Science Enquiry Questions and Assessment Checkpoints

2023/2024 EYFS Understanding the World	Spring 1	Spring 2	Summer 1	Summer 2
Lead Enquiry Question (Composite Outcome)	Understanding the world What will I find down on the farm? *Animals and plants link to KS1 science*	Understanding the world Are we there yet? *Pushes and pulls KS1 science link*	Which house will you choose? *Materials KS1 science link*	Can I find a star fish in the woods? *Animals- minibeasts KS1 science link*
Component Questions (components to be explored throughout the unit)	CQ1: Can I name different groups of farm animals? CQ2: Can I talk about farm animals? CQ3: Can I compare habitats? CQ4: Can I observe and discuss changes in plants and seeds? CQ5: Can I explain where the food we eat comes from?	CQ1: Can I experiment pushing a car on a flat surface? CQ2: Can I experiment pushing a car on a ramp? CQ3: Can I experiment with different surfaces on a ramp? CQ4: Can I experiment with different objects and water?	CQ1: Can I discuss different materials and predict strength? CQ2: Can I investigate the strength of materials? CQ3: Can I plant beans?	CQ1: Can I hunt for minibeasts? CQ2: Can I identify different minbeasts? CQ3: Can I explain where you might find minibeasts?
Assessment Checkpoint	Children who are **secure** will be able to: ✓ Name and classify animals ✓ Explore a range of animals ✓ Know that we can eat some plants ✓ Identify and name farm animals and their young	Children who are **secure** will be able to: ✓ Investigate plants and forces ✓ Investigate objects that float and sink ✓ Identify different objects	Children who are **secure** will be able to: ✓ Create houses using different materials ✓ Investigate how strong materials are ✓ Plant beans ✓ Identify what plants need	Children who are **secure** will be able to: ✓ Identify and name common minibeasts ✓ Explain where minibeasts are most likely to be found

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2023/2024 Year 1	Spring 1	Spring 2	Summer 1	Summer 2
Lead Enquiry Question (Composite Outcome)	Materials What are materials?	Uses of materials How can materials be used?	Plants What is a plant?	Seasons How do seasons change?
Component Questions (components to be explored throughout the unit)	CQ1: What are different materials called? CQ2: What is the difference between an object and a material? CQ3: What are the properties of materials? CQ4: Which objects are natural and which are manmade? CQ5: Which objects will float? CQ6: Which materials are best for different objects?	CQ1: How can a structure be strong? CQ2: What makes something waterproof? CQ3: What properties does glass have? CQ4: Which materials make furniture? CQ5: What properties do fabrics have? CQ6: Why are certain materials suitable for certain things?	CQ1: How does a seed grow into a plant? CQ2: What are the basic parts of a plant? CQ3: How can different plants grow in the same environment? CQ4: What is the difference between evergreen and deciduous trees? CQ5: Are fruits and vegetables plants?	CQ1: How many seasons are there? CQ2: What changes happen in Autumn? CQ3: What happens in winter? CQ4: What changes happens in spring? CQ5: What is summer like? CQ6: How can you measure rainfall?
Assessment Checkpoint	Children who are **secure** will be able to: ✓ Predict which materials will float ✓ Name and identify common materials ✓ Explain the difference between an object and the material that makes it ✓ Describe the properties of materials	Children who are **secure** will be able to: ✓ Name and identify common materials ✓ Explain the difference between an object and the material that makes it ✓ Describe the properties of materials ✓ Comapre and group materials based on properties	Children who are **secure** will be able to: ✓ Identify and name a variety of common plants ✓ Describe the basic structure of plants and trees	Children who are **secure** will be able to: ✓ Observe changes across the 4 seasons ✓ Observe and describe weather associated with the seasons ✓ Investigate ways to measure and compare rainfall

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2023/2024 Year 2	Spring 1	Spring 2	Summer 1	Summer 2
Lead Enquiry Question (Composite Outcome)	Materials How can I group materials?	Living things and their habitats- Land focus How are animals suited to their habitats?	Plants What do plants need?	Living things and their habitats- Sea focus How are animals suited to their habitats?
Component Questions (components to be explored throughout the unit)	CQ1: What are different materials used for? CQ2: What materials are suitable to build a bridge? CQ3: Which materials are stretchy? CQ4: How can materials change their shape? CQ5: How are materials suitable for different purposes? CQ6: Which materials change shape?	CQ1: What is the difference between living things, dead things and things that have never been alive? CQ2: What is a habitat? CQ3: What do animals need to survive in a habitat? CQ4: What is a food chain? CQ5: How does food get from farm to supermarket?	CQ1: What is the difference between seeds and bulbs? CQ2: What do plants need to grow? CQ3: What os the life cycle of a plant? CQ4: How long does a plant take to grow? CQ5: How do plants adapt to suit their environment?	CQ1: How does the environment change? CQ2: What is life like in the ocean? CQ3: What is an arctic habitat like?
Assessment Checkpoint	Children who are **secure** will be able to: ✓ Identify and compare the suitability of materials for particular uses ✓ Investigate how the shapes of objects can be changed	Children who are **secure** will be able to: ✓ Explore and compare living/dead/never alive things ✓ Identify how animals adapt to their habitats	Children who are **secure** will be able to: ✓ Describe and observe how seeds/blubs grow into plants ✓ Find out how plants need water, light and temperature to grow	Children who are **secure** will be able to: ✓ Create a model of a habitat ✓ dentify how animals adapt to their habitats ✓ Identify and name living things in their habitat

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		✓ Identify and name living things in their habitat ✓ Explain how animals obtain their food from plants and other animals	✓ Know the difference between seeds and bulbs	

2023/2024 Year 3	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Lead Enquiry Question (Composite Outcome)	Plants How do plants survive?	Light What is light?	Forces What is a force?	
Component Questions (components to be explored throughout the unit)	CQ1: What factors affect plant growth? CQ2: What are the functions of plant parts? CQ3: How does water move in plants? CQ4: What is the life cycle of a plant? CQ5: What is pollination?	CQ1: How are shadows formed? CQ2: How do we know light travels in a straight line? CQ3: What are different mirrors for? CQ4: How does a periscope work? CQ5: How do reflective surfaces keep us safe? CQ6: How do we protect ourselves from the sun?	CQ1: What is magnetism? CQ2: What can different magnets do? CQ3: How do magnetic fields work? CQ4: How does a compass work? CQ5: How does the surface affect friction? CQ6: What forces are out there?	

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Assessment Checkpoint	Children who are **secure** will be able to: ✓ Describe what a plant needs to grow ✓ Explain methods of pollination ✓ Investigate the life cycle of a plant ✓ Explore the functions of a plant ✓ Describe how water moves in a plant and is important for plants	Children who are **secure** will be able to: ✓ Notice that light is reflected from surfaces ✓ Associate shadows with light ✓ Describe that light from the sun can be dangerous ✓ Explain how we can stay safe in the dark ✓ Investigate how a periscope works	Children who are **secure** will be able to: ✓ Use the term friction to describe how things move on different surfaces ✓ Investigate the way magnets attract or repel each other ✓ Compare the magnetism of different materials and make conclusions about them ✓ Describe a variety of forces ✓ Explore how a compass works ✓ Use poles to describe magnets and predict whether they will repel or attract each other.

2023/2024 **Year 4**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Lead Enquiry Question (Composite Outcome)	Living things: Conservation What is conservation?	Sound How do we hear?	Electricity How does electricity work?	Animals including Humans- digestion How do we digest food?
Component Questions (components to be explored throughout the unit)	CQ1: What is an ecosystem? CQ2: How is nature balanced? CQ3: How do humans impact ecosystems? CQ4: What is air pollution? CQ5: What is water pollution?	CQ1: How does sound travel? CQ2: What causes sound? CQ3: Does sound travel faster than light? CQ4: How do sounds differ? CQ5: How does sound travel in different states of matter?	CQ1: How is electricity transported? CQ2: When will a lamp light? CQ3: What are the basic parts of a circuit? CQ4: What are conductors and insulators?	CQ1: What is the role of salivary glands and taste buds? CQ2: What are vitamins and minerals? CQ3: What are the different types of teeth? CQ4: How does the digestive system work?

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	CQ6: How do we conserve water? CQ7: How can we change the future?		CQ5: What are series and parallel circuits?	CQ5: What is the food pyramid? CQ6: What is a food chain?
Assessment Checkpoint	Children who are **secure** will be able to: ✓ Recognise that environments can change and that this can pose a threat to living things ✓ Investigate different types of pollution ✓ Explain how we can conserve water ✓ Develop ideas for conservation	Children who are **secure** will be able to: ✓ Identify the way sounds are made ✓ Describe how sounds travels using the word vibration ✓ Investigate how sound travels through different states of matter ✓ Compare the speed of sound and light	Children who are **secure** will be able to: ✓ Identify things that run on electricity ✓ Construct simple electrical circuits ✓ Identify and name parts of a circuit ✓ Recognise common conductors and insulators ✓ Explain if/why a lamp will light or not in a simple circuit	Children who are **secure** will be able to: ✓ Explain what makes a good diet ✓ Describe the different teeth and what they are used for ✓ Identify and describe the parts of the digestive system ✓ Classify animals based on specific characteristics ✓ Make and explore food chains

2023/2024 Year 5	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Lead Enquiry Question (Composite Outcome)	Living things: Life Cycles How do life cycles of different animals differ?	Materials- properties How do the properties of different materials differ?	Materials- changes How can materials change?	Animals including humans How do humans change?

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Component Questions (components to be explored throughout the unit)	CQ1: What are the life processes of a plant? CQ2: What are the life processes of an animal? CQ3: How do the life cycles of insects and amphibians compare? CQ4: How do the life cycles of birds and reptiles compare? CQ5: What are David Attenborough and Jane Goodall famous for? CQ6: Can you present the life cycle of a specific animal?	CQ1: What properties do materials have? CQ2: What are thermal conductors and insulators? CQ3: Which materials are hard? CQ4: Which materials are soluble in water? CQ5: How are materials soluble? CQ6: How can mixtures be separated?	CQ1: How can evaporation recover a solute from a solution? CQ2: What is a reversable change? CQ3: How are new materials made? CQ4: What is rust? CQ5: What makes a burning reaction? CQ6: What is a chemical reaction?	CQ1: What are the key stages of a mammals life cycle? CQ2: What is the gestation period of mammals? CQ3: What is foetal development? CQ4: How does age impact hand span? CQ5: What changes are experienced during puberty? CQ6: What changes might humans experience in old age?
Assessment Checkpoint	Children who are **secure** will be able to: ✓ Describe the life cycles of different animals ✓ Research animals ✓ Compare and contrast the life cycles of different types of animals	Children who are **secure** will be able to: ✓ Compare and group materials based on hardiness, solubility, conductivity and magnetism ✓ Investigate how some materials will dissolve ✓ Use knowledge of solids, liquids and gasses to decide how mixtures should be separated ✓ Give reasons for the uses of particular materials	Children who are **secure** will be able to: ✓ Describe how to recover a substance from a solution ✓ Demonstrate that dissolving, mixing and changes of state are reversable changes ✓ Explain that some changes result in the formation of new materials ✓ Compare reversable and irreversible changes	Children who are **secure** will be able to: ✓ Describe the changes as humans develop to old age ✓ Investigate the correlation between age and hand span ✓ Explain the life cycle of a mammal ✓ Describe and identify changes in the human life cycle

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2023/2024 Year 6	Spring 1	Spring 2	Summer 1	Summer 2
Lead Enquiry Question (Composite Outcome)	Evolution and Inheritance What is evolution?	Living things and habitats	Animals: Circulation What does blood do?	Lifestyle, diet and exercise How does lifestyle affect our bodies?
Component Questions (components to be explored throughout the unit)	CQ1: How do offspring vary? CQ2: How have animals adapted? CQ3: How do plants adapt? CQ4: What can we learn from fossils? CQ5: What is the theory of evolution?	CQ1: How can I classify living organisms? CQ2: What are the kingdoms of life? CQ3: What is the Linnaean system? CQ4: What are the characteristics of different types of microorganisms? CQ5: What is asexual reproduction?	CQ1: What is the function of the heart? CQ2: What are blood vessels? CQ3: What is blood? CQ4: How does the body transport water and nutrients? CQ5: What affects your heart rate? CQ6: How do drugs and alcohol affect the body?	CQ1: What makes a good diet? CQ2: How does exercise affect the body? CQ3: What impact does our lifestyle have on us?

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Assessment Checkpoint	Children who are **secure** will be able to: ✓ Discover links between extinct animals and those living today ✓ Describe the theory of evolution ✓ Research the work of Charles Darwin and Mary Anning	Children who are **secure** will be able to: ✓ Classify living things ✓ Identify the kingdoms of life ✓ Investigate mould growth	Children who are **secure** will be able to: ✓ Identify the parts of the circulatory system ✓ Describe the function of the heart, blood vessels and blood ✓ Recognise the impact of diet, exercise drugs and lifestyle ✓ Describe how nutrients and water are transported in animals	Children who are **secure** will be able to: ✓ Describe the impact of lifestyle, diet and exercise on the body ✓ Investigate the impact of exercise