



Science Card 1

Name: _____

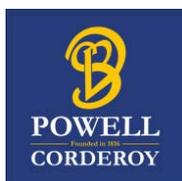
Class/Year group: _____

These are the targets on which I am currently working:

	Objectives	Pupil	Teacher
Plants	I can identify and recognise some common garden plants.		
	I can identify and recognise some wild plants.		
	I can name a variety of wild and garden plants, including deciduous and evergreen trees.		
	I can differentiate between deciduous and evergreen trees.		
	I can, with support, describe the basic structure of plants.		
	I can independently identify and describe some of the basic parts of a plant.		
	I can independently identify and describe the basic structure of a variety of common plants, including trees (including leaves, flowers, petals, fruit, roots, bulbs, seeds, trunks, branches and stems).		
	I can compare two different plants.		
	I can compare and categorise plants using given criteria.		
	I can recognise that plants change over time.		
Animals, including humans	I can record how plants change over time.		
	I can understand that there are different species of animals.		
	I can identify and name a range of animals, including fish, amphibians, reptiles, birds and mammals.		
	I can understand that some animals eat meat, vegetables or both.		
	I can understand the difference between carnivores, herbivores and omnivores.		
	I can independently identify and give examples of different carnivores, herbivores and omnivores.		
	I can describe and compare the structures of different animals.		
	I can suggest ways to look after animals, including pets.		
	I can explain why we need to look after animals in certain ways (e.g. giving them food, water and shelter).		
	I can, with support, name some basic parts of the human body.		
	I can independently identify and name the basic parts of the human body.		
	I can draw the human body.		
	I can independently draw and label the basic parts of the human body.		
Materials	I can name the five senses.		
	I can say which part of the body is associated with each sense.		
	I can identify which material an object is made from.		
	I can distinguish between an object and the material from which it is made.		
	I can, with support, identify and name a range of everyday materials (including wood, plastic, glass, metal, water and rock).		
	I can, independently, identify and name a range of everyday materials (including wood, plastic, glass, metal, water and rock).		
	I can start to describe the physical properties of everyday materials.		
	I can independently describe the physical properties of everyday materials.		
	I can compare a range of everyday materials.		
I can group together a range of everyday materials.			
I can use relevant vocabulary to describe materials (e.g. hard, opaque, and rough).			

Seasons	I can name the four seasons.		
	I can recognise that each season is different.		
	I can start to, with support, describe the differences between each season.		
	I can observe the changes across the four seasons.		
	I can observe and describe the weather associated with the seasons.		
	I can recognise that the days vary in length in each season.		
	I can identify how day length varies in each season.		
	I can understand that it is not safe to look at the sun.		
	I can make tables and charts about the weather.		
Scientific skills	I can start to ask simple questions about scientific phenomena.		
	I can start to recognise that questions can be answered in different ways.		
	I can, with support, set up simple experiments.		
	I can, with support, observe the results of experiments.		
	I can start to perform simple tests to explore questions.		
	I can start to identify and classify scientific phenomena.		
	I can begin to suggest answers to questions.		
	I can gather data, with support.		
	I can record data, with support.		
Mastery	I can, with support, suggest ways to find answers to scientific phenomena.		
	I can, with support, suggest experiments I could use to find answers to questions.		
	I can, with support, suggest appropriate ways to record data.		
	I can start to record data accurately (e.g. in a tally chart).		
	I can start to use my prior knowledge to suggest why something is happening.		
	I can, with support, create my own criteria for classifying scientific phenomena.		
	I can start to recognise that science is part of our everyday lives.		
	I can start to find examples of science in my everyday life.		

Comments and achievements:



Science Card 2

Name: _____

Class/Year group: _____

These are the targets on which I am currently working:

	Objectives	Pupil	Teacher
Living things and habitats	I can identify that some things are living, dead or have never been alive.		
	I can explore the differences between things that are living, dead and have never been alive.		
	I can compare things that are living, dead and have never been alive.		
	I can explain what a habitat is.		
	I can identify that most living things live in habitats that are suited to their needs.		
	I can describe how different habitats meet the needs of different animals and plants.		
	I can understand that living things depend on their habitats.		
	I can identify and name a variety of plants and animals.		
	I can identify micro-habitats.		
	I can explain how animals obtain their food from plants and other animals.		
	I can, with support, create a simple food chain.		
	I can independently draw an accurate food chain.		
	I can identify and name different sources of food.		
	I can understand that living things have certain characteristics that are essential for keeping them alive and healthy.		
Animals inc. humans	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 describe the importance, for humans, of exercise, eating the right amounts of different types of food and hygiene.		
	I can start to understand the processes of reproduction and growth in animals (e.g. understanding the link between an egg and a chicken or tadpole and frog).		
	I can measure and observe how different animals grow.		
	I can suggest the things animals need for survival and to stay healthy.		
Materials	I can identify the suitability of a variety of materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.		
	I can compare the suitability of a variety of materials.		
	I can find out how the shapes of solid objects can be changed by squashing, bending, twisting and stretching.		
	I can discuss the uses of everyday materials.		
	I can understand that materials can be used for more than one thing.		
	I can understand that different materials can be used for the same thing (e.g. a spoon can be made from plastic, wood and metal but not normally glass).		
	I can think about whether a material is suitable or unsuitable for a particular purpose.		
	I can think of some unusual and creative uses for everyday materials.		
	I can explore the uses of different materials around me (e.g. at school, at home, the journey to home, in shops).		
I can identify and classify different materials.			

Plants	I can observe how seeds and bulbs grow into mature plants.		
	I can independently describe how seeds and bulbs grow into mature plants.		
	I can find out how plants need water, light and a suitable temperature to grow and stay healthy.		
	I can describe and explain how plants need water, light and a suitable temperature to grow and stay healthy.		
	I can use the local environment throughout the year to observe how different plants grow.		
	I can start to understand the process of germination and reproduction in plants.		
	I can understand that seeds and bulbs need water to grow but not light as seeds and bulbs have a store of food inside them.		
	I can observe and record the growth of a variety of plants.		
	I can observe similar plants at different stages of growth and set up a comparative test to show that plants need light and water to stay healthy.		
Scientific skills	I can ask questions about scientific phenomena and recognise that they can be answered in different ways.		
	I can use simple experiments and observe results.		
	I can perform simple tests to explore questions.		
	I can identify and classify scientific phenomena.		
	I can identify and classify scientific phenomena, suggesting the criteria to use independently.		
	I can suggest logical answers to questions and suggest ways to find answers.		
	I can gather data independently.		
	I can record data.		
I can record data accurately in different ways.			
Mastery	I can independently raise and answer questions about specific topics.		
	I can explain why I have decided where to place things and explore and answer questions regarding my classification, when independently classifying things.		
	I can suggest ways to find answers to scientific phenomena.		
	I can suggest experiments I could use to find answers to questions.		
	I can suggest appropriate ways to record data.		
	I can use my prior knowledge to suggest why something is happening.		
	I can create my own criteria for classifying scientific phenomena.		
	I can recognise that science is part of our everyday lives.		
I can find examples of science in my everyday life.			

Comments and achievements:

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Science Card 3

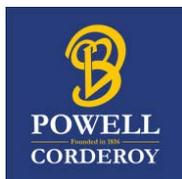
Name: _____

Class/Year group: _____

These are the targets on which I am currently working:

	Objectives	Pupil	Teacher
Plants	I can identify the different parts of flowering plants (e.g. roots, stem, leaves and flowers).		
	I can describe the functions of the different parts of flowering plants.		
	I can start to understand the relationship between structure and function; the idea that every part has a job to do.		
	I can explore the requirements of plants for life and growth and how these 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 explore questions looking at the role of different parts of the plant (e.g. roots and stem in nutrition and support).		
	I can start to understand that plants can make their own food.		
	I can compare the effect of different factors on plant growth (e.g. the amount of light or fertiliser).		
	I can discover how seeds are formed by observing the different stages of plant life cycles over a period of time.		
Forces	I can compare how things move on different surfaces.		
	I can notice that some forces need contact between two objects.		
	I can explore how magnetic forces act at a distance.		
	I can compare and group everyday materials based on whether they are attracted to a magnet.		
	I can identify some magnetic materials.		
	I can describe how magnets have two poles.		
	I can observe how magnets attract or repel each other.		
	I can predict whether two magnets will attract or repel each other, depending on which poles are facing.		
I can explore how magnets are useful in everyday items.			
Animals inc. humans	I can identify that animals need the right types and amount of nutrition.		
	I can understand that animals cannot make their own food and that 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 identify some of the main parts of the human body.		
	I can understand that different parts of the human body have special functions.		
	I can identify and group different animals.		
	I can think about what might happen to humans if they did not have skeletons.		
	I can compare and contrast the diets of different animals.		
I can identify the different food groups.			
Rocks	I can identify different rocks based on their appearance and physical properties.		
	I can compare and group together different kinds of rocks.		
	I can describe, in simple terms, how fossils are formed.		
	I can recognise that soils are made from rocks and organic matter.		
	I can explore different kinds of rocks and soils in my local environment.		

	I can explore how rocks might have changed over time.		
	I can explore what happens when rocks are rubbed together or what changes occur when they are in water.		
Light	I can recognise that I need light in order to see things.		
	I can understand that dark is the absence of light.		
	I can notice that light is reflected from surfaces.		
	I can recognise that light from the sun or bright light can be dangerous.		
	I can suggest ways to protect my eyes from the sun or bright lights.		
	I can recognise that shadows are formed when the light from a light source is blocked by an opaque object.		
	I can find patterns in the way that the size of shadows change.		
	I can think about what could cause shadows to change.		
	I can explore what happens when light reflects off a mirror.		
Working scientifically	I can, with support, ask relevant questions about what I have observed.		
	I can begin to group, sort and classify scientific phenomena using my own criteria.		
	I can, with support, use different types of scientific enquiries to answer questions.		
	I can, with support, set up simple practical enquiries, comparative and fair tests.		
	I can, with support, make systematic and careful observations.		
	I can, with support, use new equipment appropriately (e.g. data loggers).		
	I can start to take accurate measurements, using standard units and a range of equipment (including thermometers and data loggers).		
	I can, with support, gather, record, classify and present data in a variety of ways to answer questions.		
	I can begin to record my findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.		
	I can, with support, look for changes, patterns, similarities and differences in my results and use results to draw simple conclusions and answer questions.		
	I can, with support, use results to make predictions for new values.		
	I can, with support, analyse my results and review my experiments and suggest improvements for them in order to raise further questions.		
	I can, with support, identify differences, similarities or changes related to simple scientific ideas and processes.		
I can begin to use scientific evidence to answer questions or support findings.			
Mastery	I can start to explore, discuss, test and develop ideas about everyday phenomena.		
	I can begin to raise my own questions about the world around me.		
	I can, with support, look for naturally occurring patterns and relationships and decide which data to collect to identify them.		
	I can start to make some decisions about which types of scientific enquiry are likely to be the best ways of answering questions.		
	I can, with support, find information using secondary sources of information.		
	I can begin to use scientific language when talking and writing about my findings.		
	I can start to read and spell scientific vocabulary correctly and with confidence, using my growing word, reading and spelling knowledge.		
	I can begin to recognise when secondary sources might help me to answer questions that cannot be answered through practical investigations.		
	I can, with support, carry out scientific research and make notes.		
Comments and achievements:			



Science Card 4

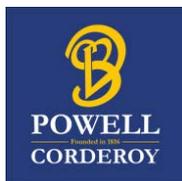
Name: _____

Class/Year group: _____

These are the targets on which I am currently working:

	Objectives	Pupil	Teacher
States of matter	I can compare and group materials together, according to whether they are solids, liquids or gases.		
	I can explain what solids, liquids and gases are.		
	I can observe that some materials change state when they are heated or cooled.		
	I can identify the part played by evaporation and condensation in the water cycle.		
	I can measure the temperature at which materials change state.		
	I can explore the effect of temperature on a variety of substances (e.g. chocolate, butter, water).		
	I can observe the effects of evaporation over a period of time.		
Sound	I can identify how sounds are made, associating them with something vibrating.		
	I can recognise that vibrations from sound 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.		
	I can find patterns in the sounds that are made by different objects.		
Electricity	I can identify common appliances that run on electricity.		
	I can construct a simple series electrical circuit.		
	I can identify and name the basic parts of an electrical circuit.		
	I can identify whether or not a lamp will light a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.		
	I can recognise that a switch opens and closes a circuit.		
	I can recognise some common conductors and insulators and associate metals with being good conductors.		
	I can draw a pictorial representation of a circuit.		
	I can identify the precautions to take to work safely with electricity.		
	I can observe patterns, e.g. that bulbs get brighter if more cells are added.		
Animals inc. humans	I can describe the simple functions of the basic parts of the digestive system in humans (e.g. tongue, teeth, oesophagus, stomach and intestines).		
	I can identify the different types of teeth in humans.		
	I can identify the functions of teeth in humans.		
	I can construct and interpret a variety of food chains.		
	I can identify producers, predators and prey.		
	I can compare the teeth of carnivores and herbivores and suggest reasons for differences.		
Living things and their	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 identify and study plants and animals in their habitat.		
	I can explain how habitats change throughout the year.		
	I can begin to distinguish between vertebrate and invertebrates and group different examples of each.		
	I can explore examples of human impact on environments, both positive and negative.		
Working scientifically	I can ask relevant questions about what I have observed.		
	I can group, sort and classify scientific phenomena using my own criteria.		
	I can use different types of scientific enquiries to answer questions.		
	I can set up simple practical enquiries, comparative and fair tests.		
	I can make systematic and careful observations.		
	I can use new equipment appropriately (e.g. data loggers)		
	I can take accurate measurements, using standard units and a range of equipment (including thermometers and data loggers).		
	I can gather, record, classify and present data in a variety of ways to answer questions.		
	I can record my findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.		
	I can look for changes, patterns, similarities and differences in my results and use results to draw simple conclusions and answer questions.		
	I can use results to make predictions for new values.		
	I can analyse my results and review my experiments and suggest improvements for them in order to raise further questions.		
	I can identify differences, similarities or changes related to simple scientific ideas and processes.		
	I can use scientific evidence to answer questions or support findings.		
Mastery	I can explore, discuss, test and develop ideas about everyday phenomena.		
	I can raise my own questions about the world around me.		
	I can look for naturally occurring patterns and relationships and decide which data to collect to identify them.		
	I can make some decisions about which types of scientific enquiry are likely to be the best ways of answering questions.		
	I can find information using secondary sources of information.		
	I can use scientific language when talking and writing about my findings.		
	I can read and spell scientific vocabulary correctly and with confidence, using my growing word reading and spelling knowledge.		
	I can recognise when secondary sources might help me to answer questions that cannot be answered through practical investigations.		
I can carry out scientific research and make notes.			
Comments and achievements:			



Science Card 5

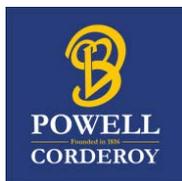
Name: _____

Class/Year group: _____

These are the targets on which I am currently working:

	Objectives	Pupil	Teacher
Forces	I can explain that unsupported objects fall towards Earth because of the force of gravity acting between the Earth and the falling object.		
	I can identify the effects of air resistance, water resistance and friction.		
	I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.		
	I can explore falling objects and raise questions about the forces acting on them.		
	I can explore the effects of air resistance by observing how different objects fall.		
	I can explore the effects of friction on movement.		
	I can understand how scientists (e.g. Galileo Galilei and Isaac Newton) helped to develop the theory of gravitation.		
Properties of materials	I can compare and group together everyday materials based on their properties (e.g. their hardness, solubility, transparency and response to magnets).		
	I can explore and compare the properties of a broad range of materials.		
	I can explain that some materials will dissolve in liquid to form a solution.		
	I can describe how to recover a substance from a solution.		
	I can describe the differences between solids, liquids and gases.		
	I can use my knowledge of solids, liquids and gases to decide how mixtures could be separated (inc. filtering, sieving and evaporating).		
	I can give reasons, based on the results from comparative and fair tests, for the particular uses of everyday materials.		
	I can explore both reversible and irreversible changes.		
	I can demonstrate that dissolving, mixing and changes of state are reversible.		
	I can explain that changes result in the formation of new materials and that this kind of change is not usually reversible.		
	I can research how chemists create new materials (e.g. Spencer Silver who invented sticky notes or Ruth Benerito who invented wrinkle-free cotton.).		
Earth and Space	I can identify the different planets in the solar system and their positions in relation to one another.		
	I can understand that the sun is at the centre of our solar system.		
	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.		
	I can describe the Sun, Earth and Moon as approximately spherical bodies.		
	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 understand that a moon is a celestial body that orbits a planet.		
	I can investigate how ideas about the solar system have changed over time.		
	I can consider the work of scientists such as Ptolemy, Alhazen and Copernicus.		
	I can compare the time of day at different places on the Earth.		

Living things	I can describe the life cycles of a range of animals (e.g. mammals, amphibians, insects and birds), including those in my local environment as well as around the world.		
	I can describe the differences between the life cycles of animals.		
	I can observe life-cycle changes in a variety of living things, e.g. plants in the vegetable garden or flower border.		
	I can research the work of naturalists and animal behaviourists (e.g. David Attenborough and Jane Goodall).		
	I can explore the different types of reproduction (inc. sexual and asexual reproduction in plants and sexual reproduction in animals).		
	I can grow plants from different parts of the parent plant.		
	I can compare how different animals reproduce and grow.		
Animals	I can describe the changes as humans develop to old age.		
	I can draw a timeline to indicate stages in the growth and development of humans.		
	I can explain the changes experienced in puberty.		
Working scientifically	I can begin to plan different types of scientific enquiries to answer questions.		
	I can start to recognise and control variables in experiments.		
	I can, with support, take measurements, using a range of equipment, with increasing precision and accuracy.		
	I can begin to understand when I need to take repeated readings and why.		
	I can start to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.		
	I can start to use test results to make predictions and to set up further tests.		
	I can, with support, report and present findings from enquiries (including conclusions, causal relationships and explanations of and degree of trust in results).		
	I can begin to use and develop keys in order to identify, classify and describe living things and materials.		
	I can, with support, identify patterns in my natural environment.		
	I can, with support, use relevant scientific language and illustrations to discuss, communicate and justify my scientific ideas.		
Mastery	I can start to look for causal relationships in data and identify evidence that refutes or supports my ideas.		
	I can, with support, explore and talk about my ideas, asking my own questions about scientific phenomena.		
	I can start to systematically explore and analyse functions, relationships and interactions.		
	I can, with support, understand how more abstract ideas help me to understand and predict how the world operates.		
	I can start to recognise that scientific ideas change and develop over time.		
	I can begin to select the most appropriate ways to answer questions, using different types of scientific enquiry.		
	I can start to find things out using a wide range of secondary sources.		
	I can begin to draw conclusions based on my data.		
	I can, with support, use evidence to justify my ideas.		
	I can begin to read, spell and produce scientific vocabulary correctly.		
I can, with support, apply my prior knowledge to what I am learning in science.			
Comments and achievements:			



Science Card 6

Name: _____

Class/Year group: _____

	Objectives:	Pupil	Teacher
Electricity	I can identify the components of a series circuit.		
	I can create a functional simple circuit.		
	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 (inc. the brightness of bulbs, the loudness of buzzers and the on/off position of switches).		
	I can use symbols accurately when drawing a circuit.		
	I can construct a simple series circuit to help me answer questions about different components.		
	I can explain which necessary precautions should be taken to work with electricity safely.		
Animals inc. humans	I can identify the main parts of the human body.		
	I can identify and name the main parts of the human circulatory system.		
	I can describe the functions of the heart, blood vessels and blood.		
	I can recognise the impact of diet, exercise, drugs and lifestyle on the way my body functions.		
	I can describe the ways in which nutrients and water are transported within animals.		
	I can explore and answer questions that help me to understand how the circulatory system enables the body to function.		
	I can suggest ways to keep my body healthy.		
	I can explain how some things (e.g. drugs) can harm the human body.		
	I can explore the relationship between diet, exercise, drugs, lifestyle and health.		
Evolution and inheritance	I can recognise that living things have changed over time.		
	I can understand how fossils provide information about living things that inhabited the Earth millions of years ago.		
	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 start to understand how characteristics are passed from parents to offspring.		
	I can understand how variation in offspring over time can make animals more or less able to survive in particular environments.		
	I can identify how animals and plants are adapted to suit their environment.		
	I can analyse the advantages and disadvantages of specific adaptations.		
	I can understand that adaption may lead to evolution.		
	I can research the work of palaeontologists such as Mary Anning or Charles Darwin.		
Light	I can understand that darkness is the absence of light.		
	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.		
	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 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 explore how light behaves, including reflection and shadows. I can then make predictions based on my findings.		
	I can examine a range of phenomena, (e.g. rainbows, colours in soap bubbles or objects)		

	looking bent in water).		
Living things and their habitats	I can describe how living things are classified into broad groups, according to common observable characteristics.		
	I can classify living things according to their similarities and differences.		
	I can give reasons for classifying plants and animals on specific characteristics.		
	I can understand that broad groups, such as plants, can be subdivided.		
	I can classify animals into vertebrates, invertebrates and amphibians.		
	I can research the significance of scientists (e.g. Carl Linnaeus).		
Working scientifically	I can plan different types of scientific enquiries to answer questions.		
	I can recognise and control variables in experiments.		
	I can take measurements, using a range of equipment, with increasing precision and accuracy.		
	I can understand when I need to take repeated readings and why.		
	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 use test results to make predictions and to set up further tests.		
	I can report and present findings from enquiries (including conclusions, causal relationships and explanations of and degree of trust in results).		
	I can use and develop keys in order to identify, classify and describe living things and materials.		
	I can identify patterns in my natural environment.		
	I can use relevant scientific language and illustrations to discuss, communicate and justify my scientific ideas.		
Mastery	I can look for causal relationships in data and identify evidence that refutes or supports my ideas.		
	I can explore and talk about my ideas, asking my own questions about scientific phenomena.		
	I can systematically explore and analyse functions, relationships and interactions.		
	I can understand how more abstract ideas help me to understand and predict how the world operates.		
	I can recognise that scientific ideas change and develop over time.		
	I can select the most appropriate ways to answer questions, using different types of scientific enquiry.		
	I can find things out using a wide range of secondary sources.		
	I can draw conclusions based on my data.		
	I can use evidence to justify my ideas.		
	I can use scientific knowledge and understanding to explain my findings.		
I can read, spell and produce scientific vocabulary correctly.			
I can apply my prior knowledge to what I am learning in science.			
Comments and achievements:			