Year 7	Biology	Chemistry	Physics	Working scientifically
Emerging	I can: name some parts of plant and animal cells. Use a microscope with help to view prepared slides. Know the conditions necessary to keep healthy.	I know: what particles are and can draw a diagram to show a solid, liquid and a gas.	I can: say what a force is and name some and know how they affect objects. Describe the structure of the Universe and know what an eclipse is	I can: suggest how idea can be investigated and make predictions, carry out a fair test, make recordings of my observations and make a conclusion.
Developing	I know; the functions of food groups in a healthy diet. can name some parts of plant and animal cells and know the differences between them. Use a microscope to view prepared slides. Describe the functions of flowers and seeds. I understand food chains and food webs. I know that plants need mineral salts.	I can: describe how materials are made from particles. Describe changes of state using keywords. Compare properties of acids and alkalis and can use the pH scale .	I can: describe forces and draw a labelled force diagram. Describe the effect of drag and friction and know how they affect a moving object. Compare the planets in the solar system. Describe how day, night and years are determined.	I can: suggest how idea can be investigated and make predictions. Carry out a fair test and say which factors need to be kept constant. Make a conclusion based on my scientific understanding,interpret my data and begin to explain them using science.
Securing	I can: name the food groups in a balanced diet. Explain some functions of the parts of cells. Prepare my own slides to view using a microscope and draw what I see. Name and label the main structures of a flower and describe fertilisation. Say how organisms are adapted and Icomplete for resources. Draw a food chain.	I can use particle model to describe states of mattter and diffusion. Draw graphs to show mp and bp. Know what diffusion means.	I can: explain what forces do and describe how they can deform objects. Evaluate how to reduce drag and friction. Analyse data about the planets in the solar system and explain day and night, why we have seasons. Describe energy transfer by conduction, convection and radiation. calculate mean speed from measurements taken.	I can: design a fair test (with guidance) and carry out an investigation using apparatus with precision and care. Interpret my data and begin to explain them using science and explain my conclusions using the evidence I have collected.
Advancing	I can: prepare my own slides, draw and label cells viewed under a microscope. Describe specialised cells and their functions. Understand why we need a balanced diet. Compare the differences between wind and insect pollinated flowers. Explain how living organisms are interdependent and show adaptations to their environment. Understand why food chains usually start with a plant. Explain and measure muscle strength.	I can: interpret data from tables and graphs about, mp , bp and changes of state. Describe the changes in state in geating and cooling water. Explain the factors that affect diffusion. Use ideas about particles to explain the properties of substances. Explain the differences between elements, mixtures and compounds.	I can: compare balanced and unbalanced forces. Explain why the speed or direction of an object can change. Explain the process of energy transfer through conduction, convection and radiation. Describe the relative movement of the sun and planets within the solar system.	I can: design a fair test (with some guidance) and carry out an investigation using apparatus with precision and care. Present and interpret my data precisely using graphs with lines of best fit and explain them using science. Explain my conclusions using the evidence I have collected.
Mastering	I can: draw cells viewed under a microscope and calculate magnification. Demonstrate a good understanding of cell structure and function. Explain specialised cells and their functions. Explain the importance of plants I can evaluate different methods of seed dispersal. Link wilting to diffusion	I can: explain the differences in the 3 states of matter, using the particle model. Predict state of matter based on bp and mp data. Compare diffusion rates in states of matter. Explain sublimation.	I can: interpret a graph showing Hooke's law. Find speed and accleration from a graph and give a detailed interpretation.	I can: I can make predictions based on my scientific knowledge. Design (unaided) and carry out an investigation using apparatus with precision and care. Present and interpret my data precisely using graphs with lines of best fit and explain them using science. Explain my conclusions using the evidence I have collected.