THE EXPECTED STANDARD IN SCIENCE (by the *END* of KS2)

WORKING SCIENTIFICALLY

- Recall and use appropriately terminology such as accurate, conclusion, evidence, fair test, method, observe, pattern, prediction, reliable, results, supports (evidence) and variable.
- For a given task they can identify the most appropriate approach for answering scientific questions and select the most appropriate equipment and sources of evidence needed for a task.
- Plan different types of scientific enquiry, make careful observations, take accurate measurements or readings using the appropriate units as required and identify when to repeat measurements, if necessary, to ensure given results are reliable.
- Record, present and interpret data from different sources, using a range of methods including tables, graphs (bar charts and line graphs), diagrams and keys.
- Apply their understanding of scientific concepts to draw valid conclusions from data.
- Use data to make predictions for missing values.
- Identify or use evidence to support or refute ideas or arguments.
- Recognise the validity and reliability of evidence and the difference between fact and opinion.

BIOLOGY

- Recall and use appropriate terminology such as adaptation, circulatory system, classification, consumer, evolution, function, germination, invertebrates, nutrients, pollination, predator, prey, producer, reproduction, seed dispersal and vertebrates.
- Describe the processes involved in different stages of the flowering plant's life cycle and the function of different parts of flowering plants.
- Describe how water and nutrients are transported in plants.
- Compare the requirements of plants and animals to live and grow well.
- Compare the similarities and differences between the life cycles of different animals (including humans and other mammals, birds, amphibians and insects).
- Describe the functions of the digestive system in animals.
- Describe the effects of diet, exercise, drugs and lifestyle on how our bodies function in the long and short term.
- Construct and interpret food chains.
- Use keys to group, classify or identify living things and construct simple dichotomous keys.
- Describe the main characteristics used to group plants, animals and micro-organisms according to the main groups (vertebrates, invertebrates, birds, mammals, reptiles, fish and amphibians) in the classification system.
- Explain how a change in an environment may have an impact on living things.
- Identify that there is variation between offspring and between offspring and their parents because of differences in inherited characteristics.
- Describe how plants and animals have adapted to their environment and how this may have led to their evolution.
- Describe how living things have changed over time and that fossils provide information about living things in the past.

CHEMISTRY

- Recall and use appropriately terminology such as condensation, degrees Celsius, evaporation, filtering, freezing, insoluble, melting, mixture, non-reversible, properties, reversible, solidifying, soluble and solution.
- Compare the characteristics of different states of matter (solids, liquids and gases).
- Describe how materials can change state with reference to temperature and explain everyday phenomena (including the water cycle) where changes of state occur.
- Classify and group materials according to properties such as appearance (for rocks), hardness, solubility, transparency, conductivity and magnetism.
- Describe the advantages and disadvantages for the uses of everyday materials based on an understanding of their properties using appropriate terminology.
- Identify and recognise everyday phenomena where dissolving occurs.
- Describe how to appropriately separate different mixtures of materials, including solutions.
- Identify and compare reversible and non-reversible changes.
- Describe in simple terms how fossils are formed.
- Describe the composition of soil.

PHYSICS

- Recall and use appropriately terminology such as air resistance, attraction, conductor, friction, gravity, insulator, newtons (N), opaque, orbit, pitch, repulsion, sphere, translucent, transparent, vibration, voltage, volume and water resistance.
- Explain how we see other objects (from a single reflection) and represent this in simple diagrammatic form.
- Explain shadow formation and how the size of shadows may change.
- Explain how sounds are made and describe how they require a medium to travel through from the source to the ear.
- Describe how volume can be changed with reference to vibration.
- Describe how the features of an object determine the pitch of a sound.
- Describe the shape of bodies (spheres) in the solar system and the movement of bodies in the solar system relative to each other.
- Explain how day and night, including the apparent movement of the sun across the sky, are related to the earth's rotation.
- Draw or complete a simple series circuit diagram using recognised symbols including straight lines for wires.
- Explain how changes made to a circuit can affect how it works.
- Identify and describe the effects of contact and non-contact forces on moving and stationary objects.
- Describe the effects of magnets on magnets and other materials.
- Describe how simple pulleys, levers, springs and gears increase the effects of a force.