

Science

- Pathway 1 – Year 1 and 2
- Pathway 2 – Year 3
- Pathway 3 – Year 4
- Pathway 4 – Year 5
- Pathway 5 – Year 6
- *=weighted stones



Stepping Stone Assessment Science

Pathway One



Working scientifically

Plants

Living things and their habitats

Animals including humans

Everyday materials

Seasonal changes

***I can observe closely, using simple equipment**

I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees

***I can notice that animals, including humans, have offspring which grow into adults**

***I can find out about and describe the basic needs of animals, including humans, for survival (water, food and air)**

***I can performing simple comparative tests**

I can identify and describe the basic structure of a variety of common flowering plants, including trees.

***I can identify and name a variety of common animals that are carnivores, herbivores and omnivores (food chains)**

***I can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.**

I can identify and classify different materials

I can observe and describe how seeds and bulbs grow into mature plants and the basic needs for survival

***I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals**

***I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock**

***I can observe changes across the four seasons**

***I can observe and describe weather associated with the seasons and how day length varies.**

***I can use my observations and ideas to suggest answers to questions**

I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

***I can say which part of the body is associated with each sense**

***I can distinguish between an object and the material from which it is made**

I can observe and describe how the day length varies.

***I can gather and record data to help in answering questions using scientific language**

***I can identify and name a variety of plants and animals in their habitats, including microhabitats**

***I can identify, name, draw and label the basic parts of the human body**

***I can describe the simple physical properties of a variety of everyday materials**

***I can observe changes across the four seasons**

***I can ask simple questions and recognising that they can be answered in different ways**

***I can explore and compare the differences between things that are living, dead, and things that have never been alive**

I can describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other

***I can compare and group together a variety of everyday materials on the basis of their simple physical properties**

I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses

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Name _____

I can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Orange - Aut 1

Green - Aut 2

Pink - Spr 1

Blue - Spr 2

Yellow - Sum 1

Purple - Sum 2



Stepping Stone Assessment Science

Pathway Two



I can use straightforward scientific evidence to answer questions or to support my findings

I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions

I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

I can gather, record, classify and present data in a variety of ways to help in answering questions

I can make systematic and careful observations, taking accurate measurements using standard units, using a range of equipment

I can set up simple practical enquiries, comparative and fair tests

I can ask relevant questions and using different types of scientific enquiries to answer them

I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

I can identify differences, similarities or changes related to simple scientific ideas and processes

I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers

I can 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

I can investigate the way in which water is transported within plants

I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties

I can describe in simple terms how fossils are formed when things that have lived are trapped within rock

I can recognise that soils are made from rocks and organic matter

I can 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

I can identify that humans and some other animals have skeletons and muscles for support, protection and movement.

I can predict whether two magnets will attract or repel each other, depending on which poles are facing

I can recognise that they need light in order to see things and that dark is the absence of light

I can notice that light is reflected from surfaces

I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes

I can recognise that shadows are formed when the light from a light source is blocked by a solid object

I can find pat terns in the way that the size of shadows change

Working scientifically

Plants

Rocks

Animals including humans

Light

Forces and magnets

I can compare how things move on different surfaces

I can notice that some forces need contact between two objects, but magnetic forces can act at a distance

I can observe how magnets attract or repel each other and attract some materials and not others

I can 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

I can describe magnets as having two poles

Orange - Aut 1

Green - Aut 2

Pink - Spr 1

Blue - Spr 2

Yellow - Sum 1

Purple - Sum 2

Name _____



Stepping Stone Assessment Science **Pathway Three**



I can use straightforward scientific evidence to answer questions or to support my findings

I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions

I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

I can gather, record, classify and present data in a variety of ways to help in answering questions

I can make systematic and careful observations, taking accurate measurements using standard units, using a range of equipment

I can set up simple practical enquiries, comparative and fair tests

I can ask relevant questions and using different types of scientific enquiries to answer them

I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

I can identify differences, similarities or changes related to simple scientific ideas and processes

I can recognise that living things can be grouped in a variety of ways

I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment

I can recognise that environments can change and that this can sometimes pose dangers to living things

I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

***I can compare and group materials together, according to whether they are solids, liquids or gases**

***I can 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)**

***I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature**

I can describe the simple functions of the basic parts of the digestive system in humans

I can identify the different types of teeth in humans and their simple functions

I can construct and interpret a variety of food chains, identifying producers, predators and prey

I can recognise some common conductors and insulators, and associate metals with being good conductors

***I can identify how sounds are made, associating some of them with something vibrating**

***I can recognise that vibrations from sounds travel through a medium to the ear**

I can find patterns between the pitch of a sound and features of the object that produced it

***I can find patterns between the volume of a sound and the strength of the vibrations that produced it**

I can recognise that sounds get fainter as the distance from the sound source increases

Working scientifically
Living things and their habitats

States of matter

Animals including humans

Sound

Electricity

I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit

I can 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

I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers

I can identify common appliances that run on electricity

Orange - Aut 1

Green - Aut 2

Pink - Spr 1

Blue - Spr 2

Yellow - Sum 1

Purple - Sum 2

Name _____



Stepping Stone Assessment Science **Pathway Four**



Working scientifically
Living things and their habitats
Properties and changes of materials
Animals including humans
Earth and space
Forces

I can identify scientific evidence that has been used to support or refute ideas or arguments

I can report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations

I can know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution

***I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces**

I can use test results to make predictions to set up further comparative and fair tests

I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird

***I can 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**

***I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object**

***I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect**

I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs

I can describe the life process of reproduction in some plants and animals

***I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating**

***I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky**

I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary

I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic

***I can identify that dissolving, mixing and changes of state are reversible or irreversible changes**

I can describe the Sun, Earth and Moon as approximately spherical bodies

I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate

I can 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

I can describe the changes as humans develop to old age

***I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system**

I can describe the movement of the Moon relative to the Earth.

Name _____

Orange - Aut 1
Green - Aut 2
Pink - Spr 1
Blue - Spr 2
Yellow - Sum 1
Purple - Sum 2



Stepping Stone Assessment Science **Pathway Five**



Working scientifically
Living things and their habitats
Evolution and inheritance
Animals including humans
Light
Electricity

I can identify scientific evidence that has been used to support or refute ideas or arguments

***I can report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations**

I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents

*** I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution**

***I can use recognised symbols when representing a simple circuit in a diagram**

I can use test results to make predictions to set up further comparative and fair tests

***I can describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals**

I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit

I can 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

***I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs to evaluate my work**

I can describe the ways in which nutrients and water are transported within animals, including humans

***I can plan different types of scientific enquiries to answer questions using scientific language, including recognising and controlling variables where necessary**

***I can give reasons for classifying plants and animals based on specific characteristics and construct and interpret food chains**

***I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function**

I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

***I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate**

***I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago**

***I can identify and name the main parts of the human musculoskeletal, digestive and circulatory system, and describe the functions of the heart, blood vessels and blood.**

I can 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

***I can recognise that light appears to travel in straight lines**

***I can 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**

Orange - Aut 1
Green - Aut 2
Pink - Spr 1
Blue - Spr 2
Yellow - Sum 1
Purple - Sum 2

Name _____