

## Science Department - Year 7 Scheme of Work

National Curriculum/ AAA links:

<https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-of-study>

Term	Title	Unit content	Key vocabulary	Resource links:
<b>AUTUMN 1</b>				
Week 1 06.09.23	Introduction to Science (1)	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• What is the theory behind the scientific method</li> <li>• Using data to refine our theories of the world</li> <li>• Hazards in lab, Bunsen burners to demonstrate safety measures</li> <li>• Equipment and taking measurement</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• Flame tests is a nice practical for bunsen burners</li> <li>• Match up apparatus with name activity using labels iAn envelopes – in science prep room</li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Pupils know how to be safe in the science lab</li> <li>• To understand and describe hazard symbols used in science</li> <li>• To be able to evaluate the risks and precautions for varying scenarios</li> <li>• To know the names of key scientific apparatus used in a lab</li> <li>• To understand and describe the use of specific scientific apparatus are used</li> <li>• To know the reasons why people investigate science</li> <li>• To be able to investigate science practical's with a focus on observations</li> </ul>	Hazard, risk, equipment, apparatus, Bunsen burner, heat proof mat, tripod	<a href="#">Lesson 1 - Intro to science</a> <a href="#">Unit 1 Transition scheme</a> <a href="#">Autumn 1</a>
Week2	Introduction to Science (2)	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Independent, dependent and control variables</li> <li>• Biscuit investigation to demonstrate variables</li> <li>• Bar charts to show categoric data</li> </ul>	Variable, control variable, independent variable,	<a href="#">Autumn 1</a>

		<p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Bar charts: Different colour M&amp;Ms, Biscuit investigation results</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• To know the components of scientific investigation write up</li> <li>• To understand and define the key words used in a scientific investigation</li> <li>• To be able to structure a scientific investigation write up</li> <li>• To know that scientific investigations have different aims</li> <li>• To understand and plan a scientific investigation</li> <li>• To be able to evaluate peers plans with appropriate improvements</li> </ul>	dependent variable, bar chart, x-axis, y-axis, evaluation	
Week 3	Introduction to Science (3)	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Line graphs to show continuous data</li> <li>• Meanings of accuracy and precision</li> <li>• The importance of calculating means, and writing conclusions</li> <li>•</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Students take turns to throw small wet tissue balls at target drawn on whiteboard and discuss if the shots are accurate/precise</b></li> <li>• <b>Speed of football. Students perform 3 kicks with right foot and 3 kicks with left foot. Calculate mean of results</b></li> <li>•</li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• To know the different types of graphs commonly used in science</li> <li>• To understand how to plot graphs given scientific data</li> <li>• To be able to interpret graphs and describe using point data</li> <li>• To know what is meant by scale</li> <li>• To understand the importance of scale and how it is used in science</li> <li>• To be able to explain which scientific equipment should be used based on scale</li> </ul>	Line graph, x-axis, y-axis, mean, conclusion, accurate, precise	<a href="#">Autumn 1</a>

		<ul style="list-style-type: none"> <li>To know the units of measurement for common examples</li> <li>To understand how to convert to appropriate units of measurements in science</li> </ul>		
Week 4	Particles and states of matter (1)	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>Models as a simplifying tool for helping us understand how things behave.</li> <li>Three states of matter, particles equivalent size in all three</li> <li>Changing states, changing arrangements and movements of these particles</li> <li>Melting and boiling</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>Ice cube practical, pupils have a cube of ice and apply spirit burner to show change in state</li> <li>Chocolate investigation: Investigate melting point of White/milk/dark chocolate</li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>Know all objects around us are made of matter and atoms</li> <li>To be able to create models of different states of matter of everyday objects</li> <li>Know the definitions of the state of matter interconversions</li> <li>Understand and explain how energy changes to given examples</li> </ul>	Model, particles, atom, state of matter, solid, liquid, gas	<p>Particles and separation booklet: <a href="#">7cp-particles-and-separation-techniques-booklet-tta-20-21.docx</a></p> <p><a href="#">Unit 2 Particle model of matter</a></p> <p><a href="#">Autumn 1</a></p>
Week 5	Particles and states of matter (2)	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>Condensing and evaporating</li> <li>Sublimation and deposition as extension</li> <li>Touch on density by showing floating and sinking using particle diagrams</li> <li>Diffusion</li> </ul>	Change of state, solid, liquid gas, condensing, evaporating, boiling,	<a href="#">Autumn 1</a>

		<p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>Finding the boiling point of water</li> <li>Skittles diffusion</li> <li>Teabag and food colouring demonstrations (hot and cold water)</li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>Identify changes of state</li> <li>Understanding what causes changes of state</li> <li>Describe energy changes during changes of state</li> </ul>	diffusion, sublimation	
Week 6	<b>Forces basics</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>Contact and non-contact forces</li> <li>Drag and friction</li> <li>Water and air resistance</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>Separated two books with pages interleaved</li> <li>Egg parachute</li> <li>Streamlined shapes with plasticine and water</li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>Understand how weight can be measured and their units</li> <li>Investigate the use of newton meters to explore forces</li> <li>Know that some objects whilst other sink</li> <li>Understand that the force exerted by water is called up thrust</li> <li>Be able to explain that an object floats because the forces are balanced (upthrust=weight)</li> </ul>	Forces, contact, non-contact, Newtons, balanced, unbalanced	<p>Forces booklet: <a href="#">forces-and-motion-mastery-booklet.docx</a></p> <p><a href="#">Unit 3 Forces and their interactions</a></p> <p><a href="#">Autumn 1</a></p>
Week 7	<b>Types of forces</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>Streamlining</li> <li>Gravity</li> <li>Balanced and unbalanced forces</li> </ul>	Steam-lined, gravity, forces, surface area, air resistance, drag	<a href="#">Autumn 1</a>

		<p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• Make the most streamlined paper airplane</li> <li>• Balance Beams</li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Understand the difference between weight and gravity</li> <li>• Identify streamlined objects</li> <li>• Explain how streamlining can increase speed</li> </ul>		
<b>AUTUMN 2</b>				
Week 1	<b>Cells and microscopes</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Animal cells</li> <li>• Plant cells compared to animal cells</li> <li>• Microscopes and scales</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• Make a model cell</li> <li>• Looking at cells under microscope</li> <li>• Calculating magnification</li> </ul> <p><b>Key Skills developed:</b></p> <ul style="list-style-type: none"> <li>• Using a microscope, including adjusting focus and magnification</li> <li>• Calculating magnification</li> <li>• Drawing accurate scientific diagrams</li> </ul>	Animal cell, plant cell, cell membrane, cell wall, vacuole, nucleus, cytoplasm, magnification, focus	<p>Booklet: <a href="#">7bc-cells-tissues-organs-booklet-tta-20-21.docx</a></p> <p><a href="#">Unit 4 Cells, tissues and organs</a></p> <p><a href="#">Autumn 2</a></p>
Week 2	<b>Specialised cells – human reproduction</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Red blood cell</li> <li>• Nerve cell</li> <li>• Ciliate cell</li> <li>• Sperm and egg cells</li> </ul>	Red blood cell, cell membrane, sperm, egg, ciliated,	<a href="#">Unit 5 Reproductive systems</a>

		<p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Make model cells</b></li> <li>• <b>Study cells under a microscope</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Draw and label specialised cells</li> <li>• Identify how a cells structure is suited to its function</li> </ul>		<p>Booklet: <a href="#">7br-reproduction-booklet.docx</a></p> <p><a href="#">r</a></p> <p><a href="#">Autumn 2</a></p>
Week 3	<b>Assessment week</b>			<a href="#">Autumn 2</a>
Week 4	<b>Human reproduction</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Adolescence vs puberty</li> <li>• Menstrual cycle</li> <li>• Development of a foetus</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Menstrual cycle bracelets</b></li> <li>• <b>Show model foetus</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Identify and understand changes that happen during puberty</li> <li>• Understand the key parts of the menstrual cycle</li> <li>• Describe key stages of foetus development</li> </ul>	Puberty, menstrual cycle, estrogen, progesterone, ovulation, pregnant	<a href="#">Autumn 2</a>
Week 5	<b>Plant reproduction</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Plant reproductive organs</li> <li>• Pollination</li> <li>• Germination</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Flower dissection</b></li> </ul>	Sepal, flower, pollen, seed, style, ovary, filament, anther, germinate,	<a href="#">Autumn 2</a>

		<p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Understand different ways plants can be pollinated</li> <li>• Label a diagram of a flower</li> <li>• Identify male and female reproductive parts of a plan</li> </ul>		
Week 6	Waves	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Intro to waves</li> <li>• Transverse waves</li> <li>• Longitudinal waves</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• Make model waves</li> <li>• Investigate water waves</li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Know that waves can transfer energy and information and not matter</li> <li>• Understand the difference between transverse and longitudinal waves</li> <li>• Know how to label a transverse wave with wavelength and amplitude</li> <li>• Recall that sound waves travel through different materials by vibration</li> </ul>	Transverse, longitudinal, peak, trough, wavelength, amplitude	<a href="#">Unit 6 Sound and waves</a>  <a href="#">Autumn 2</a>
Week 7	Sound	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Loudness and pitch</li> <li>• Echoes and ultrasound</li> <li>• The ear</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• Look at model ear – identify key parts</li> <li>• Measuring speed of sound</li> </ul> <p><b>Key skills developed:</b></p>	Frequency, amplitude, pitch, peak, trough, echo, ultrasound, ossicles	<a href="#">Autumn 2</a>

		<ul style="list-style-type: none"> <li>Understanding how we hear sounds</li> <li>Describing and identifying different features of sound waves</li> </ul>		
Week 8	Speed of Sound	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>Measuring speed of sound</li> <li>Calculating speed of sound through different materials</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li><b>Accurate calculations</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>Recall that sound waves travel through different materials by vibration</li> <li>Compare how fast sound is transmitted by solids, liquids, gases using particle theory</li> <li>Be able to explain why sound does not travel in space</li> </ul>	Longitudinal, sound, particle, vibration, solid, liquid, gas	<a href="#">Autumn 2</a>
Assessment point 1 (this may be moved) <a href="#">NewY7AutumnAssessment2022-2023 amended.doc.rtf</a>				
<b>SPRING 1</b>				
Week 1	Light, wave behaviour and colour	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>Waves recap</li> <li>Light and shadows</li> <li>Reflection</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li><b>Investigating shadows</b></li> <li><b>Reflection with ray boxes</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>Measuring angles</li> <li>Identify key parts of a wave</li> <li>Understand what causes shadows</li> <li>Describe the law of reflection</li> </ul>	Opaque, translucent, transparent, light, shadow, reflection, angle	<a href="#">Unit 8 Light and colour</a>  <a href="#">Spring 1</a>



Week 2	<b>Light, wave behaviour and colour</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Refraction</li> <li>• Colour</li> <li>• Filtering colours</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Investigate refraction with ray boxes</b></li> <li>• <b>Model eye</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Know the parts of the eye that allow us to see</li> <li>• Understand how we are able to see using parts of the eye and light waves</li> <li>• Know that light is a mixture of different colours</li> <li>• Recall the colours of the spectrum</li> <li>• Be able to use prisms to split white light</li> <li>• Be able to recall light rays can bend at a surface and this is called refraction</li> </ul>	Refraction, density, colour, ray boxes, angle	<a href="#">Spring 1</a>
Week 3	<b>Adaptations, variation and genetics</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Heredity (nice place to revisit fertilisation)</li> <li>• Continuous variation (link back to graphs)</li> <li>• DNA structure and the genome</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Draw family tree</b></li> <li>• <b>Make DNA model</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Identify variation in species</li> </ul>	Adaptation, variation, genetics, DNA,	<a href="#">Unit 7 Adaptations and variation</a>  <a href="#">Spring 1</a>

		<ul style="list-style-type: none"> <li>Describe the difference inherited and environmental characteristics</li> </ul>		
Week 4	<b>Adaptations, variation and genetics</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>Competition and adaptation</li> <li>Adapting to changes</li> <li>Natural selection</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li><b>Design an animal suited to a certain habitat</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>link adaptations to the environment a species lives in</li> <li>Explain how natural selection happens overtime</li> </ul>	Survival of the fittest, habitat, characteristics, natural selection, adaption	<a href="#">Spring 1</a>
Week 5	<b>Elements, compounds and separating mixtures</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>Elements</li> <li>Atoms and their structure</li> <li>Compounds</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li><b>Use molymods to build common molecules (e.g. H<sub>2</sub>O, CO<sub>2</sub>)</b></li> <li><b>Look at examples of compounds and mixtures</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>Understand the difference between elements, compounds and mixtures</li> <li>Identify the formula for common compounds</li> <li>Be able to model the difference between an element and a compound</li> </ul>	Matter Structure Arrangement Elements Mixtures Compounds, Atom	Booklet: <a href="#">chemical-reactions.docx</a> Booklet: <a href="#">particles-mastery-booklet.docx</a>  <a href="#">Unit 9 Elements, compounds and separating mixtures</a>  <a href="#">Spring 2</a>
<b>SPRING 2</b>				

Week 1	<b>Elements, compounds and separating mixtures</b>	<b>Key knowledge taught:</b> <ul style="list-style-type: none"> <li>• Chemical formulae</li> <li>• Mixtures</li> <li>• Solutions</li> </ul> <b>Practical ideas:</b> <ul style="list-style-type: none"> <li>• <b>Separating mixtures – e.g. sand and iron, salt and salt</b></li> </ul> <b>Key skills developed:</b> <ul style="list-style-type: none"> <li>• Use the periodic table to identify the symbol for elements</li> <li>• Be able to separate some common mixtures</li> </ul>	Symbol, formula, mixture, filter paper, funnel, separate, soluble, insoluble	<a href="#">Spring 2</a>
Week 2	<b>Elements, compounds and separating mixtures</b>	<b>Key knowledge taught:</b> <ul style="list-style-type: none"> <li>• Solubility</li> <li>• Filtration and evaporation</li> <li>• Distillation</li> </ul> <b>Practical ideas:</b> <ul style="list-style-type: none"> <li>• <b>Make salt crystals – use of filtration and evaporation</b></li> <li>• <b>Demo distillation of cherry coke</b></li> </ul> <b>Key skills developed:</b> <ul style="list-style-type: none"> <li>• Understand how to use a variety of techniques including filtration, evaporation and distillation</li> <li>• Explain how distillation can be used to separate liquids by their boiling point</li> </ul>	Soluble, insoluble, filter, evaporate, distillation, salt, evaporation dish, distillation, boiling point	<a href="#">Spring 2</a>
Week 3	<b>Assessment Week</b>	<p style="text-align: center;"><b>Revision</b></p> <p style="text-align: center;">Go over anything which has been highlighted as an area for development from the assessment</p>		

Week 4	<b>SCIENCE WEEK</b>			
Week 5	<b>Earth, moon and sun</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Gravity, mass and weight recap</li> <li>• Day and night, and the seasons (use double lesson for this)</li> <li>• Temperature difference in the seasons (they need a specific lesson on why this happens)</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Model what causes day and night and seasons</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Describe the difference between mass, weight and gravity</li> <li>• Explain what causes day and night</li> <li>• Explain what causes seasons</li> </ul>	Mass, weight, gravity, day, night, orbit, Earth, axis, tilt, seasons, spring, summer, autumn, winter	<a href="#">Unit 10 Earth, moon and sun</a>  <a href="#">Spring 2</a>
Week 6	<b>Earth, moon and sun</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• The phases of the moon</li> <li>• Eclipses</li> <li>• The solar system</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Model what causes eclipses</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Identify the phases of the moon</li> <li>• Explain what causes solar and lunar eclipses</li> <li>• List the order of planets in the solar system</li> <li>• Explain the difference between celestial objects (stars, planet, moon)</li> <li>•</li> </ul>	Moon, cycle, eclipse, solar, luna, planet, solar system, star, moon	Maths skills unit: <a href="#">Unit 17 Maths skills unit</a>  <a href="#">Spring 2</a>

Assessment		<a href="#">NewY7SpringAssessment.doc</a>		
SUMMER 1				
Week 1	<b>Beyond our solar system</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Life cycle of a star</li> <li>• Types of stars and their characteristics</li> <li>• Identifying stellar objects</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Research star life cycle (IT task)</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Describe the life cycle of a star</li> <li>• Explain the difference between a comet and an asteroid</li> </ul>	Protostar, nebula, black hole, red giant, comet, asteroid	<a href="#">Unit 11 Beyond our solar system</a>
Week 2	<b>Earth and the rock cycle</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Composition of the Earth</li> <li>• Volcanoes</li> <li>• lava</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>make a model volcano</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• describe the structure of the Earth</li> <li>• explain how volcanoes are formed</li> <li>• state the difference between lava and magma</li> </ul>	Mantle, inner core, outer core, crust, lava, magma, volcano	<a href="#">Unit 12 The Rock Cycle</a> <a href="#">The Rock Cycle</a>
Week 3	<b>Earth and the rock cycle</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Igneous rocks</li> <li>• Sedimentary rocks</li> </ul>	Sedimentary, igneous, metamorphic,	<a href="#">The Rock Cycle</a>

		<ul style="list-style-type: none"> <li>Fossils and metamorphic rocks</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li><b>Look at rock samples – identify features and link to rock type</b></li> <li><b>Making fossils</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>Describe how the different types of rocks are formed</li> <li>Explain how fossils are formed</li> <li>Show how rock types are linked in the rock cycle</li> </ul>	fossil, lava, layers, crystal, sediment	
Week 4	<b>Human organisation (muscular and skeletal systems)</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>Function of the skeleton</li> <li>Joints and muscles</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li><b>Make a model joint</b></li> <li><b>Skeleton model</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>Label key parts of our skeleton</li> <li>Identify the function of our skeleton: support, protect and help the body move, make blood cells</li> <li>Explain how our joints and muscles work together to allow our bodies to move</li> </ul>	Skeleton, spine, joint, muscle, tendon, skull, tibia, femur, blood cell	<p>Cells, tissues and organs booklet: <a href="#">cells-tissues-organs.docx</a></p> <p><a href="#">Unit 13 Muscular and skeletal systems</a></p> <p><a href="#">Summer 2</a></p>
Week 5	<b>Human organisation (muscular and skeletal systems)</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>Muscles</li> <li>Musculoskeletal systems and exercise</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li><b>Measure resting heart rate and heart rate after exercise</b></li> </ul>	Muscle, exercise, aerobic, anaerobic, flex, extent, bicep, triceps	<a href="#">Summer 2</a>

		<p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Understand the effect of exercise on heart rate</li> <li>• Explain the difference between flexing and extending muscles</li> <li>• Identify bones and muscles used in joints</li> </ul>		
Week 6	<b>The Periodic table</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• The periodic table (groups and periods)</li> <li>• Development of the periodic table</li> <li>• Metals and non-metals</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Identify metals and non-metals by their properties</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Identify groups and periods on the periodic table</li> <li>• Identify where metals and non-metals are on the periodic table</li> <li>• Describe the stages of development of the periodic table</li> <li>• Describe properties of metals and non-metals</li> </ul>	Group, period, periodic table, element, metal, non-metal	<a href="#">Unit 14 Periodic Table</a> <a href="#">Unit 14 Periodic Table</a>  <a href="#">Summer 2</a>
Week 7	Consolidation			
Assessment		<a href="#">NewY7SummerAssessment.doc</a>		
<b>SUMMER 2</b>				
Week 1	<b>Periodic table: properties and trends</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Group 1 alkali metals</li> <li>• Group 7 halogens</li> <li>• Group 1 and 7 trends</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Demo alkali metals (group 1) in water</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Identify location of group 1 metals (alkali metals) on periodic table</li> </ul>	Alkali metal, halogen, electron, reaction, water, float, reactive	<a href="#">Summer 2</a>

		<ul style="list-style-type: none"> <li>Describe the properties and reactions of alkali metals</li> <li>Identify location of group 7 metals (halogens) on periodic table</li> <li>Describe the properties and reactions of halogens</li> <li>Describe trends in both groups</li> </ul>		
Week 2	<b>Periodic table: properties and trends</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>Group 0 noble gases</li> <li>Recap and revision of periodic table</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li><b>Look at examples of noble gases</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>Identify location of group 0 metals (noble gases) on periodic table</li> <li>Describe the properties and reactions of noble gases</li> </ul>	Inert, gas, outer shell, xenon, neon, helium	<a href="#">Summer 2</a>
Week 3	Assessment			
Week 4	<b>Acids, alkalis and neutralisation</b>	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>Acids and alkalis</li> <li>PH scale and universal indicator</li> <li>Types of indicator</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li><b>Testing household acids and alkalis</b></li> <li><b>Litmus paper and universal indicator</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>State how to test for acids and alkalis with common indicators</li> <li>Explain what an indicator does</li> <li>Use the pH scale to identify solutions as (strong/weak) acid, alkali or neutral</li> </ul>	Acid, alkali, indicator, pH scale, universal indicator, lemon juice, toothpaste	<a href="#">Unit 14</a> <a href="#">Periodic Table</a> <a href="#">Summer 2</a>



Week 5	Acids, alkalis and neutralisation	<p><b>Key knowledge taught:</b></p> <ul style="list-style-type: none"> <li>• Making red cabbage indicator</li> <li>• Neutralisation</li> <li>• Neutralisation with stomach acid and bee/wasp stings</li> </ul> <p><b>Practical ideas:</b></p> <ul style="list-style-type: none"> <li>• <b>Making red cabbage indicator</b></li> <li>• <b>Neutralization reactions</b></li> </ul> <p><b>Key skills developed:</b></p> <ul style="list-style-type: none"> <li>• Create a pH chart using known materials</li> <li>• Understand neutralization and how it can be useful in everyday applications (antacids, stings etc)</li> </ul>	Indicator, neutralization, pH, antacid,	<a href="#">Summer 2</a>
Week 6	Consolidation			