

Bincombe Valley Primary School

Year 3/ 4 Cycle A Composites and Components

When?	Composite	Components	Disciplinary Knowledge / Working Scientifically	Golden Threads	Vocabulary
Autumn 1	States of Matter	1. Know solids using their properties. 2. Know liquids and gases using their properties. 3. Know and be able to describe melting and freezing. 4. Know condensing and evaporation. 5. Know the different stages of the water cycle. 6. Know that temperature affects evaporation rates and the water cycle.	TAPS Ask relevant questions and use different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Gather, record, classify and present data in a variety of ways to help answer questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Identify differences, similarities or changes related to simple scientific ideas and processes. Use straightforward scientific evidence to answer questions or to support their findings.	Change Pattern	• boiling point • condensation • cooled • evaporation • freeze/freezing • gas • heating/heated • Ice • liquid • material • matter • melt • melting point • oxygen • particles • precipitation • solid • solidify • states of matter • steam • temperature • water • water cycle • water vapour
Autumn 2	Sound and vibration	1. To know how sounds are made, associating some of them with something vibrating, by identifying and explaining sound sources around school. 2. To know and explain that vibrations from sounds travel through a medium to the ear. 3. To know patterns between the volume of a sound and the strength of the vibrations that produced it, by investigating the best material for absorbing sound (<i>Soundproofing</i>). 4. To know that sounds get fainter as the distance from the sound source increases, by exploring how sounds change over distance (<i>String Telephones</i>). TAPS Experiment 5. To know patterns between the pitch of a sound and features of the object that produced it, by exploring and creating	TAPS- String phones https://pstt.org.uk/unique-resources/taps/?_sft_type_of_resource=plan&_sft_age_ranges=seven-nine&_sft_taps_topics=light-and-sound Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations Take accurate measurements using standard units Use a range of equipment, including thermometers and data loggers.	Patterns Relationships	• Vibration • sound wave • volume • decibel • volume • frequency • sound source • amplitude • pitch • ear • particles • distance • soundproof • absorb sound • vacuum • eardrum

		musical instruments, and explain how they change pitch.	Gather, record, classify and present data in a variety of ways to help answer questions. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use straightforward scientific evidence to answer questions or to support their findings.		
Spring 1	Digestion and Food	- To Know the simple functions of the basic parts of the digestive system in humans. - To Know and identify the different types of teeth in humans and their simple functions. - To Know how to care for our teeth. - To Know that differences in teeth relate to an animal's diet. - To Know and construct and interpret a variety of food chains, identifying producers, predators and prey. - To Know and recognise that animal poo can give us clues about digestion, teeth and diet. TAPS Experiment- Digestion Modelling	TAPS- Digestion Modelling https://pstt.org.uk/unique-resources/taps/?sft_type_of_resource=plan&sft_age_ranges=seven-nine&sft_taps_topics=animals-including-humans Use standardised symbols when drawing diagrams Explain results using scientific knowledge. Design a results table. Plan an enquiry Recognise that scientific knowledge can solve a problem.	Relationships	- mouth - tongue - teeth - oesophagus, - stomach - small intestine, - large intestine - herbivore - carnivore - omnivore - canine - incisor - Molar - diet - healthy - unhealthy - decay - root - balanced - diet - nutrition - digestive system - producer - Food chain - producers, (plant) - predators, - prey - consumer - herbivore - Omnivore - carnivore
Spring 2	Electricity ad circuits	- To know common appliances that run on electricity - To know how to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers - To know the use of a switch - To know some common conductors and insulators, and associate metals with being good conductors. - To know and investigate what effects bulb brightness. - To know and explain how to be safe around electricity.	TAPS- Does it conduct electricity https://pstt.org.uk/unique-resources/taps/?sft_type_of_resource=plan&sft_age_ranges=seven-nine&sft_taps_topics=electricity Record and classify qualitative data. Describe materials. Draw a scientific diagram.	Relationships Change	- appliance - battery - bright - buzzer - cell - circuit - circuit break - complete circuit - conductor

		TAPS Experiment- Does it conduct electricity?	Write a method. Pose questions and plan ways to test them. Explore how scientific advances inform safety advice.		• device • dim • electrical circuit • electrical energy • insulate • insulator • lamp • light bulb • power • series circuit • switch • wire
Summer 1	Classification and changing habitats	1. To know that animals can be grouped in a variety of ways 2. To know that plants can be grouped in a variety of ways 3. To know and use classification keys to help group, identify and name a variety of living things in their local and wider environment 4. To know different habitats and their inhabitants. 5. To know and recognise the impact humans have on habitats 6. To know and recognise the impact of natural disasters on habitats TAPS Experiment- Litter Pick Questions	TAPS-Litter Pick Questions https://pstt.org.uk/unique-resources/taps/?sft_type_of_resource=plan&sft_age_ranges=seven-nine&sft_taps_topics=living-things-habitats-and-evolution Record data in different ways. Apply and create classification keys Make and use classification keys. Gather, record, classify and present data. Research using an information sheet.	Classification	• amphibians • birds • classification • classification key • danger • ecosystem • environment • fish • flowering • habitat • human impact • invertebrate • keys • mammals • non-flowering
Summer 2	Making connections	How does the flow of liquid compare? 1. To know how a flow of liquid compares 2. To know how to sort materials 3. To know the properties of a liquid 4. To know how sound travels through solid, liquid and gases 5. To know how to compare solid liquid and gases 6. To know how to present information	Plan a comparative test. Gather and record data. Conclude and evaluate the investigation. Observe carefully and apply these observations to problem solve. Report on my findings.		• bar chart • condensing • cell/battery • conclusion • evaluate • evaporating • gas • insect • liquid • medicine • motor • pharmacology • pharmacologist • precipitation • predict • solid • switch • temperature • the water cycle • trustworthy • variable

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