

	Working Towards	Expected Standard	Greater Depth
	By the end of Year 7 a student should be able to:	By the end of Year 7 a student should be able to:	By the end of Year 7 a student should be able to:
A U T U M N	<p>B1 Cells & Reproduction</p> <ul style="list-style-type: none"> Animal & Plant Cells – identify features and describe functions Microscopy – prepare cells for observation and set up Fertilisation – describe changes during puberty and recall the stages of the menstrual cycle <p>C1 Particles and Matter</p> <ul style="list-style-type: none"> The particle model of matter. What do solids liquids and gases look like? Why do they have different properties? Changes of state (solid, liquid, gas) The differences between chemical and physical changes and examples of each. The definitions of an element, a mixture, and a compound. Mixtures can be separated. <p>Science Skills Booklets 1 Lab Safety and 2 Equipment</p>	<p>B1 Cells & Reproduction</p> <ul style="list-style-type: none"> Specialised cells – identify features, describe functions and explain adaptations Contraception & IVF – compare contraceptive methods <p>C1 Particles and Matter</p> <ul style="list-style-type: none"> Changes of state names. (Melting, Freezing, Condensing, Evaporating) To describe what a pure substance is and how to test purity. Carry out investigations to separate mixtures (filtration, evaporation, distillation, chromatography). Recognise each from appropriate diagrams. Concept of a pure substance The chemical properties of metal and non-metal oxides with respect to acidity <p>Science Skills Booklets 1 Lab Safety and 2 Equipment</p>	<p>B1 Cells & Reproduction</p> <ul style="list-style-type: none"> Cell Division & Organisation – describe mitosis and organism organisation Contraception & IVF – describe the process of IVF <p>C1 Particle and Matter</p> <ul style="list-style-type: none"> Changes of state and their names - sublimation and deposition. To explain how to separate: <ul style="list-style-type: none"> A soluble and an insoluble solid from a solvent – Filtration and crystallisation Two liquids with different boiling points – Distillation Two soluble liquids – Chromatography <p>Science Skills Booklets 1 Lab Safety and 2 Equipment</p>

P1 Forces and motion

- What is a force? How can we define a force? Recall the forces.
- How do we measure forces?
- Recall with examples balanced and unbalanced forces.
- Define what a force is.
- Understand the difference between contact and non-contact forces
- Speed and quantitative relationship between average speed, distance and time (equation)

C2 Acids & Alkalis

- Identify whether a substance is acidic, alkaline or neutral
- Describe what neutralisation is
- Formation of acid rain
- What is neutralisation

Science Skills Booklet 3 Variables**P1 Forces and motion**

- Investigate different forces using scientific equipment
- Using equations to calculate forces
- Describe what is happening if a force is balanced or unbalanced
- Be able to draw a graph based off a set of results
- Explain what the different forces do
- Representation of a journey on a distance-time graph

C2 Acids & Alkalis

- Recall the colours of the pH scale, pH scale (numbers and colours)
- Describe what acid rain is
- Identify uses for neutralisation
- Identify formulae for common acids

Science Skills Booklet 3 Variables**P1 Forces and motion**

- Be able to rearrange equations to calculate factors affecting a force.
- Recall the speed = distance/time equation
- Be able to rearrange simple equations e.g. pressure = force/area
- Be introduced to moments and linking forces together.
- Relative motion trains and cars passing one another.

C2 Acids & Alkalis

- explain what causes acid rain, Describe the effects of acid rain
- Name the salt form in given reactions

Science Skills Booklet 3 Variables

B2 Ecosystems & Plants

- To describe feeding relationships within a community using a food chain and food webs
- To know how species are grouped or 'classified'.
- To be able to identify and describe adaptations for different habitats
- Describe how we use sampling techniques in Science.
- Explain how plants make their own energy using photosynthesis

P2 Electricity & Electromagnetism

- Separation of positive or negative charges when objects are rubbed together – transfer of electrons, forces between charges (static)
- Common circuit symbols and how to set up circuits in both series and parallel.
- State what a magnet is - magnetic poles, attraction and repulsion (magnets)
- How to draw circuits and how to construct them (electricity)
- Define insulator and conductor and relate them to a) static electricity, b) current

Skills booklet 4 Maths in Science**B2 Ecosystems & Plants**

- Describe how we use quadrats use a quadrat to sample a population.
- to sample organisms.
- Recall the word equation for photosynthesis.
- Describe how plants use the glucose they create in photosynthesis.
- Factors that can affect the population of organism

P2 Electricity & Electromagnetism

- How we use insulators and conductors are generate static. Also use different materials and state if they are insulators or conductors.
- Idea of electric field, forces acting across the space between objects not in contact (static).
- Earth's magnetism, compass and navigation (magnets)
- Practical investigation to plot with a compass magnetic fields to show field lines.
- To compare bar magnets and electromagnets.
- State how to make an electromagnet- investigating how we can increase the strength and test the strength.

Skills booklet 4 Maths in Science**B2 Ecosystems & Plants**

- To describe the work of Charles Darwin in the development of the theory of evolution.
- To know the difference between continuous and discontinuous variation.
- Evaluate the advantages and disadvantages of different sampling methods.
- That all organisms show variation and this is the basis for natural selection

P2 Electricity & Electromagnetism

- Describe what happens to current in both parallel and series circuits.
- To state what resistance is and how we can change it in circuits.
- The definitions of current, potential difference and resistance and how we can measure each.

Skills booklet 4 Maths in Science