Science

Assessment

Cherry Trees Science Assessment Overview

Level	Sensory Level Descriptors
1(i)	Pupils encounter activities and experiences: • They may be passive or resistant • They may show simple reflex responses (for example, startling at sudden noises or movements) • Any participation is fully prompted
1(ii)	Pupils show emerging awareness of activities and experiences: • They may have periods when they appear alert and ready to focus their attention on certain people, events, objects or parts of objects (for example, looking towards flashes of light or turning towards loud sounds). • They may give intermittent reactions (for example, sometimes withdrawing their hands from changes in temperature).
2(i)	Pupils begin to respond consistently to familiar people, events and objects. • They react to new activities and experiences [for example, discarding objects with unfamiliar textures] • They begin to show interest in people, events and objects [for example, leaning forward to follow the scent of a crushed herb] • They accept and engage in coactive exploration [for example, feeling materials in hand-over-hand partnerships with a member of staff]
2(ii)	Pupils begin to be proactive in their interactions • They communicate consistent preferences and affective responses [for example, showing a consistent dislike for certain flavours or textures] • They recognise familiar people, events and objects [for example, moving towards particular features of familiar environments] • They perform actions, often by trial and improvement, and they remember learned responses over short periods of time [for example, rejecting food items after recent experience of bitter flavours] • They cooperate with shared exploration and supported participation [for example, examining materials handed to them].
3(i)	Pupils begin to communicate intentionally • They seek attention through eye contact, gesture or action • They request events or activities [for example, reaching out towards a sound making object] • They participate in shared activities with less support • They sustain concentration for short periods • They explore materials in increasingly complex ways [for example, pressing hard objects into soft textures] • They observe the results of their own actions with interest [for example, scrunching up paper and examining the product] • They remember learned responses over more extended periods [for example, reaching out to touch a live animal with caution and sensitivity].

Cherry Trees Science Assessment Overview

3(ii)	Pupils use emerging conventional communication • They greet known people and may initiate interactions and activities [for example, switching on a favourite piece of equipment in the light and sound room] • They can remember learned responses over increasing periods of time and may anticipate known events [for example, balls falling and bouncing on the floor] • They may respond to options and choices with actions or gestures [for example, touching one substance rather than another] • They actively explore objects and events for more extended periods [for example, feeling the textures of different parts of a plant] • They apply potential solutions systematically to p

Level	**Curriculum Assessment Statements**
4	• Explore substances and materials e.g. paper, water play • Activate a range of cause and effect resources e.g. light, sound, push and pull • Recognise a single property of an object or an animal • Select an object from a choice of 2 • Deliberately make sounds with their body and make a variety of vocal sounds • Make sounds and movements in response to music • Look in a mirror and make a response to their reflection • Begin to notice animals • Show a response to different tastes and smells • Select an object for a purpose
5	• Identify simple differences i.e. colour, texture, size • Describe changes in materials • Answer a simple scientific question • Name 2 properties of an animal • Begin to differentiate between animals, plants, leaves and trees • Point to main parts of the face and body • Identify a range of objects that need to be pushed and pulled • Identify and initiate a range of light sources • Identify and initiate a range of sound sources • Begin to identify a range of objects that use electricity
6	• Discuss what they are doing • Carry out a simple test • Show an awareness that something always happens • Sort objects by given criteria • Observe an experiment when there is a change in State of Matter

Cherry Trees Science Assessment Overview

	• Observe plants growing • Compare photos of themselves at different ages • Recall light and sound sources • Predict what will happen if a wheeled object is pushed harder • Know that animals and birds have eyes and mouths
7	• Aware of own sex • Sequence pictures of the human life cycle • Know animals have babies and link pictures of young animals to parents • Point to main parts of the plant – roots, stem, flower, leaves • Identify things that are not good for the environment • Aware of natural materials • Begin to record an activity and the results • Compare the similarities/ differences • Begin to understand that electricity can be dangerous • Be aware of speed and other forces which can move objects e.g. wind, water
8	• Identify a range of objects made from a variety of materials e.g. wood, plastic, metal • Aware of healthy/unhealthy lifestyle choices • Use appropriate equipment to look at nature • Design and make a simple circuit • Test magnets • Make a contribution to planning/ recording • Look at pictures/ research for information • Observe the life cycle of an animal or plant • Can describe, in simple terms, the changes during an experiment • When describing materials use the terms; transparent. Opaque, magnetic, harder
9	• Make predictions and consider outcomes. Identify a simple risk associated with an experiment. • Attempts to give a reason for what has happened. Aware of need for fair testing. • Can complete simple results chart/table and draw observations. Describe an event. • Observe living things under magnification (primary – magnifying glass, secondary – microscope) • Can name plants and animals that live in different habitats (5 major classes of vertebrates) • Aware of healthy and unhealthy lifestyle choices, e.g. diet, drugs, exercise etc • Aware of equipment that may be used to undertake scientific experiments. • Aware of differences and similarities in materials. • Can sort items into magnetic and non-magnetic. • Explore the effects of light and sound.

Cherry Trees Science Assessment Overview

10	• Use different types of scientific enquiry to gather and record, using equipment where appropriate, to answer questions. • Grouping and classifying things. Using secondary sources of information. Communicate ideas to others. • Can name and locate some parts of the body, Is aware of location and functions of organ systems. • Aware of the need for a balanced diet and good hygiene. • Aware of how seasonal changes affect the local environment. Observe and compare plants. Describe the basic needs of plants and animals for survival. Aware of features of different animals which help them to survive in their environment. • Describe physical characteristics of materials. Can group materials based on physical properties. • Can state when materials change e.g. melting, reacting • Is aware that some home chemicals found in the home may be dangerous. Aware of range of different substances and that they may have different characteristics. • Is aware that the mis-use of electrical equipment can be dangerous. Can make a simple circuit including switches. • Is aware that we live on the Earth which is in a solar system with other planets. Is aware that the climate varies across the Earth.
11	• Use different types of scientific enquiry to gather and record, using equipment where appropriate, to answer questions. • Grouping and classifying things. Using secondary sources of information independently. Communicate ideas to others in a limited number of ways. • Select appropriate equipment for a given experiment. Take measurements during an experiment. Begin to draw conclusions from results. • Describe and compare animals and their environments. • Describe the basic needs of animals, including humans, for survival. • Can investigate heating and cooling/ change of state. • Can explore and record chemical changes. • Know that light is reflected off a mirror. • Know that the Sun is a star and the earth's rotation on its axis and around the sun is responsible for Day/ Night and the seasons. • Is aware of series and parallel circuits and the differences between the two.
12	• Use different types of scientific enquiry to gather and record, using equipment where appropriate, to answer questions. • Carry out simple comparative tests, notice patterns, observe changes over time. Can communicate ideas to others in a variety of ways. • Describe the importance of a balanced diet for humans. • Can state why certain nutrients are needed for human survival. • Can explain how an animals adaptations help it survive e.g. Polar bear/ thick fur to keep it warm. • Aware of the difference between temporary and permanent changes to substances. • Can describe reactions in terms of physical changes e.g. it went from white to blue. • Give reasons why certain substances are used for a specific purpose. • Can create a parallel circuit. • Can identify some properties of light and sound as waves e.g. sound becomes quieter as we move away from a source.

Cherry Trees Science Assessment Overview

13	• Can relate information about experiments undertaken to their own real world experiences. • Can observe an experiment and identify variables. • Can observe patterns in results. • Know that there are different food groups. • Know that different nutrients are required by humans for growth, repair, store of energy and insulation, • Know the specific function of a range of human organs. • Know the difference between mixtures and compounds. Know that some solids can dissolve in a liquid to form solutions. • Understand how light interacts with objects e.g. creation of shadows, reflections, prism. • Can draw a simple circuit. • Describe magnets as having two poles and identify if magnets will repel or attract. Explore the strength of a magnet.
14	• Identify trends and patterns in results. • Provide an explanation for results based on scientific knowledge • Identify variables which need to be kept constant (fair testing) • Recognize environments can change in different seasons and under the impact of human activity. • Can construct and interpret a variety of food chains. • Can identify and describe simple functions of parts of the digestive system. • Can separate mixtures by filtering, evaporation, sieving and distillation. • Knows that changing state can be reversible. Can measure temperature at which changes of state occurs. • Describe how pitch and volume can be changed. Know that sound is created when an object vibrates. • Know that gravity causes objects to have weight, Knows that gravity acts at a distance. Knows that the Earth takes exactly one year to orbit the Sun.
15	• Consider the validity of sources used to answer questions. • Uses scientific knowledge to ask questions which can be further investigated. • Can use line graphs, diagrams and keys where appropriate. • Uses observations, measurements and data to draw conclusions. • Can describe the structures and functions of the circulatory system. • Recognise the impact of diet, exercise, drugs and lifestyle can have on the way the body functions. • Identify changes in materials and relate them to chemical properties, e.g. superglue, plaster. • Describe how mixtures may be separated based on their properties. • Recall the order of the planets and know that they orbit the Sun. • Discuss the relationship between voltage in a circuit and bulb brightness.
16	• Identify and control independent and dependant variables. • Carry out sampling techniques. • Undertake basic data analysis. • Identify similarities and differences between animal and plant cells. Identify the function of basic cell structures. • Identify the seven parts needed for a balanced diet. • Can explain how adaptations may have evolved in certain environments. E.g. Polar bear and thick fur. • Describe the changes of state using the particle model. • Know the pH scale is used for measuring the strengths of acids and alkalis.

	• Begin to predict reaction based on location within the periodic table. • Know that the Sun is a star and that the Milky way is our galaxy.
17	• Can develop hypotheses. • Can identify ways to improve their own experiments. • Aware of validity of accuracy of primary and secondary sources. • Explain how natural selection can lead to extinction • Describe the structure and function of lungs and how that enables gas exchange. • Understand the role of enzymes in digestion. • Undertake displacement reactions using knowledge of the reactivity series. • Aware of the impact of carbon dioxide, released by humans, on the environment. • Identify simple energy transfers. • Know how waves can be used to produce energy.
18	• Can adapt methods and apparatus when problems arise in an investigation. • Understand that scientific methods and theories develop as scientists make new discoveries. • Identify and investigate further questions based on problems arising from investigation results. • Describe the function of ribosomes and the endoplasmic reticulum in cells. • Describe the structure and function of the nervous system. • Explain how the immune system helps to protect the body. • Identify electrons, protons and neutrons within an atom and relate atomic structure to position in the periodic table • Identify the difference between alkanes and alkenes. • Describe the process of energy transfer. • Describe the life cycle of a star.