



Riverside Primary School and Nursery

Key Learning and Vocabulary - Unit-by-unit

SCIENCE

Year 1					
Unit 1 - Sensitive bodies	Unit 2 - Seasonal changes	Unit 3 - Materials	Unit 4 - Plants	Unit 5 - Animals	Unit 6 - Investigating animals through stories
Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	
Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving
Working scientifically skills	Working scientifically skills	Working scientifically skills	Working scientifically skills	Working scientifically skills	
To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results
Key Learning	Key Learning	Key Learning	Key Learning	Key Learning	
To name and label body parts	To identify and name a range of materials	To name activity and events in the 4 seasons	To identify and describe wild and garden plants	To name and identify common animals	To know there are different ways to answer questions
To know what we use body parts for	To describe materials by their properties	To name the 4 seasons and describe typical weather	To identify and describe deciduous and evergreen trees.	To identify and name a range of birds, mammals, fish, reptiles and amphibians	To recognise whether a test is fair
To know the five senses	To know some materials	To describe the appearance of	To know the basic structure of	To name the main body	To use results to answer



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and how they link to parts of the body	properties change	a tree's leaves in the 4 seasons	a plant.	parts of animals	questions
		To know the day length varies through the four seasons		To know that some animals are carnivores, herbivores and omnivores.	
Vocabulary	Vocabulary	Vocabulary	Vocabulary	Vocabulary	
Senses - touch, taste, sight, smell, hear, fingers, hands, eyes,nose, ear, tongue, head , body, mouth, teeth, leg, arm, ankle, wrist, shoulder, wrist, elbow, hip, thigh, neck,	Plastic, wood, brick, fabric, metal, paper, smooth, shiny, transparent, waterproof, hard soft, stretchy, bendy, absorbent, rough, smooth, shiny,	Spring, summer, autumn, winter, seasons, sunrise, sunset,	Deciduous, evergreen, plant, stem, flower, root, seed, trunk, leaf, bud, stalk, bark, wild, garden,	reptiles, birds, mammals, amphibians, fish, herbivores, carnivores, omnivores, scales, feathers, hair, wings,	Plants, animals, predicts, investigate, research, patterns, observe, group, seasons
Resources	Resources	Resources	Resources	Resources	
	Weather station	Materials tray	Wildlife spotters	Wildlife spotters	

Year 2					
Unit 1 - Living things and habitats	Unit 2 - Living things: Microhabitats	Unit 3 - Materials	Unit 4 - Animals: life cycles and health	Unit 5 - Plants	Unit 6 - Connections - Plant materials
Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	
Comparative/fair testing Research Observation over time Pattern seeking	Comparative/fair testing Research Observation over time Pattern seeking	Comparative/fair testing Research Observation over time Pattern seeking	Comparative/fair testing Research Observation over time Pattern seeking	Comparative/fair testing Research Observation over time Pattern seeking	Comparative/fair testing Research Observation over time Pattern seeking



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Identifying, grouping and classifying Problem solving	Identifying, grouping and classifying Problem solving	Identifying, grouping and classifying Problem solving	Identifying, grouping and classifying Problem solving	Identifying, grouping and classifying Problem solving	Identifying, grouping and classifying Problem solving
Working scientifically skills	Working scientifically skills	Working scientifically skills	Working scientifically skills	Working scientifically skills	
To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results
Key Learning	Key Learning	Key Learning	Key Learning	Key Learning	Key learning
To name a variety of habitats	To name a variety of plants and animals.	To recognise that objects are made from materials that suit their uses	To identify different stages of the human life cycle	To recognise that seeds need certain conditions for growth.	To describe how materials can be reused.
To know the difference between things that are living, dead, and things that have never been alive.	To classify a variety of minibeasts.	To recognise that the shape of some solid objects can be changed.	To identify and list the basic needs for survival for humans and animals.	To describe what seeds need to germinate.	To identify human-made and natural materials.
To understand that a food chain can be used to show how animals obtain food from eating either plants and/or other animals	To describe microhabitats	To compare the suitability of materials for particular uses.	To recognise the importance of exercise and personal hygiene.	To identify stages of a plants life.	To identify suitable materials based on their properties.
	To describe the job role of a		To identify how to have a	To recognise what plants	



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	botanist.		diet. balanced	healthy growth. need for	
Vocabulary	Vocabulary	Vocabulary		Vocabulary	
Habitats, living, dead, never alive, woodland, coastal, rainforest, ocean, food chain	botanist camouflage characteristics classify comparative/fair test conclusion criteria data food chain identify invertebrate method microhabitat minibeast	Metal Wood Plastic Glass Strong Weak Transparent Waterproof	Exercise Breathing Heart rate Carbohydrate Protein Vegetable Food Shelter Water Baby Toddler Child Teenager Adult	Leaves Flowers Roots Water Light Warmth Germination Shoot Seed Bulb	Reduce Reuse Recycle Properties Waterproof Plant pot Strong
Resources	Resources	Resources		Resources	



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Year 3					
Unit 1 Animals: Movement and nutrition	Unit 2 - Forces and space: Forces and magnets	Unit 3 Materials: Rocks and soils	Unit 4 Energy: Light and shadows	Unit 5 Plants: Plant reproduction	Unit 6 Making connections Does hand span affect grip strength?
Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	
Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving
Working scientifically skills	Working scientifically skills	Working scientifically skills	Working scientifically skills	Working scientifically skills	
To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results To draw conclusions To make a prediction To evaluate an enquiry	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results To draw conclusions To make a prediction To evaluate an enquiry	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results To draw conclusions To make a prediction To evaluate an enquiry	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results To draw conclusions To make a prediction To evaluate an enquiry	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results To draw conclusions To make a prediction To evaluate an enquiry	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results To draw conclusions To make a prediction To evaluate an enquiry
Key Learning	Key Learning	Key Learning	Key Learning	Key Learning	
To explain the role of a skeleton	To describe the effects of contact forces.	To group rocks using their appearance	To explain the role of light sources	To identify the growth and survival needs of plants	To revise the units Movement and nutrition and Rocks and soils.



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To recognise the main bones in the human body	To recognise the effects and uses of forces	To group rocks using their physical properties	To compare light reflecting from different surfaces	To know the function of the basic parts of a flower and their relationship	To revise the unit Forces and magnets.
To explain how muscles are used for movement	To interpret how things move on different surfaces	To describe the process of fossil formation	To know which materials cast a shadow	To investigate how water is transported in plants	To revise the unit materials.
To know that food is an essential source of energy for animals.	To describe the effects of magnets	To identify fossils and group rocks accordingly	To summarise how shadows change throughout a day	To explore the role of a flower in the life cycle of a plant	To revise the unit Light and shadow.
To identify the main nutrient groups.	To compare the properties of magnets	To compare soils and describe how they were formed	To investigate how the distance of light sources affects the size of a shadow	To explore seed dispersal methods	
To explain what makes a balanced diet.	To explain the uses of magnets.	To describe a soil sample using sedimentation.			
Vocabulary	Vocabulary	Vocabulary	Vocabulary	Vocabulary	
Balanced diet, energy, endoskeleton, exoskeleton, nutrient group, movement, vertebrae, protection, invertebrate, contract, reflex, food chain	Force, friction, magnet, North Pole, South Pole, attract, repel, magnetic material, non/contact force, electromagnet	igneous rock, metamorphic rock, sedimentary rock, Permeable, Impermeable, hard/soft, acid rain, fossil, organic matter, sedimentation	shadow light source luminous non-luminous opaque reflect reflective (shiny) translucent transparent	Flowering plant, seed dispersal, pollen, pollination, reproduction, transport, male, female, variable, record, pattern, predict, results table	Bar charts, conclusion, opaque, shadow, bone, fat, light source, carbohydrate, muscle, friction, protein, variable, conclusion, predict, trustworthy
Resources	Resources	Resources	Resources	Resources	



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Year 4					
Digestion and Food	Electricity and Circuits	States of Matter	Sounds and Vibrations	Classification and changing habitats	Making Connections
Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry
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Working scientifically skills	Working scientifically skills	Working scientifically skills	Working scientifically skills	Working scientifically skills	Making Connections
To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results To draw conclusions To make a prediction To evaluate an enquiry	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results To draw conclusions To make a prediction To evaluate an enquiry	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results To draw conclusions To make a prediction To evaluate an enquiry	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results To draw conclusions To make a prediction To evaluate an enquiry	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results To draw conclusions To make a prediction To evaluate an enquiry	To ask scientific questions To plan an enquiry To observe closely To take measurements To gather/record results To interpret results To draw conclusions To make a prediction To evaluate an enquiry
Key Learning	Key Learning	Key Learning	Key Learning	Key Learning	
To know the names of the digestive organs and be able to describe their functions.	To know how an electrical circuit works and be able to identify the different parts.	To know what the properties of solids, liquids and gases are.	Sound is a result of vibrations.	To know that living things can be grouped in different ways	How to compare and group materials together, according to whether they are solids, liquids or gases.

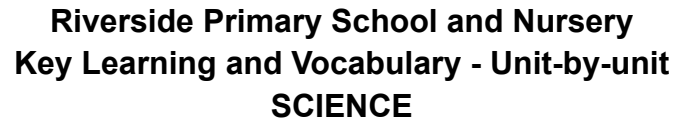


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To know the names of the different human teeth and describe their functions.	To be able to explain what the different parts of a circuit does such as a switch, battery, bulb and buzzer.	To know that heating causes solids to turn to liquid and liquids to turn to gases.	Different materials provide different amounts of insulation against sound.	To know that vertebrates are animals with a backbone and invertebrates do not	Environments can change and that this can sometimes pose dangers to living things.
To understand the importance of oral hygiene.	To know what an electrical conductor is and be able to give examples.	To know that cooling causes gases to turn to liquids and liquids to turn to solids.	Quicker vibrations cause higher-pitched sounds and slower vibrations cause lower-pitched sounds.	To know that plants can be grouped into flowering and non-flowering varieties	Some common conductors and insulators, and associate metals with being good conductors.
To understand the difference between carnivores and herbivores and why they are different.	To know what an electrical insulator is and be able to give examples.	To know the temperature that water freezes and boils at.	Stronger vibrations cause louder sounds and weaker vibrations cause quieter sounds.	Humans can have both a positive and negative impact on the environment.	To know the simple functions of the basic parts of the digestive system in humans.
To be able to create and explain food chains.	To understand how to be safe around electrical components.		An insulating material reduces the amount of vibrations that pass through it and can be used to protect the ears from damaging sounds.		
Vocabulary	Vocabulary	Vocabulary	Vocabulary	Vocabulary	
Absorb, Canine, Carnivore, Digest, Faeces, food chain, Herbivore, Incisor, large intestine, Molar, Mouth, Oesophagus, Omnivore, Predator, Premolar, Prey, Producer, Saliva, small intestine, stomach.	Ammeter, appliance, battery, bulb, buzzer, cell, circuit, component, electrical conductor, electrical insulator, electricity, hazard, mains, material, motor, power source, precaution, property, safety, series circuit, switch, wire.	boiling point, compress, condensation, condensing, condensing point, evaporating, freezing, freezing point, gas, gaseous, liquid, matter, melting, melting point, precipitation, rate, solid, state, steam, temperature, thermometer, the water cycle, volume, water vapour.	air bar chart eardrum insulator observe (KS1) pitch plan (KS1) predict (KS1) proof record research (KS1) results table sound trustworthy vibrations	classification key classify conservation deforestation endangered flowering plants group (KS1) insect nature reserve non-flowering plants observe (KS1) pollution research (KS1) slug snail	classification key classify conservation deforestation endangered flowering plants group (KS1) insect nature reserve non-flowering plants observe (KS1) pollution research (KS1) slug snail

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Key Learning	Key Learning	Key Learning	Key Learning	Key Learning	Key Learning
To describe the movement and shapes of the celestial bodies in our Solar System.	To describe mixtures	To determine the hardness of different materials and link this to their uses.	To describe the life cycle of a plant, including the reproductive stage.	To describe gravity and its effects.	To describe how humans change from babies through to old age.
To describe the movement of the Moon relative to the Earth.	To explain the process of sieving	To determine the transparency of different materials and link this to their uses.	To describe the life cycle of a mammal.	To describe air resistance and its effects.	To identify changes in males and females as a result of puberty.
To explain the causes of day and night and the seasons.	To explain the process of filtering	To determine the conductivity of different materials and link this to their uses.	To describe the life cycle of a bird and compare it with that of a mammal.	To describe water resistance and its effects.	To explore the gestation periods of humans and other animals.
To describe some uses of satellites and the problems posed by space junk.	To describe solutions and how they can be identified	To understand reversible changes and explain this using changes of states.	To describe the life cycle of an amphibian.	To describe friction and its effects.	To use a line graph to identify patterns in height and predict values.
Oracy outcome: To create a three minute 'You tube' info video on the Solar System.	To identify which factors affect time taken to dissolve	To understand irreversible changes (burning, rusting, mixing).	To describe the life cycle of an insect and compare it with that of an amphibian.	To describe the effects of levers, pulleys and simple machines on movement.	To plot data on a scatter graph.
	To describe the process of evaporation	Write a prediction using knowledge about changes of state.	To describe asexual reproduction in plants.	To plan a fair test	
Vocabulary	Vocabulary	Vocabulary	Vocabulary	Vocabulary	Vocabulary



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Celestial objects Solar System axis phase orbit Rotate tilt heliocentric Space junk satellite	soluble insoluble particle sieve solution dissolve evaporation filtering mixture crystallising	Reversible Irreversible hardness transparency opaque Translucent transparent conductivity conductors Insulators burning rusting Dissolving mixing Change of state	runner/bulb fertilisation pollen ovary Anther filament Style stigma petal/sepal asexual juvenile incubation fledgling Hatchling nestling	gravity friction Force lever load Pivot Effort balanced unbalanced distance Non-contact force mass pulley gear	Life cycle puberty gestation menstruation foetus hormones adolescence adulthood childhood Old age
Resources	Resources	Resources	Resources	Resources	Resources

Year 6				
Unit 1 - Living Things: Classifying big and small	Unit 2 - Energy: Light and reflection	Unit 3 - Living Things: Evolution & Inheritance	Unit 4 - Energy: Circuits, batteries and switches	Unit 5 - Animals, including humans: Circulation and health
Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry
Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving	Comparative/fair testing Research Observation over time Pattern seeking Identifying, grouping and classifying Problem solving
Working scientifically skills	Working scientifically skills	Working scientifically skills	Working scientifically skills	Working scientifically skills



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Key Learning	Key Learning	Key Learning	Key Learning	Key Learning
To explain how organisms are classified using the Linnaean system.	To describe the pathway of light.	To explain why there are differences within a species	To use recognised symbols for electrical components.	To identify factors that affect our health and how to reduce their negative impact
To classify the cold-blooded vertebrate groups using their common characteristics	To describe how we see.	To recognise the inheritance of characteristics in plants and animals	To predict and present results for electrical circuits.	To summarise the key structures and purpose of the circulatory system
To classify the warm-blooded vertebrate groups using their common characteristics	To explain how shadows change	To explain why adaptation is necessary	To recognise a link between the number of components and resistance.	To identify the key roles of blood.
To classify invertebrates.	To investigate what affects the angle of the reflected ray.	To model how natural selection affects population size	To identify ways to change voltage within an electrical circuit.	To explore the relationship between animal size and heart rate
To describe how the plant kingdom is organised (based on shared characteristics)	To explain how a periscope works	To describe the theory of evolution.	To investigate how voltage affects bulb brightness.	To investigate the relationship between exercise and heart rate
To describe and classify micro-organisms.	To explain how mirrors are helpful.		To apply knowledge of circuits and components to a practical solution.	To describe the relationship between heart rate and fitness



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Vocabulary	Vocabulary	Vocabulary	Vocabulary	Vocabulary
Vertebrate invertebrate mammal classify characteristics cold blooded warm blooded microbes organisms	Reflection periscope light Angle luminous source Ray	Adaptation evolution gene ancestor Environmental characteristic extinct inherit evidence variation species habitat fossil specimen survival	Appliance battery bulb buzzer cell circuit component current electricity motor power source switch voltage wire	Anomaly, carbon dioxide, circulatory system, bloodstream
Resources	Resources	Resources	Resources	Resources
Food group games - pyramid Human body - Heartbox	Torches tray Coloured lenses tray Prism lens tray	Kapow worksheets Videos	Electricity trays: 1.5v bulbs, 3.5v bulbs, batteries, wires, crocodile wires,	