

Science

1-9 / 7-11



Skill	7 Matter	8 Electricity	9 Cells and Diffusion	10 Energy	11 Global warming
Evaluate, discuss & justify 5→9	Evaluate the limitations of the particle model and justify its use to explain key scientific concepts	Evaluate the uses of electromagnets in unfamiliar real world applications, for example in Maglev trains.	Justify the classification of an organism as a prokaryote or eukaryote based on information given	Evaluate different energy saving features in homes in terms of the energy saved, initial cost and payback time.	Atmospheric pollutants are formed through the combustion of fossil fuels, for examples petrol in the combustion engine. Justify the use of fossil fuels over alternatives, such as hydrogen or ethanol.
Link/ Analyse/ Investigate/ Compare 5→8	Analyse a cooling curve. Identify where the changes of state take place and explain in detail what happens during a change of state in terms of bonding.	Investigate how current and potential difference vary in series and parallel circuits.	Plan & Investigate factors that affect the rate of diffusion	Investigate how the specific heat capacity of different materials affects the energy transferred by them.	Analyse data between levels of carbon dioxide and atmospheric temperature in order to suggest a possible link.
Apply knowledge to unfamiliar situations 4→7	Apply what you know about particles to explain why increasing the number of particles in a container will increase the pressure	Design circuits for use around the home, such as a light circuit which can be switched on and off from the top or bottom of a staircase.	Suggest why mitochondria may formerly have been Prokaryotic cells when given selected information	Rearrange equations to find unknown values. For example, calculate speed when given the kinetic energy and mass of an object.	Apply what you know about common greenhouse gases to suggest the effect of pollutants such as CFCs on global warming
Explain (use knowledge) 3→6	Explain what happens to the arrangement of particles when there is a change of state	Independently explain how objects become statically charged in terms of the movement of electrons.	Explain why multicellular organisms require transport systems	Explain how an unknown object can reduce energy loss by conduction, convection or radiation.	Explain how sulphur dioxide and nitrogen oxides help to cause acid rain.
Describe (finding info from text) 2→5	Describe the arrangement of the particles in solids, liquids and gases (particle model theory)	Describe the different ways to change the strength of an electromagnet.	Describe the functions of a range of organelles in plant and animal cells Describe simply how molecules move in and out of cells	Calculate a form of energy (such as kinetic energy) when given data.	Describe the effect of common atmospheric pollutants
Identify/ Recall 1→4	Recall the 4 main changes of state	Identify circuit components based on their symbols.	Recall the detailed structure of plant and animal cells.	Recall equations for calculating amounts of energy, such as: Gravitational potential energy, kinetic energy, and work done.	Identify common atmospheric pollutants & their molecular formulae
Recall with	Recognise the 3 main	Connect components	Recall the main parts of	Identify a range of energy	State the simple causes of global

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