong and waterproof* • Compares which is the most effective material for a particular purpose and says why some materials would not be suitable for certain uses, *e.g. wood would not be suitable for making a window because…..*, *cardboard would not make a good bicycle wheel because…*	Exceeding • Recognises that some items can be made from a variety of different materials, *e.g. a spoon can be made from either wood, metal or plastic. A toy train can be made from plastic, tin or wood.* • Compares two (or more) materials and explains which they think would be best to make, *e.g. a chair*

Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	
Expected • Knows that the shape of certain solids, *e.g. a sponge, plasticene, clay* can be changed by either squashing, bending twisting or stretching • Demonstrates the different forces (squash, bend, twist, stretch) by applying them to a solid that will change shape	Exceeding • Knows that it is difficult to change the shape of many solid objects and can name a selection of these, *e.g. a metal bar, a coin, a wooden table, a glass marble*

Living things and their habitats Year 2

Explore and compare the differences between things that are living, dead, and things that have never been alive	
Expected • Sorts and groups a selection of items (or photographs of items) according to whether they are living, dead or have never been alive • Describes how they know that something is alive, *e.g. because it breathes, it moves, it has a heartbeat, it is warm (animals). Because it is green, the stalk is stiff (plants)* • Describes how they know when something is dead, *e.g. it stops breathing, it decomposes (animals). The leaves have fallen off/gone brown and crisp (plant)* • Talks about why something might have died, *e.g. because it was old, because it had a disease, because it had an accident*	Exceeding • Explains the typical characteristics of something that is living, something that is dead or something that has never been alive • Is aware that living things have life processes and can name some of these

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	
Expected • Describes a habitat as the natural place (environment) where something lives • Describes how a habitat provides for the basic needs (food, water, shelter) of the animals and plants that live there • Knows that plants and animals depend on their habitat in order to survive, *e.g. for food, for spreading seeds, for shelter*	Exceeding • Names some of the characteristics of an animal that help it to live in a particular habitat, *e.g. a duck with webbed feet and a bill and waterproof feathers lives on the river and river bank* • Describes what a particular animal or plant needs to survive and links this to the habitat where the animal or plant lives, *e.g. lavender and rosemary are plants that grow well in full sunlight* • Knows that plants and animals depend on their habitat in order to survive and gives examples

Identify and name a variety of plants and animals in their habitats, including micro-habitats	
Expected • Names the plants or animals that live in a particular habitat, *e.g. in the school pond, in the wood* • Names the plants or animals that live in a named micro-habitat, *e.g. under a stone*	Exceeding • Identifies a more diverse range of plants and animals and knows what their habitat is like

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	
Expected • Knows that some animals eat plants, some animals eat meat and some eat both • Recognises and names some common animals that have plants as their food source, *e.g. cows, sheep, horses* • Recognises and names some common animals that have animals as their food source, *e.g. a cat, an insect eating bird* • Recognises and names some common animals that have both plants and animals as their food source, *e.g. humans* • Explains what a simple food chain is • Knows that a food chain always starts with a plant • Knows that the arrow in a food chain means 'is eaten by' • Places plants and animals in the correct order to make a food chain, *e.g. rose bush, greenfly, bird* or *grass, rabbit, fox*	Exceeding • Uses the terms herbivore, carnivore and omnivore confidently • Explains (in simple terms) why a food chain always starts with a plant • Creates more complex food chains • Knows that the arrow in a food chain means 'gives energy to'