Progression Statements for Science

	Skills	Biology	Chemistry	Physics
Year 1 and Year 2	**Planning and Communication and Sources** identify key features ask questions and suggest how to find out describe their observations using some scientific vocabulary use a range of simple texts to find information **Enquiring and Testing and Obtaining and Presenting Evidence** test ideas suggested to them say what they think will happen use first hand experiences to answer questions begin to compare some living things use simple equipment to compare objects, living things or events make observations relevant to their task	Can relate each of the human senses to organs. Understanding the basic needs of animals including humans Can classify animals as carnivores, herbivores or omnivores Identify key features of different animal groups—fish amphibians, reptiles, mammals, birds. Be able to group animals according to observable features or diet—herbivores, carnivores and omnivores. Knows about the structure of animals both vertebrates and invertebrates, Human skeleton, internal organs Know where human babies grow and how their needs change after birth, compare with other animals Can identify and classify some common plants – flowers and trees	Can identify properties of materials Eg. transparent, waterproof. Know why materials are used for different purposes. Can identify that the shape of materials can change due to forces	Senses light enters the eye Know that shadows are formed by blocking light

	begin to recognise when a test or comparison is unfair **Observing and Recording** make observations using appropriate senses draw simple pictures and simple charts to communicate findings record data (supported by the teacher) **Considering Evidence and Evaluating** make simple comparisons and groupings say what has happened say whether what has happened was what they expected begin to draw simple conclusions and explain what they did begin to suggest improvements in their work	Know the stages of growth of a plant Explore the conditions for a plant to thrive Know habitats provide and animal or plant with its needs for growth Know that weather patterns relate to seasons Know different plants live in different habitats Knows 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		
Year 3 and Year 4	**Planning and Communication and Sources** use texts to find information record their observations in written, pictorial and diagrammatic forms select the appropriate format to record their observations record observations, comparisons and measurements using tables and bar charts begin to plot points to form a simple graph use graphs to point out and	Can explain what all plants need to flourish and recognise how these requirements vary in amount. Can describe what each part of a flowering plant does Can compare the requirements of different plants and link these to particular habitats. Can suggest why parts may vary in size and shape from one species of flowering plant to another.	Can compare and group together different kinds of rocks Can select and identify a material for a particular purpose. Can group materials according to their state of matter. Can compare and group materials as solids liquids and gases Understands the water cycle	Know which materials are attracted to a magnet. Describe how magnets attract or repel each other, and attract magnetic materials. Group materials on the basis of testing for being magnetic. Explain, with reference to vibrations, how an object makes a sound.

	interpret patterns in their data select information from a range of sources provided for them **Enquiring and Testing and Obtaining and Presenting Evidence** suggest ideas about how to find the answers to questions recognise the need to collect data to answer questions carry out a fair test with support recognise and explain why it is a fair test pupils begin to realise that scientific ideas are based on evidence show in the way they perform their tasks how to vary one factor while keeping others the same describe which factors they are varying and which will remain the same and say why **Observing and Recording** carry out measurement accurately make a series of observations, comparisons and measurements select and use suitable equipment make a series of observations and measurements adequate for the task	Be able to explain the role of the skeleton and muscles in movement. Functions of different teeth in different animals. Describe digestion and name the key organs involved Be able to create food chains for different habitats Understand the impact of the environment (habitat) on species populations. Create your own keys for classification. Be able to use standard classification keys.		Group sound-making objects in terms of how they make sounds. Describe the role of a medium in the transmission of sound. Construct a simple circuit and name its components. Can predict whether a particular arrangement of components will result in a bulb lighting. Predict how the operation of a switch will affect bulbs lighting.

	Considering Evidence and Evaluating begin to offer explanations for what they see and communicate in a scientific way what they have found out begin to identify patterns in recorded measurements suggest improvements in their work evaluate their findings predict outcomes using previous experience and knowledge and compare with actual results begin to relate their conclusions to scientific knowledge and understanding suggest improvements in their work, giving reasons			
Year 5 and Year 6	**Planning and Communication and Sources** Record observations systematically use appropriate scientific language and conventions to communicate quantitative and qualitative data select a range of appropriate sources of information including books and the internet Choose scales for graphs which show data and features effectively identify measurements and observations which do not fit into the main pattern begin to explain anomalous data	Human Can describe with aid of diagrams the route that water takes within animals, e.g. through the human body. Be able to describe changes over a life-time, including puberty and reproduction Circulatory system—impact of drugs, diet and exercise. Classification Can give reasons for classifying plants and animals based on specific characteristics	Properties & Materials State of Matter Able to set up tests to investigate properties of materials—e.g. dissolving, filtering, reversible and irreversible change; compare choices of materials according to properties; separate materials	Earth and space. Be able to explain the apparent movement of the sun in relation to day and night, be able to describe the orbits of earth in relation to the moon, other planets and the sun Forces Can explain that gravity causes objects to fall towards Earth.

	use appropriate ways to communicate quantitative data using scientific language **Enquiring and Testing and Obtaining and Presenting Evidence** use previous knowledge and experience combined with experimental evidence to provide scientific explanations recognise the key factors to be considered in carrying out a fair test describe evidence for a scientific idea use scientific knowledge to identify an approach for an investigation explain how the interpretation leads to new ideas **Observing and Recording** make a series of observations, comparisons and measurements with increasing precision select apparatus for a range of tasks plan to use apparatus effectively begin to make repeat observations and measurements systematically measure quantities with precision using fine – scale divisions select and use information effectively make enough measurements or observations for the required task	Can use similarities and differences in observable features to decide how living things should be grouped Be able to explain why some features are more of less helpful in classification, explain why some animals do not fit neatly in to classification groups—e.g. duck billed platypus Evolution Recognises that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago Life cycles Be able to compare lifecycles between insects, birds, amphibians and mammals. Human Biology Reproduction		Can describe how motion may be resisted by air resistance, water resistance or friction. Can describe how some devices may turn a smaller force into a larger one, or a larger in to smaller– using gears, levers and pulleys Can draw diagrams using straight lines showing light travelling to the eye, reflection Can draw a diagram showing an object, shadow and light to relate object shape to shadow shape Electricity..

	Considering Evidence and Evaluating make predictions based on their scientific knowledge and understanding draw conclusions that are consistent with the evidence relate evidence to scientific knowledge and understanding offer simple explanations for any differences in their results make reasoned suggestions on how to improve working methods show how interpretation of evidence leads to new ideas explain conclusions, showing understanding of scientific ideas			