

Skill	Emerging	Developing	Secure	Mastered
General	You can identify key facts and processes, describing some functions using scientific terms.	You can describe processes and identify differences and changes related to simple processes, using correct key terms.	You can describe and explain processes, using simple models. You can use some correct scientific terms effectively.	You can use models and evidence to justify explanations of how processes work, using correct scientific terms.
Passport	You can identify key pieces of scientific equipment and processes, describing some functions using scientific terms.	You can describe key scientific methods and processes, identify changes related to simple processes, using correct key scientific terms.	You can explain scientific processes, use equipment safely and describe reactions using simple models and some correct scientific terms.	You can use models and evidence to justify explanations of how scientific processes work, using correct scientific terms.
7.1 Cells – the building blocks	You can describe organs and systems in the human body including the different parts of a cell.	You can describe differences in animal and plant cells. You can describe the changes that take place during puberty.	You can explain processes in the human body, using models and abstract ideas. You can describe the sequence of events in reproduction in mammals and plants.	You can use models to explain the functions of different parts of the human body, plants and of different cells.
7.2 Eating Drinking, Breathing	You can describe organs and systems in the human body including the different parts of a healthy diet.	You can describe differences in the digestive and breathing systems. You can describe the changes that take place during breathing.	You can explain processes in the human body, using models and abstract ideas. You can describe the sequence of events in digestion and breathing.	You can use models to explain the functions of different parts of the human body for digestion and breathing.
7.3 Mixing, dissolving and separating	You can identify key methods of separating simple mixtures.	You can describe solubility and differences between distillation and chromatography.	You can explain solubility, using models and abstract ideas. You can describe the sequence of events in distillation and chromatography.	You can use models to explain solubility and evidence to justify explanations of how distillation and chromatography works.
7.4 Elements, compounds and reactions	You can describe what happens to reactants in a chemical reaction and record observations that happen during a chemical reaction.	You can describe differences between the properties of a range of materials. You can recognise chemical reactions.	You can explain how chemical changes happen and how new materials can be made. You can use word equations to describe reactions.	You can apply your knowledge to explain the properties of materials. You can explain the differences in substances referring to the periodic table. You can use formula equations to describe reactions.
7.5 Forces and their effects	You can describe the link between different forces and how objects move.	You can describe how forces deform objects, affect their movement and the difference between balanced and unbalanced forces.	You can explain how a range of different forces affect an object. You can explain the difference between balanced and unbalanced forces, useful and unwanted friction.	You can explain which forces are acting on an object and make quantitative predictions about forces in unfamiliar situations.
7.6 Energy transfers and sound	You can state some ways in which energy is transferred. You can describe how sound travels and link to wave properties.	You can identify different ways to transfer energy. You can describe the properties of sound in terms of waves	You can use models to describe and explain energy transfers. You can explain different properties of sound, in terms of waves. You can use models to describe reflection and the speed of sound through different mediums.	You can compare the advantages and disadvantages of different types of energy transfer. You can explain how sound is reflected and refracted using models. You can apply this to everyday observations and justify ways of reducing risks.
8.1 Getting the energy your body needs	You can identify some key bones and joints in the skeleton. You can link the food we eat with energy form respiration.	You can describe different joints and movement. You can describe the processes of respiration and explain why they are key processes.	You can use simple models to explain how joints work and different types of respiration.	You can use models to explain and compare different joints and types of respiration in detail.
Investigation	You can recognise important variables in investigations, selecting the most suitable	You can use scientific knowledge and understanding to plan investigations and	You can identify key variables in different and difficult situations and explain in the	You can use key scientific words and terms to explain choice of methods and



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	<p>to investigate. You can repeat sets of observations or measurements selecting suitable ranges and intervals. You can write a straightforward conclusion from data found and explain the differences in repeats. You can evaluate the effectiveness of my chosen method and give practical ideas on how to improve the method.</p>	<p>identify the independent, dependent and control variables. You can collect data by choosing a suitable range and using the right numbers and values for measuring and observing. You can use scientific knowledge to explain why some data or observations have limitations or don't follow a regular pattern. You can make valid comments on the quality of the collected data.</p>	<p>planning stage how to take control of some variables that cannot be controlled easily. You can make a risk assessment by acting and seeking advice from the right sources of information. You can assess the strength of evidence, deciding whether it is sufficient to support a conclusion. You can suggest ways of changing the chosen method so that more reliable data can be collected.</p>	<p>procedures to investigate different kinds of scientific questions. You can choose and explain why the methods and procedures that I have chosen will minimise error and allow me to produce precise and reliable data. You can process data, including using multi-step calculations and compound measures, to identify complex relationships between variables. You can use detailed scientific knowledge to suggest ways of modifying the experimental procedures with reasons and suggest strategies that will take the investigation further than it originally was.</p>
Literacy		<p>You can use punctuation marks with accuracy including apostrophes for possession and omission. Your spelling is mostly accurate. With support you can identify key points in a text/source and quote them as evidence to support a point made. With support you can talk in different situations. You can listen to others and with support are able to form an opinion.</p>	<p>You can use a range of punctuation marks accurately. You use a range of connectives for effect. Your spelling is mostly accurate except for unusual words. You can identify key points in a text/source and quote them as evidence to support a point made. You can talk confidently in different situations including formal ones. You can listen carefully to others and are able to form an opinion about what is being said.</p>	<p>You can use a full range of punctuation effectively. Your spelling is accurate , except for unusual words. You use paragraphs and connectives effectively. You can identify key points in a text/source and quote them as evidence to justify a point made. You can talk confidently in different situations including formal ones. You can listen carefully to others and are able to explain and form an opinion about what is being said.</p>

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General	You can describe processes and identify differences and changes related to simple processes, using correct key terms.	You can describe and explain processes, using simple models. You can use some correct scientific terms effectively.	You can use models and evidence to justify explanations of how processes work, using correct scientific terms.	You can evaluate the limitations of using models to explain processes and link the key ideas in your explanation. You can use the correct terminology.
8.2 Plants and ecosystems	You can describe the process of photosynthesis and can link this to food webs in an ecosystem.	You can describe the processes of photosynthesis and explain why this is a key process, linking them to ecosystems.	You can use models to photosynthesis, in detail. You can explain the importance of photosynthesis in ecosystems.	You can interpret data relating to healthy plants. You can explain how plants carry out photosynthesis and evaluate adaptations to leaf structure.
8.3 Explaining physical changes	You can describe differences between the properties of a range of materials in terms of particles. You can identify physical reactions.	You can explain in terms of particles how physical changes happen. You can explain Brownian motion and the process by which it was developed.	You can apply your knowledge of particles to explain the properties of everyday materials. You can use formula equations to describe reactions.	You can interpret data to show how mass is conserved in physical and chemical changes. You can link ideas about particles to explain why physical changes are reversible.
8.4 Explaining chemical changes	You can describe differences between the properties of a range of materials in terms of particles. You can identify chemical reactions.	You can explain in terms of particles how chemical changes happen. You can use word equations to describe reactions. You can group and identify different materials.	You can apply your knowledge of particles to explain the properties of everyday materials. You can use formula equations to describe reactions. You can refer to the periodic table in describing substances.	You can interpret data to show how mass is conserved in physical and chemical changes. You can link ideas about particles to explain links between combustion and environmental problems.
8.5 Forces	You can describe how forces deform objects. You can state equations for pressure. You can describe the effects of atmospheric pressure.	You can explain how a range of different forces affects an object. You can describe what affects the pressures of gases and liquids. You can apply the ideas of pressure to different situations. You can explain how the properties of planets link to their place in the solar system.	You can explain which forces are acting on an object and make quantitative predictions about forces in unfamiliar situations. You can use data to predict the features of planets. You can compare some effects of atmospheric pressure.	You can describe how gravitational field strength of objects in the Solar system affects space travel. You can explain how a compass works. You can explain situations using differences in pressure.
8.6 Magnetism and electricity	You can identify components of an electrical circuit and the difference between series and parallel circuits.	You can use simple models to describe features of series and parallel circuits, magnetic fields and electromagnets.	You can use models to explain how current flows. You can explain the difference between potential difference and current. You can explain how magnets can be used.	You can predict the current in different circuits and use models to explain how current flows. You can measure potential difference. You can explain how an electromagnet works.
9.1 Variation for survival	You can describe how features are inherited and how selective breeding can be used to favour some of these. You can describe how animals have adapted to survive.	You can describe features of inheritance and selective breeding. You can describe natural selection.	You can use a Punnett square to predict inheritance. You can explain how selective breeding is carried out. You can describe the structure of DNA.	You can use a Punnett square effectively to calculate inherited features, including disorders. You can analyse methods of selective breeding. You can link structure of DNA to function.
9.4 Sustainable Earth	You can describe the rock cycle, You can state one cause and one impact of global warming. You can state one advantage and one disadvantage of recycling.	You can use the rock cycle to explain how different rocks have formed. You can explain global warming and analyse recycling.	You can use models to explain rock formations and global warming.	You can evaluate models used to describe the rock cycle and global warming.
9.5 Motion	You can state the equations for speed. You can use a distance time graph to	You can calculate speed. You can interpret distance time graphs. You can describe	You can calculate speed. You can describe relative motion. You can draw distance	You can explain what is meant by relative motion and how it can be calculated. You



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	describe a journey. You can describe the motion of objects in our solar system.	how objects move in the night sky and explain some of them.	time graphs. You can explain how the properties of planets link to place in solar system.	can use the speed equation to explain unfamiliar situations and analyse journeys. You can use data to predict the features of planets, phases of the moon and differences in seasons.
Investigation	You can recognise important variables in investigations, selecting the most suitable to investigate. You can repeat sets of observations or measurements selecting suitable ranges and intervals. You can write a straightforward conclusion from data found and explain the differences in repeats. You can evaluate the effectiveness of my chosen method and give practical ideas on how to improve the method.	You can use scientific knowledge and understanding to plan investigations and identify the independent, dependent and control variables. You can collect data by choosing a suitable range and using the right numbers and values for measuring and observing. You can use scientific knowledge to explain why some data or observations have limitations or don't follow a regular pattern. You can make valid comments on the quality of the collected data.	You can identify key variables in different and difficult situations and explain in the planning stage how to take control of some variables that cannot be controlled easily. You can make a risk assessment by acting and seeking advice from the right sources of information. You can assess the strength of evidence, deciding whether it is sufficient to support a conclusion. You can suggest ways of changing the chosen method so that more reliable data can be collected.	You can use key scientific words and terms to explain choice of methods and procedures to investigate different kinds of scientific questions. You can choose and explain why the methods and procedures that I have chosen will minimise error and allow me to produce precise and reliable data. You can process data, including using multi-step calculations and compound measures, to identify complex relationships between variables. You can use detailed scientific knowledge to suggest ways of modifying the experimental procedures with reasons and suggest strategies that will take the investigation further than it originally was.
Literacy		You can use punctuation marks with accuracy including apostrophes for possession and omission. Your spelling is mostly accurate. With support you can identify key points in a text/source and quote them as evidence to support a point made. With support you can talk in different situations. You can listen to others and with support are able to form an opinion.	You can use a range of punctuation marks accurately. You use a range of connectives for effect. Your spelling is mostly accurate except for unusual words. You can identify key points in a text/source and quote them as evidence to support a point made. You can talk confidently in different situations including formal ones. You can listen carefully to others and are able to form an opinion about what is being said.	You can use a full range of punctuation effectively. Your spelling is accurate , except for unusual words. You use paragraphs and connectives effectively. You can identify key points in a text/source and quote them as evidence to justify a point made. You can talk confidently in different situations including formal ones. You can listen carefully to others and are able to explain and form an opinion about what is being said.



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9.2 Health and drugs	You can describe how smoking, alcohol and drugs affect the human body. You can describe some diseases. You can describe how vaccines can be used.	You can use evidence to justify explanations for the effects of smoking, drugs and alcohol on the human body. You can identify some key aspects linked with withdrawal of these substances. You can link cause of disease with prevention. You can describe methods to help immunity.	You can evaluate the use of certain drugs and explain their effect on the human body e.g. Cannabis. You can describe the process of withdrawal and identify support required. You can evaluate prevention methods of disease related to cause. You can explain in detail how a vaccine works.	You can evaluate evidence for use of drugs e.g. Cannabis. You can explain the effects of smoking, drugs and alcohol and withdrawal on the human body and the impact to society as a whole. You can justify the prevention of disease related to cause. You can use data to justify the use of vaccinations.
9.3 Obtaining useful materials	You can identify patterns in metals, linked to the periodic table. You can explain how these properties make them suitable for different uses. You can describe different methods to extract metals.	You can explain how the properties of materials such as metals, ceramics and polymers make them suitable for different uses. You can use models to explain how to separate compounds by displacement.	You can use observations to classify substances and apply patterns. You can make predictions using the reactivity series. You can use models to explain how to separate compounds by displacement and link ideas to availability.	You can explain and justify why different separating techniques are needed. You can explain and justify the use of different materials e.g. ceramics and polymers. You can use models to explain how to separate compounds by displacement and link ideas to availability.
9.6 Waves and energy	You can describe how light travels and link to wave properties. You can identify different ways to transfer energy.	You describe different properties of light and in terms of waves and describe reflection and refraction. You can use models to explain features of energy transfer.	You can explain different properties of light in terms of waves. You can use models to describe reflection and refraction. You can explain advantages and disadvantages of energy resources.	You can use the wave model to explain and justify how light is reflected and refracted. You can compare energy transfer to energy conservation.
Investigation	You can recognise important variables in investigations, selecting the most suitable to investigate. You can repeat sets of observations or measurements selecting suitable ranges and intervals. You can write a straightforward conclusion from data found and explain the differences in repeats. You can evaluate the effectiveness of my chosen method and give practical ideas on how to improve the method.	You can use scientific knowledge and understanding to plan investigations and identify the independent, dependent and control variables. You can collect data by choosing a suitable range and using the right numbers and values for measuring and observing. You can use scientific knowledge to explain why some data or observations have limitations or don't follow a regular pattern. You can make valid comments on the quality of the collected data.	You can identify key variables in different and difficult situations and explain in the planning stage how to take control of some variables that cannot be controlled easily. You can make a risk assessment by acting and seeking advice from the right sources of information. You can assess the strength of evidence, deciding whether it is sufficient to support a conclusion. You can suggest ways of changing the chosen method so that more reliable data can be collected.	You can use key scientific words and terms to explain choice of methods and procedures to investigate different kinds of scientific questions. You can choose and explain why the methods and procedures that I have chosen will minimise error and allow me to produce precise and reliable data. You can process data, including using multi-step calculations and compound measures, to identify complex relationships between variables. You can use detailed scientific knowledge to suggest ways of modifying the experimental procedures with reasons and suggest strategies that will take the investigation further than it originally was.
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