Υ7	Term 1: Cells and movement Energy costs and energy transfer Electricity Particle model	Term 2: Human reproduction and plant reproduction Separating mixtures Chemical reactions	Term 3: Earth in Space & forces and gravity Variation Acids and alkalis	Working scientifically: skills in science
BC9				
BC8				
BC7				
BC6				
БСО	Scores 75%+ on the module 1	Scores 75%+ on the module 2 assessment.	Scores 75%+ on the module 3 assessment.	Identifies all key variables, all steps
	assessment.	Names the common parts of the male and female	Identify contact and non-contact forces.	in a practical are sequenced in a
BC5	Identify and name features of	reproductive system.	Describe the relationship between weight,	logical order. Results are recorded
	cells and describe some	Know the length of pregnancy and describe the	mass and gravity.	in a suitable table and all units are
	differences between plant and	changes in the foetus.	Describe and give examples of friction.	correct. Student has constructed
	animal cells.	State the functions of key parts of the	Describe what a gravitational field is.	the table independently. No
	Make observations using a	reproductive system.	Explain how to reduce friction.	support has been given with
	microscope and record them in	Describe the role of the placenta, umbilical cord	Describe elasticity in terms of tension and	regards to working out number of
	simple drawings.	and amniotic sac.	compression.	rows or columns or labelling
	Describe the differences	Describe the different plant tissues and how they	Identify similarities and differences in	headings.
	between tissues, organs and	are needed for rep <mark>ro</mark> duction.	organisms of the same species and attribute	Students design their own scale on
	organ systems, giving examples	Using the particle model, classify materials as	these to environmental or inherited factors.	both axis for a bar chart or line
	of each.	solid, liquid or gas.	Identify the need for animals to adapt to	graph.
	Explain how muscles work in	Classify materials as solid, liquid or gas and	their environment.	Intervals on the scale increase by
	pairs to create movement.	recognise that materials are made of particles.	Identify similarities and differences between	equal amounts.
	Describe how some cells in an	Name some soluble and insoluble solids; describe	predators and prey.	Students have independently
	organism are specialised to	how pure water can be obtained from sea water.	Give examples of adaptations of animals and plants in different environments.	labelled the axis. Repeats have been made if this was
	carry out particular functions. State the original source of our	Explain how temperature effects solubility. Define the term 'saturation'.	Recognise that inherited and environmental	appropriate.
	energy.	To identify the difference between physical and	causes of variation cannot be completely	арргориате.
	State the units for energy.	chemical reactions.	separated.	
	Give examples of energy stores.	To describe the tests for oxygen, hydrogen and	Name some common acids and alkalis	

	Describe an energy transfer. Describe the difference between renewable and non- renewable energy sources. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is. Explain what happens to water molecules during changing of state. Understand what causes gas pressure. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity. Investigate and fix some faulty circuits. Compare and contrast series and parallel circuits. Describe what electrical current is.	carbon dioxide gas. Use particle diagrams to show what happens in a reaction. Describe combustion as a reaction with oxygen in which energy is transferred to the surroundings as heat and light. Explain what happens in a thermal decomposition as a reaction.	stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values. Describe everyday uses of neutralisation. Name the planets in order. Know why we have day and night. Know the path of the sun through the sky during a day. Describe the phases of the moon. Describe the appearance of planets or moons from diagrams showing their position in relation to the Earth and Sun.	
BC4	Scores 60%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings.	Scores 60%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus. State the functions of key parts of the reproductive system. Describe the role of the placenta, umbilical cord and amniotic sac.	Scores 60%+ on the module 3 assessment. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Explain how to reduce friction.	Uses the correct terms for independent and dependent variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and units in at least one column are correct. Student has constructed the table independently. No support has been given with regards to working

Describe the differences between tissues, organs and organ systems, giving examples of each.

Explain how muscles work in pairs to create movement.
State the original source of our energy.

State the units for energy.
Give examples of energy stores
Describe an energy transfer.
Classify materials as solid, liquid
or gas and recognise that
materials are made out of
particles.

Describe how solids, liquids and gases change from one state to another.

State what diffusion is Explain what happens to water molecules during changing of state.

Identify circuit components by their symbols.

Represent a simple circuit with a diagram.

Identify ways to be safe around electricity.

Investigate and fix some faulty circuits.

Compare and contrast series and parallel circuits.

Using the particle model, classify materials as solid, liquid or gas.

Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name some soluble and insoluble solids; describe how pure water can be obtained from sea water. Explain how temperature effects solubility. To identify the difference between physical and

.To identify the difference between physical and chemical reactions.

To describe the tests for oxygen, hydrogen and carbon dioxide gas.

Use particle diagrams to show what happens in a reaction.

Describe combustion as a reaction with oxygen in which energy is transferred to the surroundings as heat and light.

Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment.

Identify similarities and differences between predators and prey.

Give examples of adaptations of animals and plants in different environments.

stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values.

Name some common acids and alkalis

Name the planets in order. Know why we have day and night Know the path of the sun through the sky during a day.

Describe the phases of the moon.

out number of rows or columns or labelling headings.

Students design their own scale on both axis for a bar chart or line graph.

Intervals on the scale increase by equal amounts.

		T		1
	Scores 45%+ on the module 1	Scores 45%+ on the module 2 assessment.	Scores 45%+ on the module 3 assessment.	Can identify all key variables, lists
всз	assessment.	Names the common parts of the male and female	Identify contact and non-contact forces.	all equipment in a practical
ВСЗ	Identify and name features of	reproductive system.	Describe the relationship between weight,	confidently, can identify all the
	cells and describe some	Know the length of pregnancy and describe the	mass and gravity.	hazards in an experiment, results
	differences between plant and	changes in the foetus.	Describe and give examples of friction.	are in a table and units are correct
	animal cells.	State the functions of key parts of the	Describe what a gravitational field is.	and can plot a line graph and bar
	Make observations using a	reproductive system.	Identify similarities and differences in	chart with little guidance.
	microscope and record them in	Using the particle model, classify materials as	organisms of the same species and attribute	
	simple drawings.	solid, liquid or gas.	these to environmental or inherited factors.	
	Describe the differences	Classify materials as solid, liquid or gas and	Identify the need for animals to adapt to	
	between tissues, organs and	recognise that materials are made of particles.	their environment.	
	organ systems, giving examples	Name some soluble and insoluble solids; describe	Identify similarities and differences between	
	of each.	how pure water can be obtained from sea water.	predators and prey.	
	State the original source of our	To identify the difference between physical and	Name some common acids and alkalis	
	energy.	chemical reactions.	stating some everyday uses. Describe some	
	State the units for energy.	To know the tests for oxygen, hydrogen and	hazards of acids and alkalis.	
	Give examples of energy stores.	carbon dioxide gas.	Describe how to deal with hazards.	
	Classify materials as solid, liquid	To describe the process of combustion.	Name the planets in order.	
	or gas and recognise that	VIII / - V/	Know why we have day and night.	
	materials are made out of		Know the path of the sun through the sky	
	particles.	103	during a day.	
	Describe how solids, liquids and	111		
	gases change from one state to	All S	100	
	another.	100		
	State what diffusion is.			
	Identify circuit components by		15.5	
	their symbols.	All (2) 11	1 11 1 100	
	Represent a simple circuit with	. 10	1//21	
	a diagram.		1121 111	
	Identify ways to be safe around	111/1 000	L	
	electricity.	4007	101	
	Investigate and fix some faulty	- 700	400	
	circuits.	100	100	
			.007	
	Scores 30%+ on the module 1	Scores 30%+ on the module 2 assessment.	Scores 30%+ on the module 3 assessment.	Can identify two or more variables,
	assessment.	Names the common parts of the male and female	Identify contact and non-contact forces.	can list equipment in an experiment
BC2	Identify and name features of	reproductive system.	Describe the relationship between weight,	confidently, identifies two or more
	cells and describe some	Know the length of pregnancy and describe the	mass and gravity.	hazards in an experiment, can add
	differences between plant and	changes in the foetus.	Describe and give examples of friction.	units in a results table, plot points
	animal cells.			and the state same, place points

	Make observations using a microscope and record them in simple drawings. State the original source of our energy. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. recognise that materials are made of particles. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity.	Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas. To identify the difference between physical and chemical reactions. To describe the process of combustion and recognise the reactants needed. To describe the test for hydrogen.	Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Name some common acids and alkalis stating some everyday uses. Name the planets in order. Know why we have day and night.	on a graph and draw bars in a bar chart.
BC1	Scores 15%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. State the original source of our energy Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Identify circuit components by their symbols. Represent a simple circuit with a diagram.	Scores 15%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Using the particle model, classify materials as solid, liquid or gas. To identify the difference between physical and chemical reactions. To recognise the combustion chemical reaction.	Scores 15%+ on the module 3 assessment. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Name some common acids and alkalis stating some everyday uses. Name the planets in order.	Can identify one variable to control, can list equipment in experiments, can identify one hazard during a practical, can fill in a results table and plot points on a graph.

Y7	Term 1: Cells and movement Energy costs and energy transfer Electricity Particle model	Term 2: Human reproduction and plant reproduction Separating mixtures Chemical reactions	Term 3: Earth in Space & forces and gravity Variation Acids and alkalis	Working scientifically: skills in science
ВС9	Scores 90%+ on the module 1 assessment. Identify and name features of cells and describe the differences between plant and animal cells. Make observations using a microscope and record them in detailed drawings. Describe the differences between tissues, organs and organ systems, giving examples of each. Explain how muscles work in pairs to create movement. Describe how some cells in an organism are specialised to carry out particular functions. Explain why multi-cellular organisms need a transport system. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is. Explain what happens to water molecules during changing of state. Understand what causes gas pressure. Use the particle mode to classify materials as solids, liquids or gases and explain the	Scores 90%+ on the module 2 assessment. Names all the parts of the male and female reproductive system in detail. Know the length of pregnancy and describe the changes in the foetus. State the functions of key parts of the reproductive system. Describe the role of the placenta, umbilical cord and amniotic sac. Describe the different plant tissues and how they are needed for reproduction. Explain the importance of plant pollination. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name as many soluble and insoluble solids; describe how pure water can be obtained from sea water. Explain how temperature effects solubility. Define the term 'saturation'. Use the particle model to explain a range of phenomena. To identify the difference between physical and chemical reactions.	Scores 90%+ on the module 3 assessment. Name the planets in order. Know why we have day and night. Know the path of the sun through the sky during a day. Describe the phases of the moon. Describe the appearance of planets or moons from diagrams showing their position in relation to the Earth and Sun. Explain why places on the Earth experience different daylight hours and amounts of sunlight during the year. Explain the choice of particular units for measuring distance. Explain why the Earth can support life. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe elasticity in terms of tension	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student explains how each variable will be controlled and how it will affect the results if it was not controlled. Student explains why the data collection method they have chosen is the best for giving reproducible and precise results. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Student has said to repeat each experiment at least 3 times to get valid results. If repeat are not appropriate, student has explained why. If repeats were recorded, a mean value has been calculated. Student has identified anomalous
	classification of some 'difficult materials'. Describe examples of diffusion. Explain expansion and contraction in terms of particles. State the original source of our energy State the units for energy.	Predict the products of the combustion or thermal decomposition of a given reactant and show the reaction as a word equation. Use particle diagrams to show what happens in a reaction where mass is conserved.	and compression. Describe the term equilibrium. Explain a linear relationship between two variables when drawn on a graph. Explain Hooke's law.	results and has <u>not</u> included them when calculating the mean values. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts.

	Give examples of energy stores. Describe an energy transfer. Describe the difference between renewable and non-renewable energy sources. Evaluate the advantages and disadvantages of renewable energy resources. Evaluate the advantages and disadvantages of non-renewable energy sources . Identify circuit components by their symbols. Represent circuits with a diagram. Identify several ways to be safe around electricity. Investigate and fix some faulty circuits. Compare and contrast series and parallel circuits. Describe what electrical current is. Use an ammeter correctly to measure current in a circuit. Define resistance.	To identify an unknown gas using gas tests for hydrogen, oxygen and carbon dioxide. Explain why a reaction is an example of thermal decomposition.	Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments. Recognise that inherited and environmental causes of variation cannot be completely separated. Explain what might happen if the environment changes and how this might affect living things. Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values. Describe everyday uses of neutralisation. Explain how a neutral solution can be obtained and relate the pH of an acid or alkali to its hazards and corrosiveness. Write the word equations for making salts (neutralisation).	Students have independently labelled the axis.
BC8	Scores 78%+ on the module 1 assessment. Identify and name features of cells and describe the differences between plant and animal cells. Make observations using a microscope and record them in detailed drawings.	Scores 78%+ on the module 2 assessment. Names all the parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus in detail. State the functions of key parts of the reproductive system.	Scores 78%+ on the module 3 assessment. Name the planets in order. Know why we have day and night. Know the path of the sun through the sky during a day. Describe the phases of the moon.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student explains how each variable will be controlled and how it will

Describe the differences between tissues, organs and organ systems, giving examples of each.

Explain how muscles work in pairs to create movement.

Describe how some cells in an organism are specialised to carry out particular functions. Explain why multi-cellular organisms need a transport system.

Classify materials as solid, liquid or gas and recognise that materials are made out of particles.

Describe how solids, liquids and gases change from one state to another.

State what diffusion is

Explain what happens to water molecules during changing of state.

Understand what causes gas pressure. Use the particle mode to classify materials as solids, liquids or gases and explain the classification of some 'difficult materials'.

Describe examples of diffusion.

Explain expansion and contraction in terms of particles.

State the original source of our energy.

State the units for energy.

Give examples of energy stores.

Describe an energy transfer.

Describe the difference between renewable and non-renewable energy sources.

Evaluate the advantages and disadvantages of renewable energy resources.

Evaluate the advantages and disadvantages of non-renewable energy sources.

Identify circuit components by their symbols.

Represent circuits with a diagram.

Identify several ways to be safe around electricity.

Investigate and fix some faulty circuits.

Describe the role of the placenta, umbilical cord and amniotic sac.

Describe the different plant tissues and how they are needed for reproduction.

Explain the importance of plant pollination. Using the particle model, classify materials as solid, liquid or gas.

Classify materials as solid, liquid or gas and recognise that materials are made of particles.

Name as many soluble and insoluble solids; describe how pure water can be obtained from sea water.

Explain how temperature effects solubility. Define the term 'saturation'.

Use the particle model to explain a range of phenomena.

To identify the difference between physical and chemical reactions.

Predict the products of the combustion or thermal decomposition of a given reactant and show the reaction as a word equation. Use particle diagrams to show what happens in a reaction where mass is conserved. To identify an unknown gas using gas tests for hydrogen, oxygen and carbon dioxide. Explain why a reaction is an example of

thermal decomposition.

Describe the appearance of planets or moons from diagrams showing their position in relation to the Earth and Sun.

Explain why places on the Earth experience different daylight hours and amounts of sunlight during the year.

Explain the choice of particular units for measuring distance.

Explain why the Earth can support life. Identify contact and non-contact forces.

Describe the relationship between weight, mass and gravity.

Describe and give examples of friction.

Describe what a gravitational field is.

Explain how to reduce friction.

Describe elasticity in terms of tension

Describe elasticity in terms of tension and compression.

Describe the term equilibrium.

Explain a linear relationship between two variables when drawn on a graph.

Explain Hooke's law.

Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors.

Identify the need for animals to adapt to their environment.

Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments.

Recognise that inherited and environmental causes of variation cannot be completely separated.

affect the results if it was not controlled

Student explains why the data collection method they have chosen is the best for giving reproducible and precise results.

Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings.

Student has said to repeat each experiment at least 3 times to get valid results. If repeat are not appropriate, student has explained why.

If repeats were recorded, a mean value has been calculated.
Student has identified anomalous results and has <u>not</u> included them when calculating the mean values.
Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts.

	Compare and contrast series and parallel		Explain what might happen if the	
	circuits.		environment changes and how this	
	Describe what electrical current is.		might affect living things.	
	Use an ammeter correctly to measure current		Name some common acids and alkalis	
	in a circuit.		stating some everyday uses. Describe	
	Define resistance.		some hazards of acids and alkalis	
			Describe how to deal with hazards.	
			Classify solutions using indicators and	
			pH values.	
			Describe everyday uses of	
			neutralisation.	
			Explain how a neutral solution can be	
			obtained and relate the pH of an acid	
			or alkali to its hazards and	
			corrosiveness.	
			Write the word equations for making	
			salts (neutralisation).	
	Scores 63%+ on the module 1 assessment. Identify and name features of cells and	Scores 63%+ on the module 2 assessment. Names all the common parts of the male	Scores 63%+ on the module 3 assessment.	Identifies all key variables, all steps in a practical are sequenced in a logical
BC7	describe the differences between plant and	and female reproductive system.	Name the planets in order.	order. Results are recorded in a
	animal cells.	Know the length of pregnancy and describe	Know why we have day and night.	suitable table and all units are
	Make observations using a microscope and	the changes in the foetus in detail.	Know the path of the sun through the	correct.
	record them in detailed drawings.	State the functions of key parts of the	sky during a day.	Student explains how each variable
	Describe the differences between tissues,	reproductive system.	Describe the phases of the moon.	will be controlled and how it will
	organs and organ systems, giving examples of	Describe the role of the placenta, umbilical	Describe the appearance of planets or	affect the results if it was not
	each.	cord and amniotic sac.	moons from diagrams showing their	controlled.
	Explain how muscles work in pairs to create	Describe the different plant tissues and how	position in relation to the Earth and	Student has constructed the table
	movement.	they are needed for reproduction.	Sun.	independently. No support has been
	Describe how some cells in an organism are	Explain the importance of plant pollination.	Explain why places on the Earth	given with regards to working out
	specialised to carry out particular functions.	Using the particle model, classify materials	experience different daylight hours	number of rows or columns or
	Explain why multi-cellular organisms need a	as solid, liquid or gas.	and amounts of sunlight during the	labelling headings.
	transport system.	Classify materials as solid, liquid or gas and	year.	Student has said to repeat each
	Classify materials as solid, liquid or gas and	recognise that materials are made of	Explain the choice of particular units	experiment at least 3 times to get
	recognise that materials are made out of	particles.	for measuring distance.	valid results. If repeat are not
	particles.	Name as many soluble and insoluble solids;	Explain why the Earth can support life.	appropriate, student has explained
	Describe how solids, liquids and gases change	describe how pure water can be obtained	Identify contact and non-contact	why.
	from one state to another.	from sea water.	forces.	If repeats were recorded, a mean
	State what diffusion is.	Explain how temperature effects solubility.	Describe the relationship between	value has been calculated.
		Define the term 'saturation'.	weight, mass and gravity.	

Explain what happens to water molecules during changing of state.

Understand what causes gas pressure.

Use the particle mode to classify materials as solids, liquids or gases and explain the classification of some 'difficult materials'.

Describe examples of diffusion.

Explain expansion and contraction in terms of particles.

State the original source of our energy.

State the units for energy.

Give examples of energy stores.

Describe an energy transfer.

Describe the difference between renewable and non-renewable energy sources.

Evaluate the advantages and disadvantages of renewable energy resources.

Evaluate the advantages and disadvantages of non-renewable energy sources.

Identify circuit components by their symbols. Represent circuits with a diagram.

Identify several ways to be safe around

electricity.

Investigate and fix some faulty circuits. Compare and contrast series and parallel circuits.

Describe what electrical current is.

Use an ammeter correctly to measure current in a circuit.

Define resistance.

Use the particle model to explain a range of phenomena.

To identify the difference between physical and chemical reactions.

Identify when a chemical reaction is happening.

Describe the equation for combustion.

Describe thermal decomposition and give the reactants and show the reaction as a word equation.

Use particle diagrams to show what happens in a reaction where mass is conserved.

To describe the gas tests for hydrogen, carbon dioxide and oxygen.

Explain why a reaction is an example of thermal decomposition.

Describe and give examples of friction. Describe what a gravitational field is. Explain how to reduce friction.

Describe elasticity in terms of tension and compression.

Describe the term equilibrium. Explain a linear relationship between two variables when drawn on a graph. Explain Hooke's law.

Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors.

Identify the need for animals to adapt to their environment.

Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments.

Recognise that inherited and environmental causes of variation cannot be completely separated. Explain what might happen if the environment changes and how this might affect living things.

Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values.

Describe everyday uses of neutralisation.

Explain how a neutral solution can be obtained and relate the pH of an acid or alkali to its hazards and corrosiveness.

Write the word equations for making salts (neutralisation).

Student has identified anomalous results and has <u>not</u> included them when calculating the mean values. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts.

Scores 57%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells.

Make observations using a microscope and record them in simple drawings.

Describe the differences between tissues, organs and organ systems, giving examples of each.

Explain how muscles work in pairs to create movement.

Describe how some cells in an organism are specialised to carry out particular functions. Explain why multi-cellular organisms need a transport system.

Classify materials as solid, liquid or gas and recognise that materials are made out of particles.

Describe how solids, liquids and gases change from one state to another.

State what diffusion is.

Explain what happens to water molecules during changing of state.

Understand what causes gas pressure. Use the particle mode to classify materials as solids, liquids or gases and explain the classification of some 'difficult materials'. State the original source of our energy. State the units for energy.

Give examples of energy stores.

Describe an energy transfer.

Describe the difference between renewable and non-renewable energy sources.

Evaluate the advantages and disadvantages of renewable energy resources.

Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity Investigate and fix some faulty circuits. Scores 57%+ on the module 2 assessment. Names all the common parts of the male and female reproductive system.

Know the length of pregnancy and describe the changes in the foetus in detail.

State the functions of key parts of the reproductive system.

Describe the role of the placenta, umbilical cord and amniotic sac.

Describe the different plant tissues and how they are needed for reproduction.

Explain the importance of plant pollination. Using the particle model, classify materials as solid, liquid or gas.

Classify materials as solid, liquid or gas and recognise that materials are made of particles.

Name some soluble and insoluble solids; describe how pure water can be obtained from sea water.

Explain how temperature effects solubility. Define the term 'saturation'.

Use the particle model to explain a range of phenomena.

To identify the difference between physical and chemical reactions.

Identify when a chemical reaction is happening

Describe the equation for combustion. Describe thermal decomposition and give the reactants and show the reaction as a word equation.

Describe why mass is conserved in a chemical reaction.

To describe the gas tests for hydrogen, carbon dioxide and oxygen.

Scores 57%+ on the module 3 assessment.

Name the planets in order. Know why we have day and night Know the path of the sun through the sky during a day.

Describe the phases of the moon. Describe the appearance of planets or moons from diagrams showing their position in relation to the Earth and Sun.

Explain why places on the Earth experience different daylight hours and amounts of sunlight during the year.

Identify contact and non-contact forces.

Describe the relationship between weight, mass and gravity. Describe and give examples of friction.

Describe what a gravitational field is. Explain how to reduce friction.

Describe elasticity in terms of tension and compression.

Describe the term equilibrium. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors.

Identify the need for animals to adapt to their environment.

Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different

environments.

Recognise that inherited and environmental causes of variation

cannot be completely separated.

Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings.

Student has said to repeat each experiment at least 3 times to get valid results. If repeat are not appropriate, student has explained why.

If repeats were recorded, a mean value has been calculated.

Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts.

	Compare and contrast series and parallel circuits. Describe what electrical current is Use an ammeter correctly to measure current in a circuit. Define resistance.		Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values. Describe everyday uses of neutralisation. Explain how a neutral solution can be obtained and relate the pH of an acid or alkali to its hazards and corrosiveness.	
BC!	Scores 42%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings. Describe the differences between tissues, organs and organ systems, giving examples of each. Explain how muscles work in pairs to create movement. Describe how some cells in an organism are specialised to carry out particular functions. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is. Explain what happens to water molecules during changing of state. Understand what causes gas pressure. State the original source of our energy. State the units for energy. Give examples of energy stores. Describe an energy transfer.	Scores 42%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus. State the functions of key parts of the reproductive system. Describe the role of the placenta, umbilical cord and amniotic sac. Describe the different plant tissues and how they are needed for reproduction. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name some soluble and insoluble solids; describe how pure water can be obtained from sea water. Explain how temperature effects solubility. Define the term 'saturation'. Describe what electrical current is. To identify the difference between physical and chemical reactions. Identify when a chemical reaction is happening. Describe combustion.	Scores 42%+ on the module 3 assessment. Name the planets in order. Know why we have day and night. Know the path of the sun through the sky during a day. Describe the phases of the moon. Describe the appearance of planets or moons from diagrams showing their position in relation to the Earth and Sun. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Explain how to reduce friction. Describe elasticity in terms of tension and compression. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis. Repeats have been made if this was appropriate.

	Describe the difference between renewable and non-renewable energy sources. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity Investigate and fix some faulty circuits. Compare and contrast series and parallel circuits.	Describe thermal decomposition and give the reactants and show the reaction as a word equation. Know that mass is conserved in a chemical reaction To describe the gas tests for hydrogen, carbon dioxide and oxygen.	Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments. Recognise that inherited and environmental causes of variation cannot be completely separated. Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values. Describe everyday uses of neutralisation.	
BC4	Scores 33%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings. Describe the differences between tissues, organs and organ systems, giving examples of each. Explain how muscles work in pairs to create movement. Name the planets in order. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. Describe how solids, liquids and gases change from one state to another. State what diffusion is. Explain what happens to water molecules during changing of state. State the original source of our energy. State the units for energy. Give examples of energy stores. Describe an energy transfer.	Scores 33%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus. State the functions of key parts of the reproductive system. Describe the role of the placenta, umbilical cord and amniotic sac. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name some soluble and insoluble solids; describe how pure water can be obtained from sea water. Explain how temperature effects solubility. To identify the difference between physical and chemical reactions. Identify when a chemical reaction is happening. Describe combustion. Describe thermal decomposition.	scores 33%+ on the module 3 assessment. Know why we have day and night. Know the path of the sun through the sky during a day. Describe the phases of the moon. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Explain how to reduce friction. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Identify similarities and differences between predators and prey. Give examples of adaptations of animals and plants in different environments.	Uses the correct terms for independent and dependent variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and units in at least one column are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis.

	Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity Investigate and fix some faulty circuits. Compare and contrast series and parallel circuits.	Know that mass is conserved in a chemical reaction. Conduct the gas tests for hydrogen, carbon dioxide and oxygen.	Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards. Classify solutions using indicators and pH values.	
всз	Scores 25%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings. Describe the differences between tissues, organs and organ systems, giving examples of each. Classify materials as solid, liquid or gas and recognise that materials are made out of particles Describe how solids, liquids and gases change from one state to another. State what diffusion is. State the original source of our energy. State the units for energy. Give examples of energy stores. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity Investigate and fix some faulty circuits.	Scores 25%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus. State the functions of key parts of the reproductive system. Using the particle model, classify materials as solid, liquid or gas. Classify materials as solid, liquid or gas and recognise that materials are made of particles. Name some soluble and insoluble solids; describe how pure water can be obtained from sea water. To identify the difference between physical and chemical reactions. Identify when a chemical reaction is happening. Describe combustion. Know that mass is conserved in a chemical reaction.	assessment. Name the planets in order. Know why we have day and night. Know the path of the sun through the sky during a day. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction. Describe what a gravitational field is. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Identify similarities and differences between predators and prey. Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis Describe how to deal with hazards.	Can identify all key variables, lists all equipment in a practical confidently, can identify all the hazards in an experiment, results are in a table and units are correct and can plot a line graph and bar chart with little guidance.
BC2	Scores 18%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Make observations using a microscope and record them in simple drawings. Classify materials as solid, liquid or gas and recognise that materials are made out of particles.	Scores 18%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Know the length of pregnancy and describe the changes in the foetus. Using the particle model, classify materials as solid, liquid or gas.	Scores 18%+ on the module 3 assessment. Name the planets in order. Know why we have day and night. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Describe and give examples of friction.	Can identify two or more variables, can list equipment in an experiment confidently, identifies two or more hazards in an experiment, can add units in a results table, plot points on a graph and draw bars in a bar chart with some guidance.

	Describe how solids, liquids and gases change from one state to another. State the original source of our energy. Identify circuit components by their symbols. Represent a simple circuit with a diagram. Identify ways to be safe around electricity.	Classify materials as solid, liquid or gas and recognise that materials are made of particles. To identify the difference between physical and chemical reactions. Identify when a chemical reaction is happening. Describe combustion.	Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Identify the need for animals to adapt to their environment. Name some common acids and alkalis stating some everyday uses. Describe some hazards of acids and alkalis	
BC1	Scores 8%+ on the module 1 assessment. Identify and name features of cells and describe some differences between plant and animal cells. Classify materials as solid, liquid or gas and recognise that materials are made out of particles. State the original source of our energy. Identify circuit components by their symbols. Represent a simple circuit with a diagram.	Scores 8%+ on the module 2 assessment. Names the common parts of the male and female reproductive system. Using the particle model, classify materials as solid, liquid or gas. To identify the difference between physical and chemical reactions. Identify when a chemical reaction is happening. Recognise the combustion reaction.	Scores 8%+ on the module 3 assessment. Name the planets in order. Identify contact and non-contact forces. Describe the relationship between weight, mass and gravity. Identify similarities and differences in organisms of the same species and attribute these to environmental or inherited factors. Name some common acids and alkalis stating some everyday uses.	Can identify one variable to control, can list equipment in experiments, can identify one hazard during a practical, can fill in a results table and plot points on a graph with guidance.

Y8	Term 1: Digestion Daltons Atomic theory Speed Breathing and respiration	Term 2: Earth's resources Earth structure Periodic table Energy	Term 3: Sound Light Ecosystems and habitats Materials	Working scientifically: skills in science
вс9				
BC8				
ВС7				
BC6				
BC5	Scores 75%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Use the periodic table to determine the number of sub atomic particles. Know the difference between elements, compounds and mixtures. Describe how insoluble solids can be separated from a liquid. Explain what happens to mass in a chemical reaction. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large	Scores 75%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred. To write word equations. Explain how metals are extracted from their ores using the reactivity series. Explain why recycling of materials is important. State what the periodic table is Know the similarities of elements in the same group.	Scores 75%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. Explain that sound waves cause our eardrums to vibrate and this enables us to hear. Recognise that sound cannot travel through a vacuum. State what is transferred in a wave. Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is State the law of reflection. Describe a relationship between the angle of refraction and the angle of incidence.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts.

molecules are broken down during digestion.

Describe the role of blood in transporting products of digestion around the body. Name some groups of nutrients and identify some examples of foods in which they are found.

Describe a balanced diet.

Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed.

Show what constant speed looks like on a distance-time graph.

Categorise scenarios into acceleration and deceleration.

Illustrate a journey with changing speed on a distance-time graph, and label changes in motion.

Describe the effect of exercise on heart rate and breathing rate.

Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply.

Identify similarities in aerobic respiration in plants and animals.

Recognise the differences in anaerobic respiration in animals and yeast.

Describe the difference between inhaled and exhaled air.

Write down symbols on the periodic table. Distinguish between elements, compounds and mixtures.

Write word equations.

To be able to draw the electronic structure for the first 10 elements.

Compare the terms heat and temperature.

Define evaporation and condensation.

Define expansion and contraction in materials.

Describe applications of expansion of solids, liquids and gases.

Describe a practical you can do to demonstrate what the best conducting material is.

Describe conduction, convection and radiation.

Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes.

Explain minerals as chemicals that rocks are made from.

Explain erosion as weathering of rock and its movement by water, ice or wind (transportation).

Explain why a rock has a particular property based on how it was formed.

Identify the causes of weathering and erosion and describe how they occur.
Construct a labelled diagram to identify the processes of the rock cycle.

Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions.

Describe the effect on removing an organism from a food web.

Recognise that the abundance and distribution of organisms is different in different habitats.

To know how polymers are made.

Collect data to estimate the population of target species on the school field.

To describe the properties of metal oxides.

To describe objects that are either ceramics or composites.

Students have independently labelled the

Repeats have been made if this was appropriate.

Scores 60%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Use the periodic table to determine the number of sub atomic particles.

Know the difference between elements, compounds and mixtures.

Describe how insoluble solids can be separated from a liquid.

Describe what happens to mass in a chemical reaction.

Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body.

Use a model to describe how large molecules are broken down during digestion.

Describe the role of blood in transporting products of digestion around the body. Name some groups of nutrients and identify some examples of foods in which they are found.

Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed.

Show what constant speed looks like on a distance-time graph.

Categorise scenarios into acceleration and deceleration.

Describe the effect of exercise on heart rate and breathing rate.

Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply.

Identify similarities in aerobic respiration in plants and animals.

Recognise the differences in anaerobic respiration in animals and yeast.

Scores 60%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose.

Describe and classify a resource as finite or renewable.

To explain why some metals are found in their ore and some are native.

To predict if a displacement reaction has occurred.

To write word equations.

Describe how metals are extracted from their ores using the reactivity series. State what the periodic table is.

Know the similarities of elements in the same group.

Write down symbols on the periodic table. Distinguish between elements, compounds and mixtures.

To be able to draw the electronic structure for the first 10 elements.

Compare the terms heat and temperature.

Define evaporation and condensation.

Define expansion and contraction in materials.

Describe applications of expansion of solids, liquids and gases.

Describe conduction, convection and radiation.

Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes.

Explain minerals as chemicals that rocks are made from.

Scores 60%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves.

Explain that sound waves cause our eardrums to vibrate and this enables us to hear.

State what is transferred in a wave.

Identify whether objects are transparent, translucent or opaque.

Describe how light travels.

Be able to explain what reflection is. State the law of reflection.

Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions.

Describe the effect on removing an organism from a food web.

Recognise that the abundance and distribution of organisms is different in different habitats.

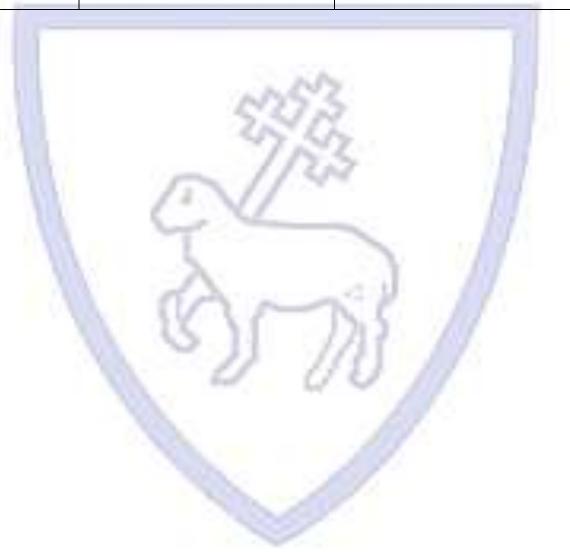
To describe the properties of metal oxides. To know how polymers are made. To describe objects that are either ceramics or composites. Uses the correct terms for independent and dependent variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and units in at least one column are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings.

Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts. Students have independently labelled the axis.

		Explain erosion as weathering of rock and its movement by water, ice or wind (transportation). Explain why a rock has a particular property based on how it was formed. Identify the causes of weathering and erosion and describe how they occur.		
всз	Scores 45%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Know the difference between elements, compounds and mixtures. Describe how insoluble solids can be separated from a liquid. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion. Describe the role of blood in transporting products of digestion around the body. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply. Identify similarities in aerobic respiration in plants and animals.	Scores 45%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred. State what the periodic table is. Know the similarities of elements in the same group. Write down symbols on the periodic table. Compare the terms heat and temperature. Define evaporation and condensation. Define expansion and contraction in materials. Describe conduction, convection and radiation. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from. Explain erosion as weathering of rock and its movement by water, ice or wind (transportation).	Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. State what is transferred in a wave. Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is. Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. Describe the effect on removing an organism from a food web. To know how polymers are made. To describe objects that are either ceramics or composites.	Can identify all key variables, lists all equipment in a practical confidently, can identify all the hazards in an experiment, results are in a table and units are correct and can plot a line graph and bar chart with little guidance.

		Explain why a rock has a particular property		
		based on how it was formed.		
	Scores 30%+ on the module 1 assessment.	Scores 30%+ on the module 2 assessment.	Scores 30%+ on the module 3 assessment.	Can identify two or more
DC3	To identify elements in the periodic table.	To be able to identify the most suitable	Relate changes in pitch and loudness of	variables, can list equipment
BC2	To describe the structure of the atom.	material for the purpose.	making sounds to changes in vibrations.	in an experiment
	Describe an elements, compounds and	Define a resource as finite or renewable.	Define evaporation and condensation.	confidently, identifies two or
	mixtures.	To describe why some metals are found in	State what is transferred in a wave.	more hazards in an
	Name nutrients, fibre and water as part of	their ore and some are native.	Identify whether objects are transparent,	experiment, can add units in
	a balanced diet, identifying examples of	State what the periodic table is.	translucent or opaque.	a results table, plot points
	food in which they are found and describe	Know the similarities of elements in the	Describe how light travels.	on a graph and draw bars in
	the role of each in the body.	same group.	Identify and name organisms found in a	a bar chart with some
	Use a model to describe how large	Compare the terms heat and temperature.	particular habitat and describe how they are	guidance.
	molecules are broken down during	Sedimentary, igneous and metamorphic	adapted to the environmental conditions.	
	digestion.	rocks can be interconverted over millions of	To know how polymers are made.	
	Use the formula: speed = distance	years through weathering and erosion, heat	To describe objects that are either ceramics	
	(m)/time (s) or distance-time graphs, to	and pressure, and melting and cooling.	or composites.	
	calculate speed.	The three rock layers inside Earth are the	100	
	Describe the effect of exercise on heart	crust, the mantle, and the core.	All	
	rate and breathing rate.	Explain weathering as the wearing down of	107	
	Describe aerobic respiration as a reaction	rock by physical, chemical or biological		
	with oxygen and describe effects of	processes.		
	inadequate oxygen supply.	Explain minerals as chemicals that rocks are	- 1 ///	
	100	made from.	42.14 - CM	
	(7)	Explain erosion as weathering of rock and its	C P A	
		movement by water, ice or wind	5.5	
		(transportation).	71 d. 100	
	Scores 15%+ on the module 1 assessment.	Scores 15%+ on the module 2 assessment.	Scores 15%+ on the module 3 assessment.	Can identify one variable to
BC1	To identify elements in the periodic table.	To be able to identify the most suitable	Relate changes in pitch and loudness of	control, can list equipment
PCI	To describe the structure of the atom.	material for the purpose.	making sounds to changes in vibrations.	in experiments, can identify
	Describe an elements, compounds and	Define a resource as finite or renewable.	State what is transferred in a wave.	one hazard during a
	mixtures.	To describe what a metal ore is.	Identify whether objects are transparent,	practical, can fill in a results
	Name nutrients, fibre and water as part of	State what the periodic table is.	translucent or opaque.	table and plot points on a
	a balanced diet, identifying examples of	Compare the terms heat and temperature.	Describe how light travels.	graph with guidance.
	food in which they are found and describe	Sedimentary, igneous and metamorphic	Identify and name organisms found in a	
	the role of each in the body.	rocks can be interconverted over millions of	particular habitat and describe how they are	
	State what the periodic table is.	years through weathering and erosion, heat	adapted to the environmental conditions.	
	Use the formula: speed = distance	and pressure, and melting and cooling.	To identify some polymers.	
	(m)/time (s) or distance-time graphs, to	The three rock layers inside Earth are the	To describe objects that are either ceramics	
	calculate speed.	crust, the mantle, and the core.	or composites.	

Describe the effect of exercise on heart	Explain weathering as the wearing down of	
rate and breathing rate.	rock by physical, chemical or biological	
	processes.	
	Explain minerals as chemicals that rocks are	
	made from.	



Y8	Term 1: Digestion Daltons Atomic theory Speed Breathing and respiration	Term 2: Earth's resources Earth structure Periodic table Energy	Term 3: Sound Light Ecosystems and habitats Materials	Working scientifically: skills in science
всэ	Scores 90%+ on the module 1 assessment. To identify elements in the periodic table. To describe the subatomic particles and charges. Determine the number of subatomic particles. Apply knowledge of elements, compounds and mixtures. To use balanced symbol equations. Calculate unknown masses of a reaction using the conservation of mass rule. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion. Describe the role of blood in transporting products of digestion around the body. Name some groups of nutrients and identify some examples of foods in which they are found. Describe a balanced diet. Recognise that blood transports products of digestion around the body. Explain why some nutrients have to be broken down before they can be used by the body and why some foods cannot be digested by humans. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph.	Scores 90%+ on the module 2 assessment. To be able to compare different materials and identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable. To explain why some metals are found in their ore and some are native. To predict if a displacement reaction has occurred and what the products are. To write word and symbol equations. Explain how metals are extracted from their ores using the reactivity series Explain why recycling of materials is important. State what the periodic table is. Know the similarities of elements in the same group. Write down symbols on the periodic table. Distinguish between elements, compounds and mixtures. Balance chemical equations. Explain why we balance equations. Explain mass changes that occur in chemical reactions. To be able to draw the electronic structure for the first 20 elements.	Scores 90%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves. Explain that sound waves cause our eardrums to vibrate and this enables us to hear. Recognise that sound cannot travel through a vacuum. Suggest the effect of particular ear problems on a person's hearing. Use the particle theory to explain how sound travels through or is absorbed by different. State what is transferred in a wave Identify whether objects are transparent, translucent or opaque. Describe how light travels. Be able to explain what reflection is State the law of reflection. Describe a relationship between the angle of refraction and the angle of incidence. Identify the colours of the spectrum that are visible during dispersion. Be able to identify some common uses for lenses.	Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student explains how each variable will be controlled and how it will affect the results if it was not controlled. Student explains why the data collection method they have chosen is the best for giving reproducible and precise results. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings. Student has said to repeat each experiment at least 3 times to get valid results. If repeat are not appropriate, student has explained why. If repeats were recorded, a mean value has been calculated. Student has identified anomalous results and has not included them when calculating the mean values. Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts.

Categorise scenarios into acceleration and deceleration.

Illustrate a journey with changing speed on a distance-time graph, and label changes in motion.

Suggest how the motion of two objects moving at different speeds in the same direction would appear to the other

Predict changes in an object's speed when the forces on it change.

Describe the effect of exercise on heart rate and breathing rate.

Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply.

Identify similarities in aerobic respiration in plants and animals.

Recognise the differences in anaerobic respiration in animals and yeast.

Describe the difference between inhaled and exhaled air.

Represent the process of aerobic respiration as a word and/symbol equation and identify similarities with the burning of fuels.

Describe the features of the alveoli and explain how damaged alveoli result in less gas exchange. Compare the terms heat and temperature.

Define evaporation and condensation. Define expansion and contraction in materials.

Describe applications of expansion of solids, liquids and gases.

Describe a practical you can do to demonstrate what the best conducting material is.

Describe how a vacuum flask works.

Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes.

Explain minerals as chemicals that rocks are made from.

Explain erosion as weathering of rock and its movement by water, ice or wind (transportation).

Explain why a rock has a particular property based on how it was formed. Identify the causes of weathering and erosion and describe how they occur. Construct a labelled diagram to identify the processes of the rock cycle. Identify circumstances that indicate fast processes of change on Earth and those that indicate slower processes. Predict planetary conditions from descriptions of rocks on other planets.

Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions.

Describe the effect on removing an organism from a food web.

Recognise that the abundance and distribution of organisms is different in different habitats.

Collect data to estimate the population of target species on the school field. Explain how pyramids of biomass represent feeding relationships in a habitat.

Explain how bioaccumulation of chemicals can occur in food chains. To balance a symbol equation. To predict the names of compounds made when metal and non metals react.

To describe the properties of metal oxides.

To know how polymers are made and the difference between a monomer and polymer.

To describe how ceramics and composites are made.

Scores 78%+ on the module 1 assessment.
To identify elements in the periodic table.
To describe the subatomic particles and charges.
Determine the number of subatomic particles.
Explain the difference between elements, compounds and mixtures.

To use balanced symbol equations.

Calculate unknown masses of a reaction using the conservation of mass rule.

Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body.

Use a model to describe how large molecules are broken down during digestion.

Describe the role of blood in transporting products of digestion around the body.

Name some groups of nutrients and identify some examples of foods in which they are found.

Describe a balanced diet.

Recognise that blood transports products of digestion around the body.

Explain why some nutrients have to be broken down before they can be used by the body and why some foods cannot be digested by humans. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph.

Categorise scenarios into acceleration and deceleration.

Illustrate a journey with changing speed on a distance-time graph, and label changes in motion.

Suggest how the motion of two objects moving at different speeds in the same direction would appear to the other.

Predict changes in an object's speed when the forces on it change.

Scores 78%+ on the module 2 assessment.

To be able to compare different materials and identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable.

To explain why some metals are found in their ore and some are native.

To predict if a displacement reaction has occurred and what the products are.

To write word and symbol equations. Explain how metals are extracted from their ores using the reactivity series Explain why recycling of materials is important.

Know the similarities of elements in the same group.

Write down symbols on the periodic table.

Distinguish between elements, compounds and mixtures.

Balance chemical equations.

Explain why we balance equations. Explain mass changes that occur in chemical reactions.

To be able to draw the electronic structure for the first 20 elements.

Compare the terms heat and temperature.

Define evaporation and condensation. Define expansion and contraction in materials.

Describe applications of expansion of solids, liquids and gases.

Describe a practical you can do to demonstrate what the best conducting material is.

Describe how a vacuum flask works.

Scores 78%+ on the module 3 assessment.

Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves.

Explain that sound waves cause our eardrums to vibrate and this enables us to hear.

Recognise that sound cannot travel through a vacuum.

Suggest the effect of particular ear problems on a person's hearing.
Use the particle theory to explain how sound travels through or is absorbed by different materials.

State what is transferred in a wave Identify whether objects are transparent, translucent or opaque. Describe how light travels.

Be able to explain what reflection is State the law of reflection.

Describe a relationship between the angle of refraction and the angle of incidence.

Identify the colours of the spectrum that are visible during dispersion.

Be able to identify some common uses for lenses.

Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions.

Describe the effect on removing an organism from a food web.

Recognise that the abundance and distribution of organisms is different in different habitats.

Collect data to estimate the population of target species on the school field.

Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct.

Student explains how each variable will be controlled and how it will affect the results if it was not controlled.

Student explains why the data collection method they have chosen is the best for giving reproducible and precise results.

Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings.

Student has said to repeat each experiment at least 3 times to get valid results. If repeat are not appropriate, student has explained why.

If repeats were recorded, a mean value has been calculated.

Student has identified anomalous results and has <u>not</u> included them when calculating the mean values.

Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts.

Describe the effect of exercise on heart rate and breathing rate.

Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply.

Identify similarities in aerobic respiration in plants and animals.

Recognise the differences in anaerobic respiration in animals and yeast.

Describe the difference between inhaled and exhaled air.

Represent the process of aerobic respiration as a word and/symbol equation and identify similarities with the burning of fuels.

Describe the features of the alveoli and explain how damaged alveoli result in less gas exchange. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes.

Explain minerals as chemicals that rocks are made from.

Explain erosion as weathering of rock and its movement by water, ice or wind (transportation).

Explain why a rock has a particular property based on how it was formed. Identify the causes of weathering and erosion and describe how they occur. Construct a labelled diagram to identify the processes of the rock cycle. Identify circumstances that indicate fast processes of change on Earth and those that indicate slower processes. Predict planetary conditions from descriptions of rocks on other planets.

Explain how pyramids of biomass represent feeding relationships in a habitat.

Explain how bioaccumulation of chemicals can occur in food chains.
To balance a symbol equation.
To predict the names of compounds

made when metal and non metals react.

To describe the properties of metal oxides.

To know how polymers are made and the difference between a monomer and polymer.

To describe how ceramics and composites are made.

BC7

Scores 63%+ on the module 1 assessment.
To identify elements in the periodic table.
To describe the subatomic particles and charges.
Determine the number of subatomic particles.
Explain the difference between elements,
compounds and mixtures.

To use word and symbol equations. Explain what happens to mass in a chemical reaction using data.

Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body.

Scores 63%+ on the module 2 assessment.

To be able to compare different materials and identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable.

To explain why some metals are found in their ore and some are native.

To predict if a displacement reaction has occurred and what the products are.

To write word and symbol equations.

Scores 63%+ on the module 3 assessment.

Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves.

Explain that sound waves cause our eardrums to vibrate and this enables us to hear.

Recognise that sound cannot travel through a vacuum.

Suggest the effect of particular ear problems on a person's hearing.

Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct.

Student explains how each variable will be controlled and how it will affect the results if it was not controlled.

Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings.

Student has said to repeat each

experiment at least 3 times to get valid

Use a model to describe how large molecules are broken down during digestion.

Describe the role of blood in transporting products of digestion around the body.

Name some groups of nutrients and identify some examples of foods in which they are found.

Describe a balanced diet.

Recognise that blood transports products of digestion around the body.

Explain why some nutrients have to be broken down before they can be used by the body and why some foods cannot be digested by humans.

Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph.

Categorise scenarios into acceleration and deceleration

Illustrate a journey with changing speed on a distance-time graph, and label changes in motion.

Suggest how the motion of two objects moving at different speeds in the same direction would appear to the other

Predict changes in an object's speed when the forces on it change.

Describe the effect of exercise on heart rate and breathing rate.

Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply.

Identify similarities in aerobic respiration in plants and animals.

Recognise the differences in anaerobic respiration in animals and yeast.

Describe the difference between inhaled and exhaled air.

Explain how metals are extracted from their ores using the reactivity series Explain why recycling of materials is important.

State what the periodic table is. Know the similarities of elements in the same group.

Write down symbols on the periodic table.

Distinguish between elements, compounds and mixtures.

Balance chemical equations.

Explain why we balance equations. Explain mass changes that occur in chemical reactions.

To be able to draw the electronic structure for the first 20 elements. Compare the terms heat and temperature.

Define evaporation and condensation. Define expansion and contraction in materials.

Describe applications of expansion of solids, liquids and gases.

Describe a practical you can do to demonstrate what the best conducting material is.

Describe how a vacuum flask works.

Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes.

Explain minerals as chemicals that rocks are made from.

Use the particle theory to explain how sound travels through or is absorbed by different materials.

State what is transferred in a wave Identify whether objects are transparent, translucent or opaque. Describe how light travels.

Be able to explain what reflection is State the law of reflection.

Describe a relationship between the angle of refraction and the angle of incidence.

Identify the colours of the spectrum that are visible during dispersion.

Be able to identify some common uses for lenses.

Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions.

Describe the effect on removing an organism from a food web.
Recognise that the abundance and

Recognise that the abundance and distribution of organisms is different in different habitats.

Collect data to estimate the population of target species on the school field. Explain how pyramids of biomass represent feeding relationships in a habitat.

Explain how bioaccumulation of chemicals can occur in food chains. To balance a symbol equation. To predict the names of compounds made when metal and non metals react.

To describe the properties of metal oxides.

results. If repeat are not appropriate, student has explained why.

If repeats were recorded, a mean value has been calculated.

Student has identified anomalous results and has <u>not</u> included them when calculating the mean values.

Students design their own scale on both axis for a bar chart or line graph.

Intervals on the scale increase by equal

	Represent the process of aerobic respiration as a	Explain erosion as weathering of rock	To know how polymers are made and	
	word and/symbol equation and identify	and its movement by water, ice or	the difference between a monomer	
	similarities with the burning of fuels.	wind (transportation).	and polymer.	
	Describe the features of the alveoli and explain	Explain why a rock has a particular	To describe how ceramics and	
	how damaged alveoli result in less gas exchange.	property based on how it was formed.	composites are made.	
		Identify the causes of weathering and		
		erosion and describe how they occur.		
		Construct a labelled diagram to identify		
		the processes of the rock cycle.		
		Identify circumstances that indicate		
		fast processes of change on Earth and		
		those that indicate slower processes.		
		Predict planetary conditions from		
		descriptions of rocks on other planets.		
	Scores 57%+ on the module 1 assessment.	Scores 57%+ on the module 2	Scores 57%+ on the module 3	Identifies all key variables, all steps in a
BC6	To identify elements in the periodic table.	assessment.	assessment.	practical are sequenced in a logical
DCO	To describe the subatomic particles and charges.	To be able to compare different	Relate changes in pitch and loudness of	order. Results are recorded in a suitable
	Determine the number of subatomic particles.	materials and identify the most	making sounds to changes in vibrations.	table and all units are correct. Student
	Explain the difference between elements,	suitable material for the purpose.	Explain how sound travels in	has constructed the table
	compounds and mixtures.	Describe and classify a resource as	longitudinal waves.	independently. No support has been
	To use word equations.	finite or renewable.	Explain that sound waves cause our	given with regards to working out
	Explain what happens to mass in a chemical	To explain why some metals are found	eardrums to vibrate and this enables us	number of rows or columns or labelling
	reaction.	in their ore and some are native.	to hear.	headings.
	Name nutrients, fibre and water as part of a	To predict if a displacement reaction	Recognise that sound cannot travel	Student has said to repeat each
	balanced diet, identifying examples of food in	has occurred.	through a vacuum.	experiment at least 3 times to get valid
	which they are found and describe the role of	To write word equations.	Suggest the effect of particular ear	results. If repeat are not appropriate,
	each in the body.	Explain how metals are extracted from	problems on a person's hearing.	student has explained why.
	Use a model to describe how large molecules are	their ores using the reactivity series	State what is transferred in a wave	If repeats were recorded, a mean value
	broken down during digestion.	Explain why recycling of materials is	Identify whether objects are	has been calculated.
	Describe the role of blood in transporting	important.	transparent, translucent or opaque.	Students design their own scale on both
	products of digestion around the body.	State what the periodic table is.	Describe how light travels.	axis for a bar chart or line graph.
	Name some groups of nutrients and identify	Know the similarities of elements in	Be able to explain what reflection is	Intervals on the scale increase by equal
	some examples of foods in which they are	the same group.	State the law of reflection.	amounts.
	found.	Write down symbols on the periodic	Describe a relationship between the	Students have independently labelled
	Describe a balanced diet.	table.	angle of refraction and the angle of	the axis.
	Recognise that blood transports products of	Distinguish between elements,	incidence.	
	digestion around the body.	compounds and mixtures.	Identify the colours of the spectrum	
	Use the formula: speed = distance (m)/time (s)	Balance chemical equations.	that are visible during dispersion.	
	or distance-time graphs, to calculate speed.	Explain why we balance equations.	Identify and name organisms found in	

a particular habitat and describe how

Show what constant speed looks like on a distance-time graph.

Categorise scenarios into acceleration and deceleration.

Illustrate a journey with changing speed on a distance-time graph, and label changes in motion.

Suggest how the motion of two objects moving at different speeds in the same direction would appear to the other.

Describe the effect of exercise on heart rate and breathing rate.

Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply.

Identify similarities in aerobic respiration in plants and animals.

Recognise the differences in anaerobic respiration in animals and yeast.

Describe the difference between inhaled and exhaled air.

Represent the process of aerobic respiration as a word and/symbol equation and identify similarities with the burning of fuels.

To be able to draw the electronic structure for the first 10 elements.

Compare the terms heat and temperature.

Define evaporation and condensation. Define expansion and contraction in materials.

Describe applications of expansion of solids, liquids and gases.

Describe a practical you can do to demonstrate what the best conducting material is.

Describe the processes of conduction, convection and radiation.

Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes.

Explain minerals as chemicals that rocks are made from.

Explain erosion as weathering of rock and its movement by water, ice or wind (transportation).

Explain why a rock has a particular property based on how it was formed. Identify the causes of weathering and erosion and describe how they occur. Construct a labelled diagram to identify the processes of the rock cycle. Identify circumstances that indicate fast processes of change on Earth and those that indicate slower processes.

they are adapted to the environmental conditions.

Describe the effect on removing an organism from a food web.

Recognise that the abundance and distribution of organisms is different in different habitats.

Collect data to estimate the population of target species on the school field. Explain how pyramids of biomass represent feeding relationships in a habitat.

To predict the names of compounds. made when metal and non metals react.

To describe the properties of metal oxides.

To know how polymers are made and the difference between a monomer and polymer.

To describe the difference between ceramics and polymers.

Scores 42%+ on the module 1 assessment. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body.

Use a model to describe how large molecules are broken down during digestion.

Describe the role of blood in transporting products of digestion around the body.

Name some groups of nutrients and identify some examples of foods in which they are found.

Describe a balanced diet.

To identify elements in the periodic table.

To describe the structure of the atom.

Use the periodic table to determine the number of sub atomic particles.

Know the difference between elements, compounds and mixtures.

Describe how insoluble solids can be separated from a liquid.

Explain what happens to mass in a chemical reaction.

Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph.

Categorise scenarios into acceleration and deceleration.

Illustrate a journey with changing speed on a distance-time graph, and label changes in motion.

Describe the effect of exercise on heart rate and breathing rate.

Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply.

Identify similarities in aerobic respiration in plants and animals.

Scores 42%+ on the module 2 assessment.

To be able to identify the most suitable material for the purpose. Describe and classify a resource as finite or renewable.

To explain why some metals are found in their ore and some are native.

To predict if a displacement reaction has occurred.

To write word equations.

Explain how metals are extracted from their ores using the reactivity series. Explain why recycling of materials is important.

State what the periodic table is. Identify groups on the periodic table Know the similarities of elements in the same group.

Write down symbols on the periodic table.

Distinguish between elements, compounds and mixtures.

Write word equations.

To be able to draw the electronic structure for the first 10 elements.

Compare the terms heat and temperature.

Define evaporation and condensation. Define expansion and contraction in materials.

Describe applications of expansion of solids, liquids and gases.

Describe a practical you can do to demonstrate what the best conducting material is.

Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years

Scores 42%+ on the module 3 assessment.

Relate changes in pitch and loudness of making sounds to changes in vibrations. Explain how sound travels in longitudinal waves.

Explain that sound waves cause our eardrums to vibrate and this enables us to hear.

Recognise that sound cannot travel through a vacuum.

State what is transferred in a wave Identify whether objects are transparent, translucent or opaque. Describe how light travels.

Be able to explain what reflection is State the law of reflection.

Describe a relationship between the angle of refraction and the angle of incidence.

Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions.

Describe the effect on removing an organism from a food web.

Recognise that the abundance and distribution of organisms is different in

different habitats.
Collect data to estimate the population of target species on the school field.

To describe the properties of metal oxides.

To know how polymers are made. To describe objects that are either ceramics or composites. Identifies all key variables, all steps in a practical are sequenced in a logical order. Results are recorded in a suitable table and all units are correct. Student has constructed the table independently. No support has been given with regards to working out number of rows or columns or labelling headings

Students design their own scale on both axis for a bar chart or line graph. Intervals on the scale increase by equal amounts.

Students have independently labelled the axis.

Repeats have been made if this was appropriate.

	Recognise the differences in anaerobic	through weathering and erosion, heat		
	respiration in animals and yeast.	and pressure, and melting and cooling.		
	Describe the difference between inhaled and	The three rock layers inside Earth are		
	exhaled air.	the crust, the mantle, and the core.		
		Explain weathering as the wearing		
		down of rock by physical, chemical or		7
		biological processes.		
		Explain minerals as chemicals that		
		rocks are made from.	700	
		Explain erosion as weathering of rock		
		and its movement by water, ice or		
	No.	wind (transportation).	2 68	
		Explain why a rock has a particular	3	
	And the second	property based on how it was formed.	7.1	
		Identify the causes of weathering and	67.	
		erosion and describe how they occur.	5.0	
	100	Construct a labelled diagram to identify	7-4	
	303	the processes of the rock cycle.	100	
	Scores 33%+ on the module 1 assessment.	Scores 33%+ on the module 2	Scores 33%+ on the module 3	Uses the correct terms for independent
200	To identify elements in the periodic table.	assessment.	assessment.	and dependent variables, all steps in a
BC4	To describe the structure of the atom.	To be able to identify the most suitable	Relate changes in pitch and loudness of	practical are sequenced in a logical
	Use the periodic table to determine the number	material for the purpose.	making sounds to changes in vibrations.	order. Results are recorded in a suitable
	of sub atomic particles.	Describe and classify a resource as	Explain how sound travels in	table and units in at least one column
	Know the difference between elements,	finite or renewable.	longitudinal waves.	are correct. Student has constructed
	compounds and mixtures.	To explain why some metals are found	Explain that sound waves cause our	the table independently. No support
	Describe how insoluble solids can be separated	in their ore and some are native.	eardrums to vibrate and this enables us	has been given with regards to working
	from a liquid.	To predict if a displacement reaction	to hear.	out number of rows or columns or
	Describe what happens to mass in a chemical	has occurred.	State what is transferred in a wave.	labelling headings.
	reaction.	To write word equations.	Identify whether objects are	Students design their own scale on both
	Name nutrients, fibre and water as part of a	Describe how metals are extracted	transparent, translucent or opaque.	axis for a bar chart or line graph.
	balanced diet, identifying examples of food in	from their ores using the reactivity	Describe how light travels.	Intervals on the scale increase by equal
	which they are found and describe the role of	series.	Be able to explain what reflection is.	amounts.
	each in the body.	State what the periodic table is	State the law of reflection.	Students have independently labelled
	Use a model to describe how large molecules are	Identify groups on the periodic table.	Identify and name organisms found in	the axis.
	broken down during digestion.	Know the similarities of elements in	a particular habitat and describe how	
	Describe the role of blood in transporting	the same group.	they are adapted to the environmental	
	products of digestion around the body.	Write down symbols on the periodic	conditions.	
	Name some groups of nutrients and identify	table.	Describe the effect on removing an	
	some examples of foods in which they are	Distinguish between elements,	organism from a food web.	
	found.	compounds and mixtures.		

	Use the formula: speed = distance (m)/time (s)	Compare the terms heat and	Recognise that the abundance and	
	or distance-time graphs, to calculate speed.	temperature.	distribution of organisms is different in	
	Show what constant speed looks like on a	Define evaporation and condensation.	different habitats.	
	distance-time graph.	Define expansion and contraction in	To describe the properties of metal	
	Categorise scenarios into acceleration and	materials.	oxides.	
	deceleration.	Describe applications of expansion of	To know how polymers are made.	
	Describe the effect of exercise on heart rate and	solids, liquids and gases.	To describe objects that are either	
	breathing rate.	Sedimentary, igneous and	ceramics or composites.	
	Describe aerobic respiration as a reaction with	metamorphic rocks can be		
	oxygen and describe effects of inadequate	interconverted over millions of years		
	oxygen supply.	through weathering and erosion, heat		
	Identify similarities in aerobic respiration in	and pressure, and melting and cooling.		
	plants and animals.	The three rock layers inside Earth are		
	Recognise the differences in anaerobic	the crust, the mantle, and the core.		
	respiration in animals and yeast.	Explain weathering as the wearing		
		down of rock by physical, chemical or	5.0	
	100	biological processes.	P-6	
	300	Explain minerals as chemicals that	100	
	No.	rocks are made from.		
	The state of the s	Explain erosion as weathering of rock		
	100	and its movement by water, ice or	- 10	
	100	wind (transportation).		
	100	Explain why a rock has a particular		
	. 100	property based on how it was formed.	27.11 dill.	
	1.000	Identify the causes of weathering and		
		erosion and describe how they occur.	Decide the same	
	Scores 25%+ on the module 1 assessment.	Scores 25%+ on the module 2	Scores 25%+ on the module 3	Can identify all key variables, lists all
	To identify elements in the periodic table.	assessment.	assessment.	equipment in a practical confidently,
BC3	To describe the structure of the atom.	To be able to identify the most suitable	Relate changes in pitch and loudness of	can identify all the hazards in an
	Know the difference between elements,	material for the purpose.	making sounds to changes in vibrations.	experiment, results are in a table and
	compounds and mixtures.	Describe and classify a resource as	Explain how sound travels in	units are correct and can plot a line
	Describe how insoluble solids can be separated	finite or renewable.	longitudinal waves.	graph and bar chart with little guidance.
	from a liquid.	To explain why some metals are found	Explain why a rock has a particular	
	Name nutrients, fibre and water as part of a	in their ore and some are native.	property based on how it was formed.	
	balanced diet, identifying examples of food in	To predict if a displacement reaction	State what is transferred in a wave	
	which they are found and describe the role of	has occurred.	Identify whether objects are	
	each in the body.	State what the periodic table is.	transparent, translucent or opaque.	
	Use a model to describe how large molecules are	Identify groups on the periodic table.	Describe how light travels.	
	broken down during digestion.	Know the similarities of elements in	Be able to explain what reflection is	
	J. G.C. GOWII GUIIII GIBESTIOII.	the same group.	De able to explain what reflection is	
		and same broads		

	Describe the role of blood in transporting products of digestion around the body. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Show what constant speed looks like on a distance-time graph. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply. Identify similarities in aerobic respiration in plants and animals.	Write down symbols on the periodic table. Compare the terms heat and temperature. Define evaporation and condensation. Define expansion and contraction in materials. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. The three rock layers inside Earth are the crust, the mantle, and the core. Explain weathering as the wearing down of rock by physical, chemical or biological processes. Explain minerals as chemicals that rocks are made from. Explain erosion as weathering of rock and its movement by water, ice or wind (transportation).	Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. Describe the effect on removing an organism from a food web. To know how polymers are made. To describe objects that are either ceramics or composites.	
2	Scores 18%+ on the module 1 assessment. To identify elements in the periodic table. To describe the structure of the atom. Describe an elements, compounds and mixtures. Name nutrients, fibre and water as part of a balanced diet, identifying examples of food in which they are found and describe the role of each in the body. Use a model to describe how large molecules are broken down during digestion. Use the formula: speed = distance (m)/time (s) or distance-time graphs, to calculate speed. Describe the effect of exercise on heart rate and breathing rate. Describe aerobic respiration as a reaction with oxygen and describe effects of inadequate oxygen supply.	Scores 18%+ on the module 2 assessment. To be able to identify the most suitable material for the purpose. Define a resource as finite or renewable. To describe why some metals are found in their ore and some are native. State what the periodic table is. Know the similarities of elements in the same group. Compare the terms heat and temperature. Define evaporation and condensation. Sedimentary, igneous and metamorphic rocks can be interconverted over millions of years	Scores 18%+ on the module 3 assessment. Relate changes in pitch and loudness of making sounds to changes in vibrations. State what is transferred in a wave. Identify whether objects are transparent, translucent or opaque. Describe how light travels. Identify and name organisms found in a particular habitat and describe how they are adapted to the environmental conditions. To know how polymers are made. To describe objects that are either ceramics or composites.	Can identify two or more variables, can list equipment in an experiment confidently, identifies two or more hazards in an experiment, can add units in a results table, plot points on a graph and draw bars in a bar chart with some guidance.

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			through weathering and erosion, heat		
			and pressure, and melting and cooling.		
			The three rock layers inside Earth are		
			the crust, the mantle, and the core.		
			Explain weathering as the wearing		
			down of rock by physical, chemical or		
			biological processes.		
			Explain minerals as chemicals that		
			rocks are made from.	100	
		400	Explain erosion as weathering of rock		
			and its movement by water, ice or		
		100	wind (transportation).	2: 101	
		Scores 8%+ on the module 1 assessment.	Scores 8%+ on the module 2	Scores 8%+ on the module 3	Can identify one variable to control, can
	D.C.4	To identify elements in the periodic table.	assessment.	assessment.	list equipment in experiments, can
	BC1	To describe the structure of the atom.	To be able to identify the most suitable	Relate changes in pitch and loudness of	identify one hazard during a practical,
		Describe an elements, compounds and mixtures.	material for the purpose.	making sounds to changes in vibrations.	can fill in a results table and plot points
		Name nutrients, fibre and water as part of a	Define a resource as finite or	State what is transferred in a wave.	on a graph with guidance.
		balanced diet, identifying examples of food in	renewable.	Identify whether objects are	
		which they are found and describe the role of	To describe what a metal ore is.	transparent, translucent or opaque.	
		each in the body.	State what the periodic table is.	Describe how light travels.	
		Use the formula: speed = distance (m)/time (s)	Compare the terms heat and	Identify and name organisms found in	
		or distance-time graphs, to calculate speed.	temperature.	a particular habitat and describe how	
		Describe the effect of exercise on heart rate and	Sedimentary, igneous and	they are adapted to the environmental	
		breathing rate.	metamorphic rocks can be	conditions.	
			interconverted over millions of years	To identify a polymer.	
		. 40	through weathering and erosion, heat	To describe objects that are either	
			and pressure, and melting and cooling.	ceramics or composites.	
		73	The three rock layers inside Earth are	(// // // // // // // // // // // // //	
			the crust, the mantle, and the core.	121 111	
			Explain weathering as the wearing	////	
			down of rock by physical, chemical or	And .	
			biological processes.	607	
			Explain minerals as chemicals that	100	
			rocks are made from.	1000	

		Brockington Science Department Year 9- Core	
		Term 1 Magnetism and electromagnetism	Term 2 Inheritance and evolution
	, 0	Metals and non metals	Electricity
	Y9	Atmosphere	Energetics
В	C 9		
В	C8		
В	C7		
	CC		
В	C6	Scores 75%+ on the topic tests.	Scores 75%+ on the topic tests.
D	C 5	Justify the use of specific metals and non metals for different applications.	To define what is meant by variation.
В	C	Write word equations to show the reactions between metals and water and	To be able to explain what causes variation between individuals.
		metals and acid, and metals and oxygen. To write a word equation for a displacement reaction.	To describe the role of Franklin, Watson and Crick in the models we now use for the structure DNA.
		Describe metal oxide and salt reactions using word equations.	To determine how the number of chromosomes changes during cell division,
		To investigate how a metal carb <mark>onat</mark> e reacts with an acid.	production of sex cells and fertilisation. To apply knowledge of alleles and characteristics to determine phenotype and
		To describe a metal hydroxide and an acid as a neutralisation reaction.	genotype of an organism.
		State what rusting is.	Predict the results of genetic crosses.
		State the gases in the Earth's atmosphere. State what resources we use from the Earth.	To suggest how animals and plants are adapted to their surroundings.
		Describe stages in the carbon cycle.	To define natural selection.
		Explain the ways in which humans effect the environment.	To describe and evaluate Darwin's theory of evolution.
		Describe global warming and greenhouse effect.	Describe how fossils are formed.
		Explain how we extract metals.	Describe how biodiversity helps avoid extinction. Define exothermic and endothermic reactions and give an example of each.
		Know examples of magnetic and non-magnetic materials and realise that	Identify whether a reaction profile shows an exothermic or endothermic reaction.
		magnets can push or pull without touching.	Describe how catalysts speed up reactions by lowering the activation energy.
		Identify magnetic materials and recognise that the push and pull of the	state what combustion and incomplete combustion is.
		magnets is a force.	State what thermal decomposition is.

	Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made. Test how the number of coils affects strength of an electromagnet.	To <u>describe</u> a method for measuring the energy in fuels. To describe the differences between series and parallel circuit, including the behaviour of current and voltage. Explain how increasing voltage effects the circuit. Calculate the resistance in a circuit. Explain how static charge can be generated. Explain that charged objects have fields around them and how this affects their interaction with each other.
BC4	Scores 60%+ on topic tests. Describe the use of specific metals and non metals for different applications. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To write a word equation for a displacement reaction. Describe metal oxide and salt reactions using word equations. To investigate how a metal carbonate reacts with an acid. To describe a metal hydroxide and an acid as a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made.	Scores 60%+ on topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals. To describe what is meant by DNA, chromosomes and genes. To describe how characteristics are passed from parent to offspring. Define allele and how they can be dominant or recessive. To suggest how animals and plants are adapted to their surroundings. To define natural selection. To state that adaptations may lead to evolution. Describe how fossils are formed. Define extinction. Define extinction. Define exothermic and endothermic reactions and give an example of each. Identify whether a reaction profile shows an exothermic or endothermic reaction Describe how catalysts speed up reactions by lowering the activation energy. state what combustion and incomplete combustion is. State what thermal decomposition is. To describe a method for measuring the energy in fuels. Explain what is meant by current. Describe what voltage does in a circuit. Describe what resistance is and how it affects a circuit. Know the difference between a series and parallel circuit. Create a simple model of electricity.

всз	Scores 45%+ on topic tests. Describe the use of specific metals and non metals for different applications. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To know what a displacement reaction is. Describe metal oxide and salt reactions using word equations. To investigate how a metal carbonate reacts with an acid. State what happens in a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle.	Describe circuits and draw circuit diagrams correctly. Be able to measure the current and voltage with help in a circuit. Recognise the effects of static charge. To define what is meant by variation. To be able to explain what causes variation between individuals. To describe how characteristics are passed from parent to offspring. To suggest how animals and plants are adapted to their surroundings. To define natural selection. Describe what a fossil is. Define extinction. Define exothermic and endothermic reactions and give an example of each Define catalyst. state what combustion and incomplete combustion is.
BC2	Scores 30%+ on the topic tests. Describe the use of specific metals and non metals. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. State what happens in a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram.	Scores 30%+ on the topic tests. To define what is meant by variation. To define what is meant by DNA. To list how animals and plants are adapted to their surroundings. To define natural selection. Describe what a fossil is. Define extinction. Define exothermic and endothermic reactions and give an example of each Define catalyst. state what combustion and incomplete combustion is. Describe circuits and draw circuit diagrams correctly. Be able to measure the current and voltage with help in a circuit. Recognise the effects of static charge.
BC1	Scores 15%+ on the topic tests. Describe the use of specific metals and non metals. To describe the reactions between metals and oxygen. State what happens in a neutralisation reaction.	Scores 15%+ on the topic tests. To define what is meant by variation. To list how animals and plants are adapted to their surroundings. Describe what a fossil is.

State what rusting is.

State what resources we use from the Earth.

Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching.

Identify magnetic materials and recognise that the push and pull of the magnets is a force.

Show the magnetic field around a magnet using iron filings and represent this as a diagram.

Define extinction.

Define exothermic and endothermic reactions and give an example of each Define catalyst.

state what combustion and incomplete combustion is.

Describe circuits and draw circuit diagrams correctly.

Be able to measure the current and voltage with help in a circuit.

Recognise the effects of static charge.

	Brockington Science Department Year 9- Extended	
Y9	Term 1 Magnetism and electromagnetism Metals and non metals Atmosphere	Term 2 Inheritance and evolution Electricity Energetics
BC9	Scores 90%+ on the topic tests. Justify the use of specific metals and non metals for different applications. Balance the symbol equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To write a word and symbol equation for a displacement reaction. Describe metal oxide and salt reactions using word and symbol equations To investigate how a metal carbonate reacts with an acid. To investigate a metal hydroxide and how it reacts with an acid in a neutralisation reaction. Apply your knowledge of rusting to explain how to reduce it. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Explain how we extract metals. Evaluate the methods used for extracting metals. Explain problems associated with global warming. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made. Test how the number of coils affects strength of an electromagnet. Plot a graph of number of coils affects strength of an electromagnet. Plot a graph of number of coils affects strength ow to make a simple motor.	Scores 90%+ on the topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals. To explain the role of Franklin, Watson and Crick in the models we now use for the structure DNA. To determine how the number of chromosomes changes during cell division, production of sex cells and fertilisation. To apply knowledge of alleles and characteristics to determine phenotype and genotype of an organism. Use and interpret Punnett square diagrams. To suggest how animals and plants are adapted to their surroundings. To predict and explain the changes in a population over time due to natural selection. To describe and evaluate Darwin's theory of evolution. Describe how fossils are formed. Explain how lack of biodiversity can affect a population. To define exothermic and endothermic reactions and give an example of each. Use a diagram of relative energy levels of particles to explain energy changes observed during a change of state. Explain how catalysts speed up reactions by lowering the activation energy. Compare complete and incomplete combustion. State the products of thermal decomposition of different reactions. To calculate the energy content of a fuel. Explain how materials allow current to flow. Investigate and identify the relationship between current and voltage. Explain static charge as electron transfer and be able to apply this to various examples. Be confident rearranging the equation V=IR to calculate different variables.

	Scores 78%+ on the topic tests.	Scores 78%+ on the topic tests.
BC8	Justify the use of specific metals and non metals for different applications.	To define what is meant by variation.
DCo	Balance the symbol equations to show the reactions between metals and	To be able to explain what causes variation between individuals.
	water and metals and acid, and metals and oxygen.	To explain the role of Franklin, Watson and Crick in the models we now use for the
	To write a word and symbol equation for a displacement reaction.	structure DNA.
	Describe metal oxide and salt reactions using word and symbol equations.	To determine how the number of chromosomes changes during cell division, production
	To investigate how a metal carbonate reacts with an acid.	of sex cells and fertilisation.
	To investigate a metal hydroxide and how it reacts with an acid in a	To apply knowledge of alleles and characteristics to determine phenotype and genotype
	neutralisation reaction.	of an organism.
	Apply your knowledge of rusting to explain how to reduce it.	Use and interpret Punnett square diagrams.
	State the gases in the Earth's atmosphere.	To suggest how animals and plants are adapted to their surroundings.
	State what resources we use from the Earth.	To predict and explain the changes in a population over time due to natural selection.
	Describe stages in the carbon cycle.	To describe and evaluate Darwin's theory of evolution.
	Explain the ways in which humans effect the environment.	Describe how fossils are formed.
	Describe global warming and greenhouse effect.	Explain how lack of biodiversity can affect a population.
	Explain how we extract metals.	To define exothermic and endothermic reactions and give an example of each.
	Evaluate the methods used for extracting metals.	Use a diagram of relative energy levels of particles to explain energy changes observed
	Explain problems associated with global warming.	during a change of state. Explain how catalysts speed up reactions by lowering the activation energy.
	Know examples of magnetic and non-magnetic materials and realise that	Compare complete and incomplete combustion.
	magnets can push or pull without touching.	State the products of thermal decomposition of different reactions.
	Identify magnetic materials and recognise that the push and pull of the	To calculate the energy content of a fuel.
	magnets is a force.	Explain how materials allow current to flow.
	Show the magnetic field around a magnet using iron filings and represent this	Investigate and identify the relationship between current and voltage.
	as a diagram.	Explain static charge as electron transfer and be able to apply this to various examples.
	Identify objects that will affect a compass needle.	Be confident rearranging the equation V=IR to calculate different variables.
	Explain how a simple electromagnet can be made.	be confident rearranging the equation vinto calculate affecting variables.
	Test how the number of coils affects strength of an electromagnet.	
	Plot a graph of number of coils against paper clips picked up.	
	Be able to describe the 'motor effect' and how to make a simple motor.	
	Scores 63%+ on the topic tests.	Scores 63%+ on the topic tests.
BC7	Justify the use of specific metals and non metals for different applications.	To define what is meant by variation.
BC/	Balance the symbol equations to show the reactions between metals and	To be able to explain what causes variation between individuals.
	water and metals and acid, and metals and oxygen.	To describe the role of Franklin, Watson and Crick in the models we now use for the
	To write a word and symbol equation for a displacement reaction.	structure DNA.
	Describe metal oxide and salt reactions using word and symbol equations	To determine how the number of chromosomes changes during cell division, production
	To investigate how a metal carbonate reacts with an acid.	of sex cells and fertilisation.
	To investigate a metal hydroxide and how it reacts with an acid in a	To apply knowledge of alleles and characteristics to determine phenotype and genotype
	neutralisation reaction.	of an organism.
	neutransación reaction.	Use and interpret Punnett square diagrams.

State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Explain how we extract metals. Evaluate the methods used for extracting metals. Explain problems associated with global warming. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made. Test how the number of coils affects strength of an electromagnet. Plot a graph of number of coils against paper clips picked up. Be able to describe the 'motor effect' and how to make a simple motor. Scores 57%+ on the topic tests. Justify the use of specific metals and non metals for different applications. BC₆ Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To write a word equation for a displacement reaction. Describe metal oxide and salt reactions using word equations. To investigate how a metal carbonate reacts with an acid. To investigate a metal hydroxide and how it reacts with an acid in a neutralisation reaction. Apply your knowledge of rusting to explain how to reduce it. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Explain how we extract metals. Evaluate the methods used for extracting metals. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching.

Apply your knowledge of rusting to explain how to reduce it.

To suggest how animals and plants are adapted to their surroundings.

To predict and explain the changes in a population over time due to natural selection.

To describe and evaluate Darwin's theory of evolution.

Describe how fossils are formed.

Explain how lack of biodiversity can affect a population.

To define exothermic and endothermic reactions and give an example of each.

Use a diagram of relative energy levels of particles to explain energy changes observed during a change of state.

Explain how catalysts speed up reactions by lowering the activation energy.

Compare complete and incomplete combustion.

State the products of thermal decomposition of different reactions.

To **calculate** the energy content of a fuel.

Explain how materials allow current to flow.

Investigate and identify the relationship between current and voltage.

Explain static charge as electron transfer and be able to apply this to various examples.

Be confident rearranging the equation V=IR to calculate different variables.

Scores 57%+ on the topic tests.

To define what is meant by variation.

To be able to explain what causes variation between individuals.

To describe the role of Franklin, Watson and Crick in the models we now use for the structure DNA.

To determine how the number of chromosomes changes during cell division, production of sex cells and fertilisation.

To apply knowledge of alleles and characteristics to determine phenotype and genotype of an organism.

Predict the results of genetic crosses.

To suggest how animals and plants are adapted to their surroundings.

To define natural selection.

To describe and evaluate Darwin's theory of evolution.

Describe how fossils are formed.

Describe how biodiversity helps avoid extinction.

To define exothermic and endothermic reactions and give an example of each.

Use a diagram of relative energy levels of particles to explain energy changes observed during a change of state.

Explain how catalysts speed up reactions by lowering the activation energy.

State what combustion and incomplete combustion is.

	Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made.	State what thermal decomposition is. To <u>describe</u> a method for measuring the energy in fuels. Explain how materials allow current to flow. Investigate and identify the relationship between current and voltage. Explain static charge as electron transfer and be able to apply this to various examples. Be confident rearranging the equation V=IR to calculate different variables.
BC5	Test how the number of coils affects strength of an electromagnet. Plot a graph of number of coils against paper clips picked up. Scores 42%+ on the topic tests. Justify the use of specific metals and non metals for different applications. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen. To write a word equation for a displacement reaction. Describe metal oxide and salt reactions using word equations. To investigate how a metal carbonate reacts with an acid. To describe a metal hydroxide and an acid as a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Explain the ways in which humans effect the environment. Describe global warming and greenhouse effect. Explain how we extract metals. Know examples of magnetic and non-magnetic materials and realise that magnets can push or pull without touching. Identify magnetic materials and recognise that the push and pull of the magnets is a force. Show the magnetic field around a magnet using iron filings and represent this as a diagram. Identify objects that will affect a compass needle. Explain how a simple electromagnet can be made. Test how the number of coils affects strength of an electromagnet.	Scores 42%+ on the topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals. To describe the role of Franklin, Watson and Crick in the models we now use for the structure DNA. To determine how the number of chromosomes changes during cell division, production of sex cells and fertilisation. To apply knowledge of alleles and characteristics to determine phenotype and genotype of an organism. Predict the results of genetic crosses. To suggest how animals and plants are adapted to their surroundings. To define natural selection. To describe and evaluate Darwin's theory of evolution. Describe how fossils are formed. Describe how biodiversity helps avoid extinction. Define exothermic and endothermic reactions and give an example of each. Identify whether a reaction profile shows an exothermic or endothermic reaction. Describe how catalysts speed up reactions by lowering the activation energy. State what combustion and incomplete combustion is. State what thermal decomposition is. To describe a method for measuring the energy in fuels. To describe the differences between series and parallel circuit, including the behaviour of current and voltage. Explain how increasing voltage effects the circuit. Calculate the resistance in a circuit. Explain how static charge can be generated. Explain that charged objects have fields around them and how this affects their interaction with each other.
BC4	Scores 33%+ on the topic tests. Describe the use of specific metals and non metals for different applications. Write word equations to show the reactions between metals and water and metals and acid, and metals and oxygen.	Scores 33%+ on the topic tests. To define what is meant by variation. To be able to explain what causes variation between individuals To describe what is meant by DNA, chromosomes and genes.

To write a word equation for a displacement reaction. To describe how characteristics are passed from parent to offspring. Define allele and how they can be dominant or recessive. Describe metal oxide and salt reactions using word equations. To suggest how animals and plants are adapted to their surroundings. To investigate how a metal carbonate reacts with an acid. To define natural selection. To describe a metal hydroxide and an acid as a neutralisation reaction. To state that adaptations may lead to evolution State what rusting is. Describe how fossils are formed. State the gases in the Earth's atmosphere. Define extinction. State what resources we use from the Earth. Define exothermic and endothermic reactions and give an example of each. Describe stages in the carbon cycle. Identify whether a reaction profile shows an exothermic or endothermic reaction. Explain the ways in which humans effect the environment. Describe how catalysts speed up reactions by lowering the activation energy. Describe global warming and greenhouse effect. State what combustion and incomplete combustion is. Know examples of magnetic and non-magnetic materials and realise that State what thermal decomposition is. magnets can push or pull without touching. To **describe** a method for measuring the energy in fuels. Identify magnetic materials and recognise that the push and pull of the Explain what is meant by current. magnets is a force. Describe what voltage does in a circuit. Show the magnetic field around a magnet using iron filings and represent this Describe what resistance is and how it affects a circuit. as a diagram. Know the difference between a series and parallel circuit. Identify objects that will affect a compass needle. Create a simple model of electricity. Explain how a simple electromagnet can be made. Scores 25%+ on the topic tests. Scores 25%+ on the topic tests. Describe the use of specific metals and non metals for different applications. To define what is meant by variation. BC3 Write word equations to show the reactions between metals and water and To be able to explain what causes variation between individuals. To define what is meant by DNA, chromosomes and genes. metals and acid, and metals and oxygen. To describe how characteristics are passed from parent to offspring. To know what a displacement reaction is. To suggest how animals and plants are adapted to their surroundings. Describe metal oxide and salt reactions using word equations. To define natural selection. To investigate how a metal carbonate reacts with an acid. To state that adaptations may lead to evolution. State what happens in a neutralisation reaction. Describe what a fossil is. State what rusting is. Define extinction. State the gases in the Earth's atmosphere. Define exothermic and endothermic reactions and give an example of each. State what resources we use from the Earth. Identify whether a reaction profile shows an exothermic or endothermic reaction. Describe stages in the carbon cycle. Describe how catalysts speed up reactions by lowering the activation energy. Explain the ways in which humans effect the environment. State what combustion and incomplete combustion is. Know examples of magnetic and non-magnetic materials and realise that State what thermal decomposition is. magnets can push or pull without touching. To **describe** a method for measuring the energy in fuels. Identify magnetic materials and recognise that the push and pull of the Describe circuits and draw circuit diagrams correctly. magnets is a force. Be able to measure the current and voltage with help in a circuit. Show the magnetic field around a magnet using iron filings and represent this Recognise the effects of static charge. as a diagram. Identify objects that will affect a compass needle.

BC2 Scores 18%+ on the topic tests. Describe the use of specific metals and non metals Write word equations to show the reactions between metals and acid, and metals and oxygen. Describe metal oxide and salt reactions using word State what happens in a neutralisation reaction. State what rusting is. State the gases in the Earth's atmosphere. State what resources we use from the Earth. Describe stages in the carbon cycle. Know examples of magnetic and non-magnetic magnets can push or pull without touching. Identify magnetic materials and recognise that the magnets is a force.	To define what is meant by DNA. To list how animals and plants are adapted to their surroundings. To define natural selection. Describe what a fossil is. Define extinction. Define exothermic and endothermic reactions and give an example of each Define catalyst. State what combustion and incomplete combustion is. Describe circuits and draw circuit diagrams correctly. Be able to measure the current and voltage with help in a circuit.
BC1 Show the magnetic field around a magnet using iro as a diagram. Scores 8%+ on the topic tests. Describe the use of specific metals and non metals. To describe the reactions between metals and oxyg. State what happens in a neutralisation reaction. State what rusting is. State what resources we use from the Earth. Know examples of magnetic and non-magnetic magnets can push or pull without touching. Identify magnetic materials and recognise that the magnets is a force. Show the magnetic field around a magnet using iro as a diagram.	Scores 8%+ on the topic tests. To define what is meant by variation. To list how animals and plants are adapted to their surroundings. Describe what a fossil is. Define extinction. Describe circuits and draw circuit diagrams correctly. Be able to measure the current and voltage with help in a circuit. Recognise the effects of static charge. Define exothermic and endothermic reactions and give an example of each Define catalyst.