

Year 7 Science

	Particles	Living Things	Forces	Elements	Reproduction	Sound & Light	Reactions	End of Year Target
Mastery								Mastery
%								
Secure								Secure
%								
Developing								Developing
%								
Emerging								Emerging
%								

Term	Progress	Topic	Experiment Skills
Autumn	What are you most confident with?		<input type="checkbox"/> Predicting <input type="checkbox"/> Listing equipment <input type="checkbox"/> Writing a method <input type="checkbox"/> Results Table
	What do you need to develop?		<input type="checkbox"/> Predicting <input type="checkbox"/> Listing equipment <input type="checkbox"/> Writing a method <input type="checkbox"/> Showing results in a table or graph <input type="checkbox"/> Describing results <input type="checkbox"/> Writing a conclusion <input type="checkbox"/> Suggesting improvements (Evaluation)
Spring	What are you most confident with?		<input type="checkbox"/> Predicting <input type="checkbox"/> Listing equipment <input type="checkbox"/> Writing a method <input type="checkbox"/> Showing results in a table or graph <input type="checkbox"/> Describing results <input type="checkbox"/> Writing a conclusion <input type="checkbox"/> Suggesting improvements (Evaluation)
	What do you need to develop?		<input type="checkbox"/> Predicting <input type="checkbox"/> Listing equipment <input type="checkbox"/> Writing a method <input type="checkbox"/> Showing results in a table or graph <input type="checkbox"/> Describing results <input type="checkbox"/> Writing a conclusion <input type="checkbox"/> Suggesting improvements (Evaluation)
Summer	What are you most confident with?		<input type="checkbox"/> Predicting <input type="checkbox"/> Listing equipment <input type="checkbox"/> Writing a method <input type="checkbox"/> Showing results in a table or graph <input type="checkbox"/> Describing results <input type="checkbox"/> Writing a conclusion <input type="checkbox"/> Suggesting improvements (Evaluation)
	What do you need to develop?		<input type="checkbox"/> Predicting <input type="checkbox"/> Listing equipment <input type="checkbox"/> Writing a method <input type="checkbox"/> Showing results in a table or graph <input type="checkbox"/> Describing results <input type="checkbox"/> Writing a conclusion <input type="checkbox"/> Suggesting improvements (Evaluation)

	Emerging	Developing	Secure	Mastery
Particles	<ol style="list-style-type: none"> 1. Recall the three states of matter 2. Give examples of when melting happens 3. Describe boiling with support 	<ol style="list-style-type: none"> 1. State the properties of a substance in its three states 2. Describe simply how changes of temperature or state can be described in terms of particles transferring energy 	<ol style="list-style-type: none"> 1. Draw and describe the arrangement of particles in the three states of matter 2. Explain changes of state in terms of changes to the energy of the particles 	<ol style="list-style-type: none"> 1. Use ideas about particles to explain the properties of a substance in its three states 2. 3. Explain changes of state in terms of changes to the energy of the particles
Living Things	<ol style="list-style-type: none"> 1. Distinguish between an animal and plant cell. 2. Observe cells under a microscope 3. Describe one function of the human skeleton without support 4. Recall a feature of the structure of the lungs 	<ol style="list-style-type: none"> 1. Identify similarities between animal and plant cells 2. Observe cells under a microscope 3. Describe the function of the lungs 4. Identify three parts of the skeleton that provides protection 	<ol style="list-style-type: none"> 1. Identify and name the parts of different cells, including the organelles 2. Observe cells under a microscope 3. Describe the structure and explain the functions of the human skeleton 4. Describe the structure of the lungs and know the function of the lungs 	<ol style="list-style-type: none"> 1. Compare animal and plant cell structure 2. Observe cells under a microscope 3. Explain the relationship between our skeletal and muscular systems 4. Recognise how external factors can affect the health of the lungs
Forces	<ol style="list-style-type: none"> 1. Recall names of forces 2. State examples of everyday situations of friction 3. Identify balanced and unbalanced forces from diagrams 	<ol style="list-style-type: none"> 1. Describe how forces deform objects 2. State examples of everyday situations involving drag forces 3. State the difference between balanced and unbalanced forces 	<ol style="list-style-type: none"> 1. Explain how solid surfaces provide a support force 2. Describe the effect of drag forces and friction on objects 3. Describe the difference between weight and mass 4. Describe what happens when the resultant force on an object is not zero 	<ol style="list-style-type: none"> 1. Describe what is meant by an interaction pair 2. Use Hooke's Law 3. Explain how friction and drag forces can be reduced 4. Use formula to calculate weight 5. Explain why speed or direction of motion of objects can change
Elements	<ol style="list-style-type: none"> 1. Give examples of common elements 2. Recall some common compounds and their formulae 	<ol style="list-style-type: none"> 1. State what an element is and recall the symbols of 16 elements 2. Describe the difference between an element and compound 	<ol style="list-style-type: none"> 1. Describe what atoms are 2. Write the chemical names for some simple compounds 	<ol style="list-style-type: none"> 1. Compare the properties of one atom of an element to the properties of many atoms 2. Write and interpret chemical formulae
Reproduction	<ol style="list-style-type: none"> 1. Define puberty 2. State the main structure in reproductive systems, with support 3. State what is meant by fertilisation 4. Give reasons for colourful flowers 	<ol style="list-style-type: none"> 1. State the difference between adolescence & puberty 2. State main structures in reproductive systems 3. Describe the main stages in the menstrual cycle 4. Identify the main structures of a flower 	<ol style="list-style-type: none"> 1. Describe the function of the main structure in the reproductive systems 2. Describe the main steps in a baby's development 3. Describe the process of pollination 4. Describe different methods of seed dispersal 	<ol style="list-style-type: none"> 1. Explain what causes puberty 2. Evaluate methods of contraception 3. Describe the differences between wind and insect-pollinated plants 4. Explain how a seed is adapted to its method of dispersal
Sound and Light	<ol style="list-style-type: none"> 1. Identify different parts of a wave 2. Define loudness and amplitude 3. State parts of the ear, with support 4. Identify luminous objects 5. Recall how light travels 6. Define disperse 	<ol style="list-style-type: none"> 1. Describe the different types of waves and their features 2. Describe the link between loudness and amplitude 3. State parts of the ear 4. State the different between luminous and non-luminous objects 5. Describe how light is reflects from a mirror 	<ol style="list-style-type: none"> 1. Explain why the speed of sound is different in different materials 2. Define the link between frequency and pitch 3. Describe how the ear works 4. Describe how we see luminous and non-luminous objects 5. Construct a ray diagram to show refraction 	<ol style="list-style-type: none"> 1. Describe what happens when waves superpose 2. Contrast the speed of sound and the speed of light 3. Compare how light is transmitted with different objects 4. Use ray diagrams to show how light reflects to form images 5. Use a ray diagram to describe how light passes through transparent and coloured materials
Reactions	<ol style="list-style-type: none"> 1. State the purpose of the pH scale 2. Identify neutral on the pH scale 3. Identify from diagram if a chemical reaction has taken place 4. State the meaning of an arrow in a word equation 	<ol style="list-style-type: none"> 1. Describe the characteristics of chemical reactions 2. Identify reactants and products in word equations 3. State what all chemical reactions involve 4. Identify acids, alkalis and neutral solutions on pH scale 5. Identify products from reactions involving acids and alkalis 	<ol style="list-style-type: none"> 1. Explain why chemical reaction are useful 2. Write word equations to represent chemical reactions 3. Write word equations for combustion reactions 4. Describe exothermic& endothermic changes 5. Explain how neutralisation reaction are used in different situations 	<ol style="list-style-type: none"> 1. Compare chemical reactions to physical changes 2. Use particle diagrams to show what happens in a chemical reaction 3. Balance symbol equations 4. Distinguish exothermic and endothermic reactions 5. Use data and observations to determine the pH of a solution 6. Describe a method for neutral solution from an acid and an alkali



Summer 2

Reactions

- Acids & Alkali
- Neutralisation
- Word Equations
- Period Poverty
- Balloon Rockets
- Stop the spread
- Indicators and pH
- Making Salts
- Exothermic & Endothermic
- Classroom Olympics
- Ditch the dirt

STEM Challenge

Onwards to Year 8 Science

Sound & Light

Independent Enquirer HWK: Space

- Refraction
- Light
- Changes in Sound
- The eye
- Reflection & Colour
- The Ear & Hearing
- Sound Waves

Summer 1

Reproduction

- Reproductive Systems
- Menstrual Cycle
- Flowers & Pollination
- Seed Dispersal
- Adolescence
- Fertilisation
- Development of a fetus
- Fertilisation & Germination

Spring 2

Elements

- Chemical Formulae
- Atoms
- Balanced & Unbalanced Forces
- Drag forces & friction
- Intro to Forces
- Compounds
- Elements
- Gravity
- Squashing & Stretching

Spring 1

Living Things

Independent Enquirer HWK: Cells

- Animal & Plant Cells
- Diffusion
- Gas Exchange
- Skeleton
- Joints
- Observing Cells
- Specialised cells
- Organisation
- Breathing
- Muscles

- = Chemistry
- = Biology
- = Physics

Autumn 2

Particles

Lab Safety

- Diffusion
- Boiling
- States of matter
- More changes of State
- Melting & freezing

YEAR 7