Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Working Scientifically	**1**		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

Key Learning Objectives	Teacher to write pupils' initials
Emerging • I can ask simple questions about the world around me • I can, with support, observe closely and describe what I see • I can, with support, perform simple tests using familiar, everyday equipment • I can use sketches to record what happened	Emerging
Expected • I can ask simple questions linked to the science work we are doing • I can observe closely and describe what I see • I can perform simple tests, using familiar, everyday equipment • I can gather and record information to help answer questions (including using photographs and drawings)	Expected
Exceeding • I can start to suggest simple answers to questions based on my own experience • I can relate my observations to the wider world • I can identify the equipment that I need to perform simple tests • I can start to suggest my own methods for gathering information to answer a question	Exceeding

It will help if teachers write girls and boys names in different colours (and put a key)

Teacher to complete shaded areas of this table		Emerging	Expected	Exceeding
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Life Processes & Living Things	**1**		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

Key Learning Objectives	Teacher to write pupils' initials
Emerging — **Plants:** • I can name some common plants and trees • I can label the roots, leaf, stem, petal, branch, trunk and fruit on pictures of plants or trees **Animals including humans:** • I can name some common animals including fish, amphibians, reptiles, birds and mammals • I can explain the difference between carnivores and herbivores • I can describe and label the main external body parts of common animals • I can identify, name, draw and label the basic parts of the human body and say which part is associated with each sense **Seasonal change:** • I can describe the season we're in	Emerging
Expected — **Plants:** • I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees • I can identify and describe the basic structure of a variety of common flowering plants, including trees **Animals including humans:** • 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 common animals that are carnivores, herbivores and omnivores • I can describe and compare the structure of a variety of common animals • I can identify, name, draw and label finer body parts, e.g. wrist, chin, ankle, waist, shoulder, hips, etc. **Seasonal change:** • I can observe changes across the four seasons and describe weather associated with the seasons and how day length varies	Expected
Exceeding — **Plants:** • I can describe the characteristics of common plants and tress • I can start to explain the basic function of the roots, stem and flowers in common plants **Animals including humans:** • I can group common animals including fish, amphibians, reptiles, birds and mammals according to their characteristics • I can explain, in simple terms, the function and importance of the main external body parts of common animals • I can identify, name and label some of the major bones, e.g. the skull, rib cage, spine, etc. **Seasonal change:** • I can explain how seasonal changes affect plants and animals	Exceeding

It will help if teachers write girls and boys names in different colours (and put a key)

Teacher to complete shaded areas of this table		**Emerging**	**Expected**	**Exceeding**
Overall	**No. of Chn**			
Boys	**No. of Chn**			
Girls	**No. of Chn**			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Materials & their Properties	**1**		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

Key Learning Objectives	Teacher to write pupils' initials
Emerging **Materials:** - I can find objects made from a given material - I can name some everyday materials - I can describe the appearance and texture of some everyday materials - I can compare and group together a variety of everyday materials on the basis of their appearance and texture	**Emerging**
Expected **Materials:** - I can distinguish between an object and the material from which it is made - I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock - I can describe the simple physical properties of a variety of everyday materials - I can compare and group together a variety of everyday materials on the basis of their simple physical properties	**Expected**
Exceeding **Materials:** - I can explain the difference between naturally occurring man-made materials - I can identify and name a selection of common metals and plastics - I can link the simple physical properties of a variety of everyday materials to their uses - I can compare and group together a variety of everyday materials according to criteria that I have devised myself	**Exceeding**

It will help if teachers write girls and boys names in different colours (and put a key)

Teacher to complete shaded areas of this table		**Emerging**	**Expected**	**Exceeding**
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Working Scientifically	**2**		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

Key Learning Objectives	Teacher to write pupils' initials
Emerging • I can ask simple questions and suggest a possible way to answer them • I can observe carefully, and make direct comparisons • I can identify what I need to measure in a test • I can identify similarities and differences • I can, with support, link direct observations to answer questions • I can use tables accurately to record my findings	**Emerging**
Expected • I can ask simple questions and recognise that they can be answered in different ways • I can observe closely, using given measuring equipment • I can perform simple tests without support • I can identify and classify • I can use my observations and ideas to suggest answers to questions • I can gather and record accurate data to help in answering questions (incl. numerical data, where appropriate)	**Expected**
Exceeding • I can consider the most suitable/ practical approach when answering simple questions • I can select appropriate equipment to take careful measurements • I can recognise when a test is unfair • I can classify and recognise patterns • I can draw simple conclusions which are supported by my findings • I can record accurate data in a variety of ways (incl. numerical data, where appropriate)	**Exceeding**

It will help if teachers write girls and boys names in different colours (and put a key)

Teacher to complete shaded areas of this table		**Emerging**	**Expected**	**Exceeding**
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Life Processes & Living Things	2		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

Key Learning Objectives	Teacher to write pupils' initials	
Emerging	**Plants:** • I know that all plants start life as a seed/bulb • I can recognise some of the conditions required for plants to grow and stay healthy **Animals including humans:** • I can match common animals to their young; i.e. puppy → dog • I can describe the basic needs of humans for survival (water, food, warmth, shelter) • I know that lack of exercise and overeating fatty and sugary foods can result in weight gain and poor health **Living things and their habitats:** • I can sort items according to whether they are living, dead or have never been alive • I can match common animals to their habitats; i.e. penguin → polar region • I can identify and name common plants and animals found in the local environment		**Emerging**
Expected	**Plants:** • I can observe and describe how seeds and bulbs grow into mature plants • I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy **Animals including 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 **Living things and their habitats:** • I can explore and compare the differences between things that are living, dead, and things that have never been alive • I can 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 • I can identify and name a variety of plants and animals in their habitats, including micro-habitats • I can 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**
Exceeding	**Plants:** • I can recall the main stages in the life cycle of common plants • I can make and test predictions about how plant health and growth will be affected by changes to their water, light and temperature **Animals including humans:** • I can recall the main stages in the life cycle of animals, including some more complex cases; i.e. frogs, butterflies, chickens, etc. • I can describe additional needs of humans and animals to enhance their life (comfort, company, stimulation) • I can describe both the immediate and long term effects of exercise, including breathing, heart rate and muscle development **Living things and their habitats:** • I can make accurate generalisations about groups of animals/objects • I understand how current changes to the environment (natural and man-made) are impacting upon animal and plant populations • I can explain simple ways in which animals are suited to their habitat • I can start to construct simple food chains		**Exceeding**

It will help if teachers write girls and boys names in different colours (and put a key)

Teacher to complete shaded areas of this table		Emerging	Expected	Exceeding
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Materials & their Properties	**2**		

Key Learning Objectives	Teacher to write pupils' initials
Emerging — **Materials:** • I can suggest at least one accurate reason why a particular material has been used to make a common object • I can distinguish between objects whose shape can be easily changed and those whose shape is more permanent	**Emerging**
Expected — **Materials:** • I can identify and compare the suitability of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses (using scientific vocabulary i.e. transparent, opaque, durable, rigid, permeable, etc.) • I can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	**Expected**
Exceeding — **Materials:** • I can devise and carry out my own tests to assess the suitability of materials for a given purpose • I can explain, in basic terms, how heating and cooling can be use to change some objects / materials	**Exceeding**

Teacher to complete shaded areas of this table		**Emerging**	**Expected**	**Exceeding**
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Working Scientifically	**3**		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

Key Learning Objectives	Teacher to write pupils' initials
Emerging - I can ask relevant scientific questions - I can, with guidance, set up simple practical comparative tests - I can take careful measurements, including length, weight and volume - I can gather, record and present data in a variety of ways to help answer questions - I can record findings using drawings, labelled diagrams, keys, bar charts, and tables - I can use results to draw simple conclusions and make general statements - I can use real world examples to answer questions or to support my findings	**Emerging**
Expected - I can ask relevant scientific questions and suggest a scientific way of answering them - I can, with guidance, set up simple practical enquiries, comparative and fair tests - I can make careful observations and take accurate measurements using standard units - I can gather, record, classify and present data in a variety of ways to help answer questions - I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables - I can use results to draw simple conclusions and make predictions for new values - I can use straightforward scientific evidence to answer questions or to support my findings	**Expected**
Exceeding - I can distinguish between scientific and non-scientific questions - I am starting to identify and explain some of the possible variables when setting up practical enquiries - I understand that results are not always reliable - I can comment upon how effectively findings are presented - I am starting to share my findings with others using scientific language - I can use results to draw simple conclusions, make predictions for new values and start to raise new questions - I am starting to understand the importance of scientific evidence in developing and refuting ideas - I can use different sources of scientific evidence to answer questions or to support my findings	**Exceeding**

It will help if teachers write girls and boys names in different colours (and put a key)

Teacher to complete shaded areas of this table		Emerging	Expected	Exceeding
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Life Processes & Living Things	3		

	Key Learning Objectives	Teacher to write pupils' initials
Emerging	**Plants:** • I can explain the function of roots and flowers in common flowering plants • I am starting to understand that plants need more than just water, light and a suitable temperature to grow and stay healthy • I know that water is taken up from the soil by plant roots • I can identify and label some of the main parts of a flower (e.g. stigma, style, ovary, anther, filament or sepal) **Animals including humans:** • I can explain the importance of the main food groups, incl. carbohydrates, fruit and vegetables, proteins, dairy, sugars and fats • I understand that humans and other animals have skeletons for support, and can describe common joints (hinge, ball and socket) **Rocks:** • I can group together different kinds of rocks on the basis of their appearance • I know that fossils are evidence of plants and creatures that lived a long time ago • I know that plants and animals become part of the soil when they decompose	Emerging
Expected	**Plants:** • I can identify and describe the functions of different parts of flowering plants, incl. 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 plants, including pollination, seed formation and seed dispersal **Animals including humans:** • 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 **Rocks:** • 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	Expected
Exceeding	**Plants:** • I can identify and describe the functions of different parts of flowering plants, and apply this knowledge to unfamiliar plants • I can give examples of plants that do not conform to common requirements for growth (e.g. desert, water and air plants) • I can explain the process of transpiration in plants using appropriate scientific vocabulary • I can explain reproduction in plants using appropriate scientific vocabulary **Animals including humans:** • I can identify food sources for a variety of different animals, understanding that they do not need the same balance as humans • I can describe how some animals have exoskeletons or shells for support and protection **Rocks:** • I can identify, name and group different rocks, incl. slate, granite, marble, flint, sandstone, limestone and quartz • I understand that the position of fossils within layers of rock can date how long ago the plants or creatures lived • I can name and describe the three main soil types (sandy, clay and loam)	Exceeding

Teacher to complete shaded areas of this table		Emerging	Expected	Exceeding
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Physical Processes	**3**		

Key Learning Objectives	Teacher to write pupils' initials
Emerging **Forces & magnets:** • I can use simple observations about how things move on different surfaces • I know that magnets can use an invisible force to attract certain objects • I can carry out investigations and sort materials according to whether they are magnetic or not • I know that magnets have two poles **Light:** • I know that we need light in order to see things • I can use a reflective surface like a mirror to 'bounce' light onto another surface • I know that I must not stare directly at the sun as it can damage my eyes • I can experiment with light sources to create shadows on flat surfaces	Emerging
Expected **Forces & 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 materials on the basis of whether they are magnetic, and identify some magnetic materials • I can describe magnets as having two poles • I can predict whether two magnets will attract or repel each other, depending on which poles are facing **Light:** • I can recognise that we 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 patterns in the way that the size of shadows change	Expected
Exceeding **Forces & magnets:** • I can explain how different surfaces cause friction and affect the movement of objects along them • I can accurately describe magnetic forces, using the vocabulary of attraction and repulsion • I can make accurate predictions and general statements about which materials are magnetic • I can start to explain magnetic fields around the poles of a magnet **Light:** • I can explain why we need light to see things • I can sort materials and objects according to whether they reflect or absorb light • I can predict the shape and direction of shadows by considering the relative positions of light sources and objects • I understand and can predict how the size of shadows may change according to the relative positions of light sources and objects	Exceeding

Teacher to complete shaded areas of this table		**Emerging**	**Expected**	**Exceeding**
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Working Scientifically	**4**		

Key Learning Objectives

	Key Learning Objectives	Teacher to write pupils' initials	
Emerging	• I can ask relevant questions and use a given method of scientific enquiries to answer them • I am starting to identify the most important variables when setting up practical enquiries • I can make systematic observations and take accurate measurements using simple equipment • I can report on findings, including oral and written explanations • I am starting to use results to draw simple conclusions • I can use results to raise questions • I can link my enquiries to simple scientific ideas and processes		**Emerging**
Expected	• I can ask relevant questions and use different types of scientific enquiries to answer them • I can set up simple practical enquiries, comparative and fair tests independently • I can make systematic and careful observations and take accurate measurements using standard units, and use a range of equipment, including thermometers and data loggers • I can report on findings, including oral and written explanations, displays or presentations of results and conclusions • I can use results to suggest improvements to enquiries and to raise questions • I can identify differences, similarities or changes related to simple scientific ideas and processes		**Expected**
Exceeding	• I can start to use other sources of information to support the findings from my practical enquiries • I am starting to control variables when setting up practical enquiries • I can recognise when observations or measurements may be erroneous • I can use ICT to help my report on findings • I am starting to use questions resulting from my findings as a starting point for further enquiries • I can identify differences, similarities or changes and explain how they are linked to simple scientific ideas and processes		**Exceeding**

Teacher to complete shaded areas of this table		**Emerging**	**Expected**	**Exceeding**
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Life Processes & Living Things	**4**		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

	Key Learning Objectives	Teacher to write pupils' initials	
Emerging	**Animals including humans** • I can name some of the basic parts of the digestive system in humans • I can name the different types of teeth in humans • I can construct simple food chains **Living things & their habitats** • I can recognise similarities between living things • I can use classification keys to identify and name a variety of living things • I can recognise that humans sometimes pose a danger to living things (e.g. hunting, deforestation, etc.)		**Emerging**
Expected	**Animals including humans** • 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 **Living things & their habitats** • I can recognise that living things can be grouped in a variety of ways • I can explore and use classification keys to group, identify and name living things in the local and wider environment • I can recognise that environments can change and that this can sometimes pose dangers to living things		**Expected**
Exceeding	**Animals including humans** • I can describe the process of digestion in humans, in the correct sequence • I can identify the different types of teeth and their simple functions in humans and other animals • I can predict what will happen when an element within a food chain increases/decreases **Living things & their habitats** • I can group living things in more sophisticated ways (not relying simply on appearance) • I can suggest and use my own classification keys to identify a variety of living things • I can suggest ways in which environments and living things can be protected		**Exceeding**

It will help if teachers write girls and boys names in different colours (and put a key)

Teacher to complete shaded areas of this table		Emerging	Expected	Exceeding
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Physical Processes	**4**		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

	Key Learning Objectives	Teacher to write pupils' initials	
Emerging	**States of matter** • I can observe that some materials change state when they are heated or cooled • I can describe everyday examples of evaporation and condensation (e.g. puddles drying up and condensation on a bathroom mirror) **Sound** • I can identify the source of different sounds • I can describe sounds in terms of their pitch and/or volume • I can talk about my own experiences of hearing sounds (but cannot yet make generalisations) **Electricity** • I can identify common appliances that run on electricity • I can construct a simple series electrical circuit to light a bulb • I can fix a broken series circuit to light a bulb by a process of trial and error • I can test materials in a series circuit to find out if they conduct electricity		**Emerging**
Expected	**States of matter** • 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 **Sound** • 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 **Electricity** • I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • I can identify whether or not a lamp will light in a 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 and associate this with whether or not a lamp lights in a simple series circuit • I can recognise some common conductors and insulators, and associate metals with being good conductors		**Expected**
Exceeding	**States of matter** • I can describe changes in state (i.e. changing from liquid to a gas) in terms of the behaviour of the particles • I can confidently describe the water cycle, and predict rates of evaporation **Sound** • I can describe how sounds are received and processed by the ear (using the vocabulary of sound waves) • I can accurately predict how to alter the pitch and volume of a sound • I can accurately suggest how to minimise sounds and 'soundproof' spaces by using absorbent materials **Electricity** • I can experiment with adding cells into a circuit to see how it affects lamp brightness or buzzer volume • I can select and use conductive materials to construct simple switches • I can suggest everyday uses for conductors and insulators		**Exceeding**

It will help if teachers write girls and boys names in different colours (and put a key)

Teacher to complete shaded areas of this table		**Emerging**	**Expected**	**Exceeding**
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Working Scientifically	**5**		

Key Learning Objectives	Teacher to write pupils' initials	
Emerging - I can, with guidance, plan different types of enquiries to answer questions, including recognising and controlling variables - I understand that taking repeated measurements improves the reliability of results - I can, with guidance, record data and results using scientific diagrams and labels, classification keys, tables, bar and line graphs - I can use test results to decide when it is appropriate to do further testing - I can report and present findings, including conclusions and causal relationships in oral and written forms		**Emerging**
Expected - I can work as part of a team to plan enquiries to answer questions, including recognising and controlling variables - I can take measurements, using a range of equipment, with precision, taking repeat readings when appropriate - I can record data and results using scientific diagrams and labels, classification keys, tables, bar and line graphs - I can use test results to make predictions to set up further comparative and fair tests - I can report and present findings, including conclusions, causal relationships and degree of trust, in oral and written forms		**Expected**
Exceeding - I can work independently to plan enquiries to answer questions, including recognising and controlling variables - I can make sets of observations or measurements following given ranges and intervals - I can, with guidance, record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - I can amend my original conclusions in light of subsequent testing - I can use causal relationships to generate hypotheses		**Exceeding**

Teacher to complete shaded areas of this table		**Emerging**	**Expected**	**Exceeding**
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Life Processes & Living Things	5		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

	Key Learning Objectives	Teacher to write pupils' initials	
Emerging	**Animals including humans:** • I can identify and describe key physical changes that occur during the life of humans **Living things and their habitats:** • I can describe the life cycles of a mammal, an amphibian, an insect and a bird • I can describe the life process of reproduction in animals		Emerging
Expected	**Animals including humans:** • I can describe the changes as humans develop to old age **Living things and their habitats:** • I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • I can describe the life process of reproduction in some plants and animals		Expected
Exceeding	**Animals including humans:** • I understand that humans start to deteriorate as they reach old age, describing partial loss of vision, hearing, strength, etc. • I can understand more specific changes, for example, to the brain, eyes and joints; arthritis, dementia etc. **Living things and their habitats:** • I can describe the differences in life cycles of mammals, amphibians, insects and birds; giving multiple examples of each • I can describe the process of reproduction in plants and animals, and understand that the period of germination/ gestation varies a great deal between species		Exceeding

It will help if teachers write girls and boys names in different colours (and put a key)

Teacher to complete shaded areas of this table		**Emerging**	**Expected**	**Exceeding**
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Materials & their Properties	5		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

	Key Learning Objectives	Teacher to write pupils' initials	
Emerging	**Materials:** • I can compare and group materials on the basis of properties, including hardness, transparency and response to magnets • I know that some materials will dissolve to form a solution • I can use sieving or filtering to separate solids and liquids • I can give reasons for the particular uses of everyday materials • I can give examples of some changes of state that are reversible, e.g. freezing and melting water, as well as using particle knowledge to explain the process. • I can explain that some changes result in the formation of new materials		**Emerging**
Expected	**Materials:** • 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 know that some materials will dissolve to form a solution, and describe how to recover a substance from a solution • I can use knowledge of solids, liquids and gases to separate mixtures, including through filtering, sieving and evaporating • I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials • I can demonstrate that dissolving, mixing and changes of state are reversible changes and I can depict these with particle representations. • 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		**Expected**
Exceeding	**Materials:** • I can compare and group materials, explaining the criteria that I have chosen and using multiple criteria • I can describe how to recover a substance from a solution using evaporation or filtration • I can, when presented with a mixture, suggest the most appropriate method for separation • I can use fair testing to demonstrate and prove the suitability of everyday materials for a given purpose • I can distinguish between, and give examples of, reversible and irreversible changes • I can explain how science, technology and industry use changes in state to create new and useful materials		**Exceeding**

It will help if teachers write girls and boys names in different colours (and put a key)

Teacher to complete shaded areas of this table		Emerging	Expected	Exceeding
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Physical Processes	**5**		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

Key Learning Objectives	Teacher to write pupils' initials
Emerging **Forces & Magnets:** • I know that gravity is a force that stops things floating away from the Earth • I know that when objects move, opposing forces slow them down • I know that levers can make it easier to lift heavy weights **Earth & Space:** • I know that the sun is at the centre of our solar system, and that other planets revolve around it • I know that the moon rotates around the Earth • I know that the sun only appears to move across the sky because the Earth is rotating	**Emerging**
Expected **Forces & 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 identify the effects of air resistance, water resistance and friction, that act between moving surfaces • I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect **Earth & Space:** • 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	**Expected**
Exceeding **Forces & Magnets:** • I can explain how gravity affects objects on Earth, and how astronauts experience weightlessness at zero gravity • I can explain how engineers try to counter air and water resistance and friction when designing cars, planes, boats etc. • I can explain how levers, pulleys and gears reduce the force required to move (or speed up) objects **Earth & Space:** • I can describe the position and significance of our solar system within the universe (in very simple terms) • I can describe the phases of the moon as seen from Earth (using the vocabulary of waxing and waning) • I can describe the planets in our solar system, talking about their size, surface and how long it takes them to orbit the sun • I can use the idea of the Earth's rotation to confidently explain international time zones • I can understand how the tides are connected to the gravitational pull of the moon	**Exceeding**

It will help if teachers write girls and boys names in different colours (and put a key)

Teacher to complete shaded areas of this table		Emerging	Expected	Exceeding
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Working Scientifically	**6**		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

Key Learning Objectives	Teacher to write pupils' initials	
Emerging - I can work as part of a group to plan more sophisticated scientific enquiries to answer questions, including recognising and controlling variables - I understand the importance of working in a systematic way when taking repeated measurements - 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 identify scientific evidence that has been used to support my ideas or refute arguments.		**Emerging**
Expected - I can plan more sophisticated scientific enquiries to answer questions, including recognising and controlling variables - I can justify my choices of data collection method and number of observations and measurements - I can choose the most appropriate method to record data and results of increasing complexity - I can identify scientific evidence that has been used to support or refute ideas or arguments		**Expected**
Exceeding - I can carry out sophisticated scientific enquiries, controlling all variables and recognising the impact of the different variables upon results - I can identify limitations and inconsistencies within and between sets of data - I can decide upon the most appropriate format to present scientific data, e.g. using line graphs for continuous variables - I can describe scientific evidence that supports or refutes particular ideas or arguments, including those in development		**Exceeding**

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Teacher to complete shaded areas of this table		**Emerging**	**Expected**	**Exceeding**
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Life Processes & Living Things	**6**		

Teacher to complete GREY SHADED AREAS and hand to Subject Leader

	Key Learning Objectives	Teacher to write pupils' initials	
Emerging	**Animals including humans:** • I can explain how the heart pumps blood around the body • I know that lack of a healthy diet and exercise, and the abuse of drugs can cause harm to my body • I know that my body gets nutrients from the food I eat **Living things & their habitats:** • I can describe how living things are classified into broad groups according to observable characteristics • I can identify similarities between animals (or plants) that have been grouped together by someone else **Evolution & inheritance:** • I recognise that fossils provide information about things that inhabited the Earth millions of years ago • I recognise that living things produce offspring, which have obvious similarities to their parents (i.e. number of legs, etc.) • I can identify features that make certain animals suited to their environment		**Emerging**
Expected	**Animals including humans:** • I can identify and name the parts of the circulatory system, and describe the functions of the heart, vessels and blood • I can recognise the impact of diet, exercise, drugs and lifestyle on the way my bod functions • I can describe the ways in which nutrients and water are transported within animals, including humans **Living things & their habitats:** • I can describe how living things are classified into broad groups according to observable characteristics and similarities and differences, including micro-organisms, plants and animals • I can give reasons for classifying plants and animals based on specific characteristics **Evolution & inheritance:** • I can recognise that living things have changed over time and that fossils provide information about things that inhabited the Earth millions of years ago • I can recognise that living things produce offspring, but normally offspring vary and are not identical to their parents • I can identify how animals and plants are adapted to suit their environment and that adaptation may lead to evolution • I can understand Darwin's theories and explain their origin		**Expected**
Exceeding	**Animals including humans:** • I can explain how the circulatory system works, and understand how it can become compromised by bad health • I know the requirements for good health, and can explain how the body can recover from neglect or substance abuse • I understand the some illnesses and conditions can actively inhibit the body's ability to take up nutrients **Living things & their habitats:** • I can use scientific vocab. when classifying animals and plants, e.g. vertebrates, invertebrates, kingdoms, species, genus • I am precise when classifying plants and animals, looking beyond obvious physical attributes **Evolution & inheritance:** • I can make links between modern animals and prehistoric creatures (e.g. how some dinosaurs evolved into birds etc.) • I can explain how offspring take on characteristics from (and will have similarities to) their parents, whilst remaining unique • I can apply the theory of evolution to different species of animals and plants		**Exceeding**

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Teacher to complete shaded areas of this table		**Emerging**	**Expected**	**Exceeding**
Overall	No. of Chn			
Boys	No. of Chn			
Girls	No. of Chn			

Science Age-Related Attainment Expectations

Subject	Year Group	Date	Class
Science – Physical Processes	**6**		

	Key Learning Objectives	Teacher to write pupils' initials	
Emerging	**Light:** • I can use torches to explore the path that light travels in • I know that we see objects when light from them reaches our eyes • I can explain that shadows are caused when an object blocks the path of the light **Electricity:** • I can explain how increasing/decreasing the number of cells will affect other components (e.g. bulbs and buzzers) within a simple circuit • I can explain what has 'gone wrong' when a circuit featuring one additional component (bulb, buzzer, etc.) fails to work • I can represent circuits that I have built using simple sketches and name symbols within a circuit		**Emerging**
Expected	**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 use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them **Electricity:** • 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 use recognised symbols when representing a simple circuit in a diagram		**Expected**
Exceeding	**Light:** • I know that light travels in straight lines, but that its direction of travel can be changed (refracted) using reflective surfaces • I can describe how light is processed by lenses within the eye to produce images that the brain can interpret • I can monitor and explain how the changing position of the sun alters the shadows that it creates during the day **Electricity:** • I can make accurate predictions about what will happen when I change the number/voltage of cells in a circuit • I can suggest and make alterations to improve the function of circuits featuring multiple components • I can follow circuit diagrams to build given circuits • I can experiment with both series and parallel circuits		**Exceeding**

It will help if teachers write girls and boys names in different colours (and put a key)

Teacher to complete shaded areas of this table		**Emerging**	**Expected**	**Exceeding**
Overall	No. of Chn			
Boys	No. of Chn			
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