

Y7 Science

At the <i>Emerging</i> stage students can:	At the <i>Securing</i> stage students can:	At the <i>Deepening</i> stage students can:
<ul style="list-style-type: none"> • Identify hazards, identify variables, and plot bar graphs to represent the relationship between discontinuous variables. • Draw particle diagrams to represent changes of state, identify forces, atoms, elements and compounds, separate simple mixtures. • Identify series and parallel circuit, describe what current in electrical circuit is and how to measure it; identify energy stores. • Name parts of the microscope, name cells in plants and animals and identify parts of the reproductive system 	<ul style="list-style-type: none"> • Identify safety risks, plot simple line graphs to represent the relationship between continuous variables • Describe the particle model, identify balanced and unbalanced forces, describe the differences between, atoms, elements, and compounds; describe processes to separate mixtures • Describe what potential difference is and how to measure it, identify energy stores and transfers • Describe how a microscope works, state the functions of parts of animal and plant cells, describe processes involved in reproduction in plants and animals 	<ul style="list-style-type: none"> • State safety precautions, select variables, plot line graphs, and draw lines of best fit to identify trends between variables • Apply the particle model, calculate resultant forces, linking this to motion, describe, and explain methods to separate mixtures. • Describe the differences between series and parallel circuits in terms of current and potential difference • Calculate magnification in a microscope, identify specialised cells and how they are adapted to their roles

Y8 Science

At the <i>Emerging</i> stage students can:	At the <i>Securing</i> stage students can:	At the <i>Deepening</i> stage students can:
<ul style="list-style-type: none"> • Identify hazard and safety risks, identify variables and plot bar graphs to represent the relationship between discontinuous variables • Describe simple patterns • Draw particle diagrams to represent changes of state and state how heat is transferred • State how sound travels, light travels and describe how we hear sounds and see light. • Describe how we breathe in oxygen and state where gas exchange happens 	<ul style="list-style-type: none"> • State safety precautions, identify variables including control variables and plot simple line graphs to represent the relationship between continuous variables • Describe more complex patterns in graphs • Describe the particle model and different types of heat transfer • Identify pitch and volume of sounds on oscilloscopes and use ray diagrams to show how light reflects and refracts. • State how parts of the breathing system is adapted for gas exchange 	<ul style="list-style-type: none"> • State ways to reduce risk for specific substances and equipment, select variables, plot line graphs and draw lines of best fit to identify trends between variables • Apply the particle model, compare and contrast different types of heat transfers • Apply the law of reflection, explain how refraction results in a spectrum of colours and compare this to how sound travels • Use knowledge of diffusion to explain gas exchange in the breathing system

Y9 Science

At the <i>Emerging</i> stage students can:	At the <i>Securing</i> stage students can:	At the <i>Deepening</i> stage students can:
<ul style="list-style-type: none"> • Identify hazards, identify variables, plan simple methods, plot graphs to represent the relationship between variables. • Identify parts of the atom, identify trends in the periodic table, separate simple mixtures, and identify products and reactants in equations • Identify energy sources, energy stores and transfers, identify radioactive substances and types of radioactive decay and plot half-life data • Identify cell structures in eukaryotes and prokaryotes, state how cell division occurs, describe how a microscope works and how to calculate magnification, identify parts of the digestive and circulatory system, identify which substances move in and out of cells. 	<ul style="list-style-type: none"> • State ways to reduce risk for specific substances and equipment, select variables, plot line graphs and draw lines of best fit to identify trends between variables • Describe the atom, describe trends in the periodic table, describe how to separate mixtures and write word equations • Describe energy generation, describe the differences between types of radioactive substances and their uses, calculate half-life. • Describe the differences between eukaryotes and prokaryotes, describe why cell division is important, describe the limitations of a light microscope, describe the processes involved in the digestive and circulatory system, describe the movement of substances move in and out of cells 	<ul style="list-style-type: none"> • Evaluate and improve methods, identify all safety precautions, state all variables and why variables need to be controlled, extrapolate graphs, identify different sources of error • Apply the particle model, describe, and explain methods to separate mixtures, write balanced symbol equations • Evaluate energy generation, explain the differences between types of radioactive substances and their uses, use half-life data to compare the dangers of different radioactive substances • Compare the light and electron microscopes, explain the differences between eukaryotes and prokaryotes, explain processes involved in the digestive system and circulatory system, explain how substances move in and out of cells and whether this is an active or passive process