Banks Road Primary School

Science Assessment Grids

Purpose of the Science Assessment Grids

The Science Assessment Grids are designed to support teachers in making accurate, consistent and curriculum-aligned summative assessment judgements across the school. They set out clearly what pupils should know, understand and be able to do by the end of each unit, ensuring that assessment reflects the science curriculum taught rather than generic task completion or isolated practical activities.

This approach is aligned with Ofsted's expectation that assessment should be firmly connected to the curriculum and should help teachers determine whether pupils have developed secure scientific knowledge alongside an increasingly sophisticated understanding of how science works. The grids therefore assess both pupils' understanding of key scientific ideas and their ability to work scientifically through observation, classification, comparison, pattern-seeking and enquiry.

Key Stage 1

In Key Stage 1, teachers use the grids to make judgements based on formative assessment evidence gathered through questioning, discussion, observation, practical activities, recording tasks and work scrutiny.

Judgements focus on:

- **Substantive scientific knowledge** – the key facts, concepts and vocabulary taught within each unit.
- **Scientific vocabulary** – pupils' ability to use subject-specific language accurately and appropriately.

- **Working scientifically** – pupils' ability to observe closely, identify and classify, compare, group and recognise simple patterns.

Using this evidence, teachers determine whether pupils are **Working Towards**, **Working At**, or **Working at Greater Depth** within each unit.

Key Stage 2

In Key Stage 2, teachers continue to use ongoing formative assessment alongside end-of-unit tasks and practical enquiries to make secure overall judgements.

The grids assess three interconnected strands:

1. **Substantive Knowledge** – the scientific content pupils are expected to learn, remember and connect over time.
2. **Scientific Vocabulary** – the precise language needed to communicate scientific understanding accurately.
3. **Working Scientifically** – disciplinary knowledge, including planning investigations, observing over time, identifying and classifying, pattern-seeking, using evidence and drawing conclusions.

This ensures that assessment identifies whether pupils can not only remember scientific content but also apply their knowledge in increasingly meaningful and scientifically valid ways.

Across the School

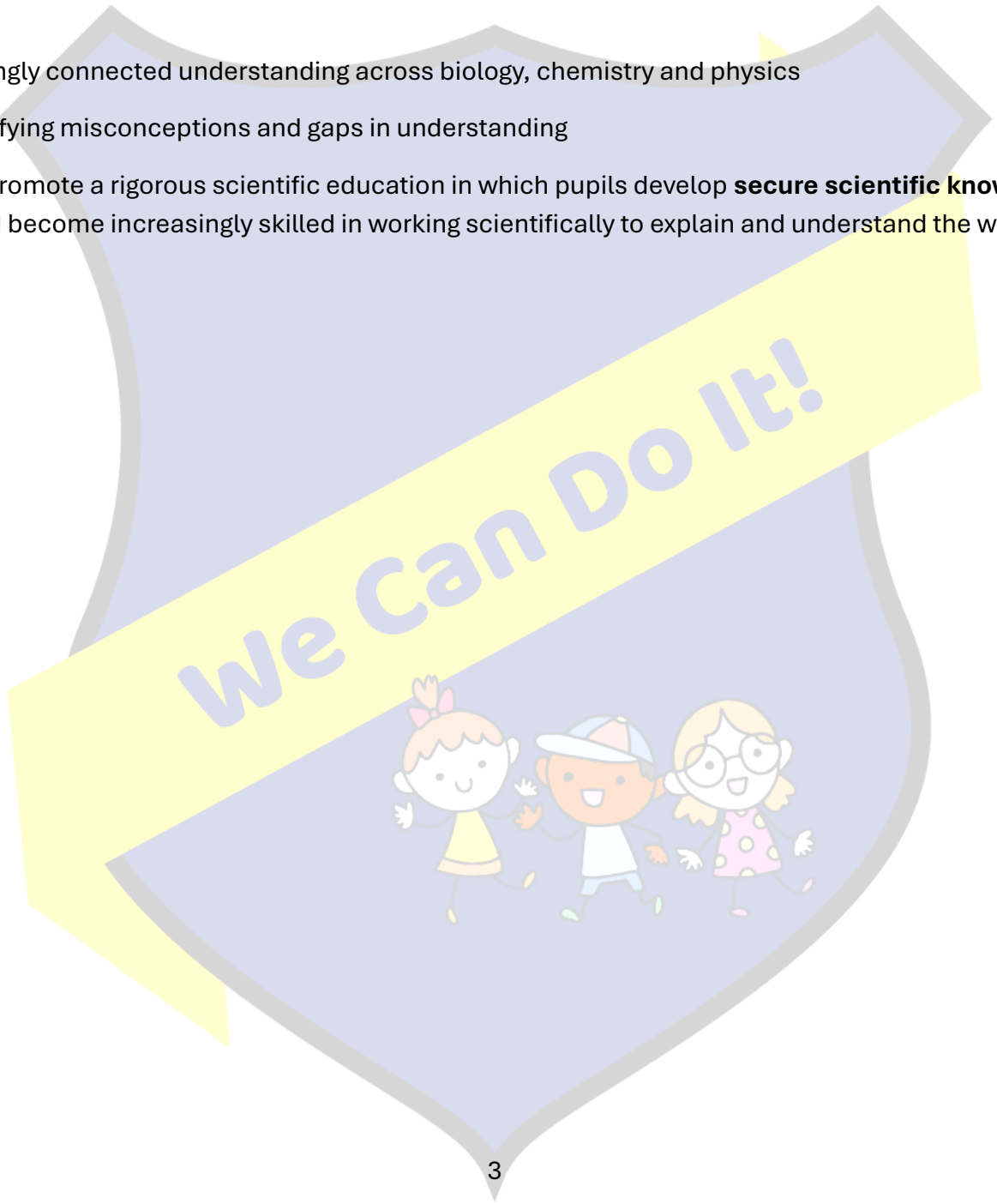
Across all year groups, teachers work from the principle that most pupils are likely to be working at the expected standard. Evidence gathered from practical work, discussions, retrieval activities, written outcomes, investigations and assessment tasks is then used to determine whether pupils should be assessed as **Working Towards**, **Working At**, or **Working at Greater Depth**.

The assessment grids therefore:

- provide a **coherent progression model** from Year 1 to Year 6
- ensure **consistency and fairness** in teacher assessment
- support teachers in identifying whether pupils have **learned and remembered the intended curriculum**
- assess both **scientific knowledge** and **working scientifically**

- help pupils build increasingly connected understanding across biology, chemistry and physics
- support teachers in identifying misconceptions and gaps in understanding

The Science Assessment Grids promote a rigorous scientific education in which pupils develop **secure scientific knowledge**, gain confidence in using **scientific vocabulary**, and become increasingly skilled in working scientifically to explain and understand the world around them.



Year 1 – The Park Explorers: Assessment Grid

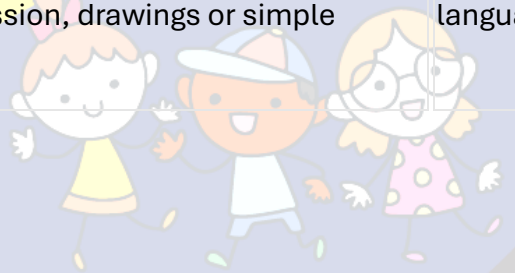
(Plants)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Recognises that plants are living things but struggles to identify common plants or parts of a plant.	Identifies and names a variety of common wild and garden plants. Identifies roots, stem, leaves and flowers and describes their basic functions. Recognises evergreen and deciduous trees.	Explains how different parts of a plant help it survive and grow. Compares different plants and trees using examples from the local environment.
Scientific Vocabulary	Uses some everyday language when describing plants but needs support with scientific vocabulary.	Uses vocabulary accurately: *plant, roots, stem, leaves, flower, tree, evergreen, deciduous*.	Uses vocabulary confidently and precisely when describing and comparing plants.
Working Scientifically	Observes plants but struggles to notice similarities and differences independently.	Observes closely and identifies similarities and differences between plants. Sorts and classifies plants using simple criteria.	Suggests their own ways to group plants and explains reasons for classifications using observable features.

Year 1 – My Body and My Senses: Assessment Grid

(Animals Including Humans)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Names some body parts but cannot consistently link them to the correct senses.	Identifies, names and labels basic human body parts. Explains which body part is associated with each of the five senses.	Explains how senses help humans understand and respond to the world around them. Makes simple comparisons between how different senses are used.
Scientific Vocabulary	Uses everyday language to describe body parts and senses.	Uses vocabulary accurately: *body, senses, sight, hearing, smell, taste, touch*.	Uses scientific vocabulary confidently when describing observations and sensory experiences.
Working Scientifically	Makes simple observations using senses when prompted.	Uses senses to observe and describe objects and experiences. Records observations through discussion, drawings or simple labels.	Makes detailed observations and uses comparative language to describe findings.



Year 1 – Everyday Materials: Assessment Grid

(Chemistry)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies some common materials but struggles to describe their properties.	Distinguishes between an object and the material from which it is made. Identifies common materials including wood, plastic, glass, metal and rock. Describes simple properties.	Explains why materials are used for particular purposes using their properties. Compares materials using multiple characteristics.
Scientific Vocabulary	Uses simple descriptive words such as "hard" or "soft" inconsistently.	Uses vocabulary accurately: *material, wood, plastic, metal, glass, rock, hard, soft, rough, smooth*.	Uses scientific vocabulary confidently to compare and explain properties.
Working Scientifically	Sorts materials with support.	Compares and groups materials according to simple observable properties.	Suggests and uses their own categories when grouping materials and explains their reasoning.

Year 1 – Animal Groups: Assessment Grid

(Animals Including Humans)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies some animals but struggles to group them correctly.	Identifies common mammals, birds, fish, reptiles and amphibians. Describes and compares basic features of each group.	Explains why animals belong to particular groups using observable characteristics. Makes comparisons across groups.
Scientific Vocabulary	Uses animal names but struggles with group names.	Uses vocabulary accurately: *animal, mammal, bird, fish, reptile, amphibian, fur, scales*.	Uses scientific vocabulary confidently when classifying and comparing animals.
Working Scientifically	Observes animals and pictures but needs support to classify them.	Sorts and groups animals based on their features. Identifies similarities and differences.	Creates and explains their own classification criteria for grouping animals.

Year 1 – Animal Diets: Assessment Grid

(Animals Including Humans)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Knows that animals eat different foods but struggles to identify diet groups.	Identifies animals that are carnivores, herbivores and omnivores. Understands the differences between these diet groups.	Explains how an animal's diet relates to its characteristics or habitat. Makes thoughtful comparisons between diet groups.
Scientific Vocabulary	Uses simple food-related vocabulary.	Uses vocabulary accurately: *diet, carnivore, herbivore, omnivore, meat, plants, teeth*.	Uses scientific vocabulary confidently when explaining classification decisions.
Working Scientifically	Sorts animals into groups with support.	Uses evidence to group animals according to diet.	Explains classification choices using evidence and observations.

Year 1 – Seasonal Changes: Assessment Grid

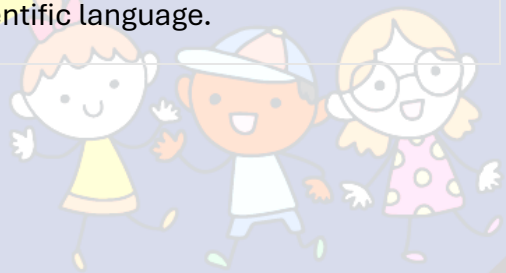
(Physics)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies some seasons but struggles to describe associated weather patterns.	Names the four seasons and describes typical weather in each. Understands that day length and weather change throughout the year.	Explains patterns observed across the seasons and compares seasonal changes using evidence collected over time.
Scientific Vocabulary	Uses simple weather words but inconsistently.	Uses vocabulary accurately: *season, spring, summer, autumn, winter, weather, day length*.	Uses scientific vocabulary confidently when describing patterns and changes over time.
Working Scientifically	Makes simple observations but needs support recording them.	Observes and records changes over time. Identifies patterns in weather and seasonal changes.	Uses observations to make simple predictions and explain recurring seasonal patterns.

Year 2 – Growing Plants: Assessment Grid

(Plants)

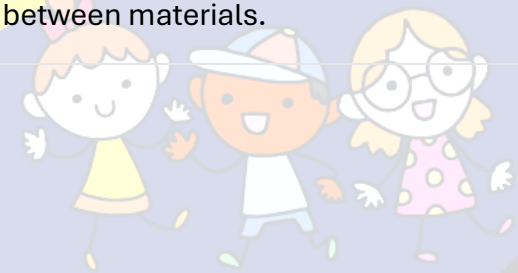
Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Knows that plants grow from seeds or bulbs but struggles to explain what plants need to grow well.	Describes how seeds and bulbs grow into mature plants. Explains that plants need water, light and a suitable temperature to grow and stay healthy.	Explains how different conditions affect plant growth and uses observations to explain why some plants grow more successfully than others.
Scientific Vocabulary	Uses simple words such as *plant* and *grow* but with limited accuracy.	Uses vocabulary accurately: *seed, bulb, grow, germinate, water, light, temperature, healthy*.	Uses scientific vocabulary confidently when explaining plant growth and making comparisons.
Working Scientifically	Makes simple observations but needs support to notice changes over time.	Observes and records plant growth over time. Identifies changes and describes them using simple scientific language.	Makes careful observations, identifies patterns in growth and uses evidence from observations to explain findings.



Year 2 – Uses of Everyday Materials: Assessment Grid

(Chemistry)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies common materials but struggles to explain why some materials are better suited to particular uses.	Identifies and compares the suitability of different materials for specific purposes. Understands that materials can be changed by squashing, bending, twisting and stretching.	Explains why particular materials are chosen for particular uses using their properties. Makes secure comparisons between materials and their uses.
Scientific Vocabulary	Uses some material names but struggles with scientific vocabulary.	Uses vocabulary accurately: *material, suitable, wood, metal, plastic, squash, bend, twist, stretch*.	Uses precise scientific vocabulary when comparing materials and explaining results.
Working Scientifically	Compares materials with support.	Carries out simple comparative tests and observations. Identifies similarities and differences between materials.	Uses observations to make informed comparisons and explains conclusions using evidence from testing.



Year 2 – Living and Non-Living Things: Assessment Grid

(Living Things and Their Habitats)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Finds it difficult to distinguish between living, dead and never-alive things consistently.	Identifies and classifies things as living, dead or never alive. Understands that living things carry out life processes such as growth, movement, feeding and breathing.	Explains why something belongs in a particular group using evidence from its characteristics and life processes.
Scientific Vocabulary	Uses vocabulary inconsistently and often relies on everyday language.	Uses vocabulary accurately: *living, dead, never alive, grow, move, feed, breathe*.	Applies scientific vocabulary confidently when explaining classifications and comparisons.
Working Scientifically	Sorts objects with significant support.	Uses observable features to identify and classify living and non-living things.	Creates and explains classification criteria independently using scientific reasoning.

Year 2 – Local Habitats: Assessment Grid

(Living Things and Their Habitats)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Recognises some habitats but struggles to explain how they meet the needs of living things.	Identifies a variety of habitats and microhabitats. Explains how habitats provide the basic needs of plants and animals.	Explains how living things are suited to their habitats and describes how plants and animals depend on each other within habitats.
Scientific Vocabulary	Uses some habitat vocabulary but often inaccurately.	Uses vocabulary accurately: *habitat, microhabitat, shelter, suited, depend, food, needs*.	Uses vocabulary confidently and precisely when discussing habitats and adaptations.
Working Scientifically	Observes habitats with support and notices obvious features.	Observes, identifies and groups plants and animals found in different habitats.	Makes comparisons between habitats and uses evidence from observations to explain findings.

Year 2 – Food Chains: Assessment Grid

(Living Things and Their Habitats)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Recognises that animals eat different things but struggles to explain food chains.	Understands that animals obtain food from plants and other animals. Constructs and explains simple food chains. Identifies different sources of food.	Explains how animals depend upon one another in food chains and predicts what might happen if a part of a food chain changes.
Scientific Vocabulary	Uses simple food-related vocabulary but with limited accuracy.	Uses vocabulary accurately: *food chain, source, producer, predator, prey, energy*.	Uses scientific vocabulary confidently when constructing and explaining food chains.
Working Scientifically	Sorts animals and food sources with support.	Identifies relationships between plants and animals and uses evidence to build simple food chains.	Makes connections between different food chains and explains relationships using scientific reasoning.

Year 2 – Growing Up, Keeping Healthy: Assessment Grid

(Animals Including Humans)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies some basic needs of humans and animals but struggles to explain their importance.	Understands that animals, including humans, need food, water and air to survive. Explains the importance of exercise, healthy eating and hygiene. Understands that offspring grow into adults.	Explains how healthy choices contribute to growth and survival. Makes comparisons between the life cycles and needs of different animals.
Scientific Vocabulary	Uses some health-related vocabulary but inconsistently.	Uses vocabulary accurately: *survival, water, food, air, exercise, hygiene, offspring, adult*.	Uses scientific vocabulary confidently when explaining growth, health and life cycles.
Working Scientifically	Makes simple observations and statements about growth and health.	Uses observations and information sources to answer questions about growth, health and survival.	Uses evidence from observations, research and discussions to justify explanations and draw conclusions.

Year 3 – Plants: Assessment Grid

(Plants)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies some parts of a plant but struggles to explain their functions or the plant life cycle.	Identifies and describes the functions of roots, stems, leaves and flowers. Explains what plants need for life and growth. Understands pollination, seed formation and seed dispersal.	Explains how the different parts of a plant work together to support growth and reproduction. Makes connections between plant requirements, life cycles and successful growth.
Scientific Vocabulary	Uses some plant vocabulary but often inaccurately or inconsistently.	Uses vocabulary accurately: *roots, stem, leaves, flower, nutrients, pollination, life cycle*.	Uses scientific vocabulary confidently when explaining plant growth, reproduction and adaptation.
Working Scientifically	Makes simple observations but requires support to notice changes over time.	Observes plant growth over time and carries out simple comparative tests. Records observations appropriately.	Uses observations and evidence to identify patterns and explain outcomes of investigations.

Year 3 – Rocks: Assessment Grid

(Rocks)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Recognises different rocks but struggles to compare them or explain how fossils form.	Compares and groups rocks according to appearance and physical properties. Explains how fossils are formed and understands that soils are made from rocks and organic matter.	Explains relationships between rocks, fossils and soil formation. Uses evidence from rock properties to justify classifications.
Scientific Vocabulary	Uses simple terms such as *rock* and *soil* with limited accuracy.	Uses vocabulary accurately: *rock, soil, grain, permeable, fossil, sediment*.	Uses scientific vocabulary confidently to explain rock properties and fossil formation.
Working Scientifically	Sorts rocks with support and makes simple observations.	Compares and classifies rocks using observable properties. Records findings appropriately.	Suggests criteria for classification and explains conclusions using evidence gathered.

Year 3 – Light: Assessment Grid

(Light)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Understands that light helps us see but struggles to explain reflection or shadow formation.	Explains that light is needed to see and that darkness is the absence of light. Understands reflection and how shadows are formed. Recognises that light from the sun can be dangerous.	Explains patterns in shadow size and position. Makes connections between light sources, reflection and shadow formation.
Scientific Vocabulary	Uses some vocabulary linked to light but inconsistently.	Uses vocabulary accurately: *light, dark, reflect, surface, shadow, opaque, source*.	Uses scientific vocabulary confidently when explaining observations and scientific ideas.
Working Scientifically	Makes simple observations but struggles to identify patterns.	Carries out observations and identifies simple patterns in shadows and light.	Uses evidence to explain patterns and make simple predictions about shadows and light sources.

Year 3 – Animals Including Humans: Assessment Grid

(Animals Including Humans)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies some body parts or foods but struggles to explain nutrition, skeletons or muscles.	Understands that animals, including humans, need the right nutrition. Explains the role of the skeleton and muscles in support, protection and movement.	Explains how nutrition supports healthy body systems and how skeletons and muscles work together to enable movement.
Scientific Vocabulary	Uses everyday language instead of scientific terms.	Uses vocabulary accurately: *nutrition, nutrients, skeleton, muscle, support, protect, movement*.	Uses scientific vocabulary precisely when describing body systems and healthy living.
Working Scientifically	Uses simple observations or information sources with support.	Uses research and comparative activities to answer scientific questions. Records findings appropriately.	Selects evidence from research and investigations to explain conclusions and justify ideas.

Year 3 – Forces and Magnets: Assessment Grid

(Forces and Magnets)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Recognises magnets and forces but struggles to explain how they work.	Explains that forces can act through pushes and pulls. Understands how friction affects movement. Describes how magnets attract and repel and identifies magnetic materials.	Explains the difference between contact forces and magnetic forces. Predicts outcomes based on understanding of poles, attraction and repulsion.
Scientific Vocabulary	Uses some force-related vocabulary but inconsistently.	Uses vocabulary accurately: *force, push, pull, friction, magnet, attract, repel, magnetic*.	Uses scientific vocabulary confidently when explaining movement and magnetic behaviour.
Working Scientifically	Makes observations but requires support to carry out fair comparisons.	Carries out comparative and fair tests. Records observations and identifies patterns.	Uses test results to explain outcomes, identify patterns and make simple predictions.

Year 3 – The Bee Project: Assessment Grid

(Working Scientifically)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Understands some facts about bees and pollination but struggles to connect learning from different science units.	Explains the importance of bees as pollinators. Understands how pollination supports plant reproduction and food production. Applies knowledge from previous biology units.	Makes connections across the Year 3 science curriculum, explaining how pollination, habitats, nutrition and plant life cycles are interconnected.
Scientific Vocabulary	Uses some relevant vocabulary with support.	Uses vocabulary accurately: *pollination, pollinator, habitat, dependence, observe, conclude*.	Uses scientific vocabulary confidently when discussing scientific ideas and presenting conclusions.
Working Scientifically	Participates in investigations but needs support to explain findings.	Uses observations, classification, research and pattern-seeking appropriately. Draws simple conclusions based on evidence.	Selects suitable enquiry approaches independently, evaluates evidence and explains conclusions using scientific reasoning.

Year 4 – States of Matter: Assessment Grid

(States of Matter)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies some solids, liquids and gases but struggles to explain differences between them or how materials change state.	Compares and groups materials as solids, liquids or gases. Understands that materials can change state when heated or cooled. Explains evaporation and condensation within the water cycle.	Explains the particle behaviour associated with changes of state in age-appropriate terms. Makes connections between temperature, evaporation, condensation and the water cycle.
Scientific Vocabulary	Uses some vocabulary such as *solid* and *liquid* but inconsistently.	Uses vocabulary accurately: *solid, liquid, gas, state, melt, freeze, evaporate, condense*.	Uses scientific vocabulary confidently when explaining changes of state and the water cycle.
Working Scientifically	Makes observations but needs support to identify changes over time.	Observes, measures and records changes in materials. Identifies patterns and describes findings.	Uses observations and evidence to explain patterns and draw justified conclusions.

Year 4 – Animals Including Humans: Assessment Grid

(Digestive System, Teeth and Food Chains)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies some body parts and teeth but struggles to explain their functions.	Describes the basic parts of the digestive system and their functions. Identifies different types of teeth and explains their purposes. Constructs and interprets simple food chains.	Explains how the digestive system works as a connected process. Explains the roles of producers, predators and prey within a food chain.
Scientific Vocabulary	Uses some scientific vocabulary but often inaccurately.	Uses vocabulary accurately: *digestion, teeth, organ, producer, predator, prey, food chain*.	Uses scientific vocabulary confidently when explaining processes and relationships.
Working Scientifically	Uses information sources with support and records basic findings.	Uses research and classification activities to answer questions and organise information.	Selects information from multiple sources and uses evidence to support conclusions.

Year 4 – Sound: Assessment Grid

(Sound)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Understands that sounds can be heard but struggles to explain how they are made or travel.	Explains that sounds are made by vibrations and travel through a medium to the ear. Understands how pitch and volume can be changed.	Explains relationships between vibration strength, pitch, volume and distance. Makes connections between sound sources and the sounds produced.
Scientific Vocabulary	Uses some sound-related vocabulary inconsistently.	Uses vocabulary accurately: *sound, vibration, travel, pitch, volume, insulate*.	Uses scientific vocabulary confidently when discussing sound investigations and findings.
Working Scientifically	Makes simple observations but requires support to identify patterns.	Carries out investigations and identifies patterns between sound and vibration.	Uses evidence to explain patterns, draw conclusions and make predictions.

Year 4 – Living Things and Their Habitats: Assessment Grid

(Living Things and Their Habitats)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Recognises different living things but struggles to group them accurately or explain environmental change.	Groups living things using classification keys. Understands that environments can change and that this may affect living things.	Explains why living things belong in particular groups and evaluates the impact of environmental changes on habitats and species.
Scientific Vocabulary	Uses some classification vocabulary with support.	Uses vocabulary accurately: *classification, key, vertebrate, invertebrate, environment, habitat*.	Uses scientific vocabulary precisely when discussing classification and environmental change.
Working Scientifically	Sorts and groups living things with support.	Uses classification keys to identify and group organisms. Records observations systematically.	Creates and uses classification systems confidently and explains decisions using evidence.

Year 4 – Electricity: Assessment Grid

(Electricity)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Recognises some electrical appliances but struggles to explain how circuits work.	Identifies common electrical appliances. Constructs a simple series circuit and identifies its components. Understands the role of switches, conductors and insulators.	Explains why circuits work or fail. Predicts outcomes when components are added, removed or changed.
Scientific Vocabulary	Uses electrical vocabulary inconsistently.	Uses vocabulary accurately: *circuit, cell, battery, bulb, switch, conductor, insulator*.	Uses scientific vocabulary confidently when explaining circuits and electrical investigations.
Working Scientifically	Builds simple circuits with support.	Carries out fair tests using electrical components and records findings appropriately.	Uses evidence from investigations to explain outcomes and make accurate predictions.

Year 4 – The History of Science: Assessment Grid

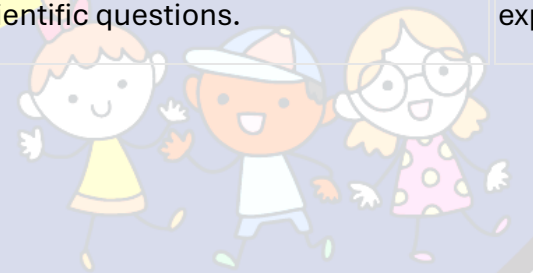
(Working Scientifically)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Recognises that scientists make discoveries but struggles to explain how scientific ideas change over time.	Understands that scientific ideas develop through evidence, enquiry and discovery. Describes contributions from significant individuals, including scientists from different times and cultures.	Explains how scientific understanding changes as new evidence becomes available. Makes connections between discoveries across different areas of science.
Scientific Vocabulary	Uses vocabulary such as *scientist* and *discovery* with limited accuracy.	Uses vocabulary accurately: *scientist, evidence, theory, discovery, change, enquiry*.	Uses scientific vocabulary confidently when explaining how scientific knowledge develops.
Working Scientifically	Uses information sources with support and makes simple observations about historical discoveries.	Uses secondary sources to research scientific developments and explain how evidence supports ideas.	Evaluates evidence from different sources, compares scientific ideas over time and explains how enquiry leads to new understanding.

Year 5 – Properties and Changes of Materials: Assessment Grid

(Properties and Changes of Materials)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies some material properties but struggles to explain solubility, reversibility or how mixtures can be separated.	Compares and groups materials according to their properties. Understands dissolving, separating mixtures and the difference between reversible and irreversible changes.	Explains how material properties determine their uses. Compares different methods of separating mixtures and explains why some changes are reversible while others are not.
Scientific Vocabulary	Uses some scientific vocabulary but inconsistently.	Uses vocabulary accurately: *property, dissolve, soluble, conductor, mixture, reversible, irreversible*.	Uses scientific vocabulary confidently when explaining investigations and material behaviour.
Working Scientifically	Participates in tests but needs support identifying variables and patterns.	Carries out comparative and fair tests. Records observations and uses evidence to answer scientific questions.	Selects appropriate tests independently and uses evidence to justify conclusions and explain findings.



Year 5 – Animals Including Humans: Assessment Grid

(Human Development and Life Cycles)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Recognises stages of growth but struggles to explain human development across the lifespan.	Describes the stages of the human life cycle, including puberty, adulthood and old age. Understands how humans change throughout life.	Explains how physical, emotional and developmental changes occur throughout the lifespan and compares stages of human development.
Scientific Vocabulary	Uses simple vocabulary about growth with limited accuracy.	Uses vocabulary accurately: *life cycle, growth, puberty, development, gestation, adult*.	Uses scientific vocabulary confidently when explaining human development and life stages.
Working Scientifically	Uses simple observations and information sources with support.	Uses research and observations to answer questions about growth and development.	Selects information critically and uses evidence to explain patterns and changes across the human life cycle.

Year 5 – Forces: Assessment Grid

(Forces)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Knows that forces affect movement but struggles to explain gravity, friction or resistance accurately.	Explains the effects of gravity, air resistance, water resistance and friction. Understands how levers, pulleys and gears allow a smaller force to have a greater effect.	Explains how different forces interact and evaluates the effect of forces in a variety of real-world situations.
Scientific Vocabulary	Uses force-related vocabulary inconsistently.	Uses vocabulary accurately: *gravity, air resistance, water resistance, friction, lever, pulley, gear*.	Uses scientific vocabulary confidently when explaining forces and interpreting results.
Working Scientifically	Participates in investigations with support but struggles to identify patterns.	Conducts fair tests and identifies relationships between variables. Records results accurately.	Uses results to identify trends, explain patterns and make predictions based on evidence.

Year 5 – Living Things and Their Habitats: Assessment Grid

(Life Cycles and Reproduction)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies some life cycle stages but struggles to compare organisms or explain reproduction.	Describes the life cycles of mammals, amphibians, insects and birds. Understands reproduction in some plants and animals.	Compares similarities and differences between life cycles and explains how reproduction supports species survival.
Scientific Vocabulary	Uses some life cycle vocabulary with support.	Uses vocabulary accurately: *life cycle, reproduction, metamorphosis, sexual, asexual, offspring*.	Uses scientific vocabulary confidently when comparing life cycles and describing reproductive processes.
Working Scientifically	Makes observations over time with support.	Uses observations and research to identify patterns in life cycles and reproduction.	Explains patterns and differences using evidence gathered through research and observation.

Year 5 – Earth and Space: Assessment Grid

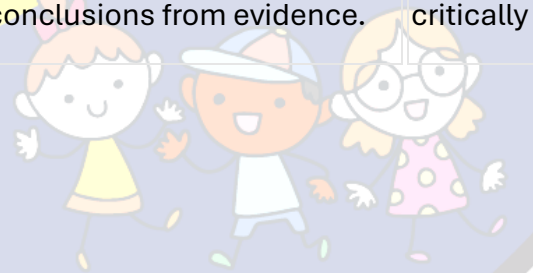
(Earth and Space)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies some planets and basic space facts but struggles to explain movement within the solar system.	Describes the movement of Earth and other planets around the Sun and the Moon around Earth. Explains day and night and the apparent movement of the Sun.	Explains how Earth's rotation and orbit create observable patterns. Makes connections between the Earth, Moon and Sun using accurate scientific reasoning.
Scientific Vocabulary	Uses space vocabulary inconsistently.	Uses vocabulary accurately: *planet, orbit, sphere, rotation, axis, day, night*.	Uses scientific vocabulary confidently when explaining the solar system and celestial movement.
Working Scientifically	Uses models and information sources with support.	Uses models and research to explain scientific ideas about space. Identifies patterns and relationships.	Evaluates models and uses evidence to explain and justify scientific explanations about the solar system.

Year 5 – The Scientific Method: Assessment Grid

(Working Scientifically)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Understands that scientists carry out investigations but struggles to explain how enquiries are designed.	Understands the purpose of predictions, fair tests, evidence and conclusions. Recognises the importance of controlling variables.	Explains why scientists control variables and how evidence is used to support or challenge ideas. Makes connections between different enquiry types studied throughout the curriculum.
Scientific Vocabulary	Uses some enquiry vocabulary but often inaccurately.	Uses vocabulary accurately: *variable, control, fair test, evidence, prediction, conclusion*.	Uses scientific vocabulary confidently when planning, carrying out and evaluating investigations.
Working Scientifically	Participates in investigations but requires significant support to plan and evaluate them.	Plans and carries out fair tests. Identifies variables, records results systematically and draws conclusions from evidence.	Designs investigations independently, justifies methodology, evaluates reliability and uses evidence critically to support conclusions.



Year 6 – Animals Including Humans: Assessment Grid

(Circulatory System, Diet and Lifestyle)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Identifies some parts of the circulatory system but struggles to explain their functions or how lifestyle affects health.	Identifies and explains the functions of the heart, blood vessels and blood. Understands how nutrients, water and oxygen are transported around the body. Explains the impact of diet, exercise and lifestyle on health.	Explains how the circulatory system functions as an interconnected system. Evaluates the impact of different lifestyle choices on long-term health and body function.
Scientific Vocabulary	Uses some scientific vocabulary but inconsistently.	Uses vocabulary accurately: *circulation, heart, blood, vessel, nutrient, oxygen, lifestyle*.	Uses scientific vocabulary confidently when explaining body systems and health-related concepts.
Working Scientifically	Uses information sources with support but struggles to identify patterns in data.	Uses research and data to answer questions about the body and health. Identifies patterns and relationships.	Uses evidence from multiple sources to explain trends, evaluate claims and justify conclusions.

Year 6 – The Science of Light: Assessment Grid

(Light)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Knows that light helps us see but struggles to explain reflection, shadows or how light travels.	Explains that light travels in straight lines. Understands how light reflects into the eye and explains how shadows are formed.	Uses understanding of straight-line travel to explain complex phenomena including reflection, seeing objects and changing shadow patterns.
Scientific Vocabulary	Uses some vocabulary related to light but with limited accuracy.	Uses vocabulary accurately: *light, ray, straight line, reflect, refract, shadow, eye*.	Uses scientific vocabulary fluently and precisely when discussing light behaviour and observations.
Working Scientifically	Makes observations but struggles to identify patterns.	Uses observations and investigations to identify patterns in light and shadows.	Uses evidence to explain observations, identify relationships and make justified predictions.

Year 6 – Electric Circuits: Assessment Grid

(Electricity)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Recognises circuit components but struggles to explain the effect of changing circuits.	Uses recognised circuit symbols accurately. Explains how the number of cells affects brightness or volume. Understands how components function within a circuit.	Explains relationships between voltage, cells and component performance. Predicts and explains circuit behaviour using scientific knowledge.
Scientific Vocabulary	Uses circuit vocabulary inconsistently.	Uses vocabulary accurately: *circuit, symbol, cell, voltage, current, component, brightness*.	Uses scientific vocabulary confidently when explaining investigations, diagrams and outcomes.
Working Scientifically	Participates in investigations but needs support identifying variables.	Carries out fair tests, records results systematically and identifies patterns.	Designs and refines investigations, controls variables effectively and evaluates the reliability of results.

Year 6 – Evolution and Inheritance: Assessment Grid

(Evolution and Inheritance)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Understands that living things change over time but struggles to explain inheritance, adaptation or evolution.	Explains how living things have changed over time and how fossils provide evidence. Understands variation, inheritance and adaptation.	Explains how adaptation over many generations can lead to evolution. Uses evidence to explain relationships between environmental conditions and adaptation.
Scientific Vocabulary	Uses some key terms but often inaccurately.	Uses vocabulary accurately: *evolution, inheritance, variation, adaptation, fossil, generation*.	Uses scientific vocabulary confidently when explaining evolutionary processes and scientific evidence.
Working Scientifically	Uses information sources with support and identifies simple facts.	Uses secondary sources to gather evidence and explain scientific ideas.	Critically evaluates evidence and uses it to support scientific explanations and arguments.

Year 6 – Living Things and Their Habitats: Assessment Grid

(Classification)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Recognises some groups of living things but struggles to explain classification systems.	Classifies living things into broad groups based on observable characteristics. Uses classification keys accurately and understands vertebrate and invertebrate groupings.	Explains classification decisions using multiple characteristics. Makes connections between classification systems and evolutionary relationships.
Scientific Vocabulary	Uses classification vocabulary inconsistently.	Uses vocabulary accurately: *classification, kingdom, vertebrate, invertebrate, microorganism*.	Uses scientific vocabulary fluently to explain classifications and justify decisions.
Working Scientifically	Sorts organisms with support but struggles to justify choices.	Uses classification keys to identify and group living things. Records findings systematically.	Creates and refines classification systems independently and justifies classifications using evidence.

Year 6 – Preparing for Secondary Science: Assessment Grid

(Working Scientifically)

Assessment Area	Working Towards	Working At	Working at Greater Depth
Substantive Knowledge	Recalls some scientific concepts from Key Stage 2 but struggles to connect ideas across units.	Demonstrates secure understanding of key concepts from biology, chemistry and physics studied throughout Key Stage 2. Makes links between areas of learning.	Explains complex connections between scientific concepts and applies knowledge confidently in unfamiliar contexts.
Scientific Vocabulary	Uses scientific vocabulary with some inaccuracies.	Uses vocabulary accurately: *enquiry, variable, evidence, method, conclusion, transition*.	Uses scientific vocabulary precisely and confidently across all areas of science.
Working Scientifically	Participates in enquiries but requires support selecting appropriate methods.	Chooses appropriate enquiry types, plans investigations, records results and draws evidence-based conclusions.	Demonstrates mastery of working scientifically by selecting suitable enquiry approaches, evaluating reliability, identifying limitations and justifying conclusions using evidence.