Science Overview at St Gregory's

Autumn 1

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Unit	**Seasonal Changes (Autumn)**	**Everyday Materials**	**Light**	**Electricity**	**Living Things & Habitats**	**Light**
LO 1	Observe and describe typical autumn weather.	Identify everyday materials.	Explain that light is needed to see objects.	Identify common electrical appliances.	Distinguish between living, dead and never-alive.	Explain that light travels in straight lines.
LO 2	Identify changes in the local environment.	Describe simple material properties.	Identify different light sources.	Construct a simple electrical circuit.	Classify living things using observable features.	Explain how light enters the eye.
LO 3	Observe changes in day length.	Compare materials for different uses.	Investigate how shadows are formed.	Identify components of a circuit.	Use classification keys.	Explain reflection using diagrams.
LO 4	Use simple equipment to observe weather.	Carry out simple material tests.	Explore reflection from surfaces.	Test complete and incomplete circuits.	Explore local habitats.	Investigate how shadows change.
LO 5	Record observations using charts and drawings.	Record results using tables and labels.	Record findings using diagrams and tables.	Use recognised circuit symbols.	Explain how environments can change.	Use scientific diagrams to support explanations.

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Autumn 2

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Unit	**Seasonal Changes (Winter)**	**Animals Including Humans**	**Forces & Magnets**	**Sound**	**Forces**	**Electricity**
LO 1	Describe winter weather.	Identify animal groups.	Describe pushes and pulls.	Identify how sounds are made.	Explain gravity.	Build series circuits with increasing complexity.
LO 2	Compare autumn and winter.	Identify animal diets.	Compare movement on surfaces.	Explain sound as vibration.	Investigate friction.	Explore how voltage affects brightness.
LO 3	Identify how winter affects plants and animals.	Describe animal life cycles.	Investigate magnetism.	Explore pitch and volume.	Explore air resistance.	Compare components in circuits.
LO 4	Make regular weather observations.	Identify basic needs for survival.	Identify magnetic materials.	Investigate how sound travels.	Test levers, pulleys or gears.	Use standard circuit symbols.
LO 5	Talk about seasonal patterns.	Explain how animals survive.	Record results accurately.	Identify patterns in sound.	Draw conclusions from tests.	Evaluate circuit effectiveness.

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Spring 1

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Unit	**Animals Including Humans**	**Animals Including Humans**	**Rocks**	**States of Matter**	**Properties & Changes of Materials**	**Animals Including Humans**
LO 1	Identify common animals.	Describe growth into adulthood.	Identify rock types.	Classify solids, liquids and gases.	Compare and group materials.	Identify the circulatory system.
LO 2	Group animals by diet.	Identify survival needs.	Describe rock properties.	Measure temperature.	Investigate dissolving.	Explain functions of the heart and blood.
LO 3	Compare animal structures.	Explore healthy lifestyles.	Explore fossils.	Observe changes of state.	Separate mixtures.	Investigate lifestyle impacts.
LO 4	Label human body parts.	Collect and record data.	Investigate soil formation.	Explore evaporation.	Test reversible changes.	Collect evidence from investigations.
LO 5	Identify the five senses.	Explain findings clearly.	Record results scientifically.	Explain the water cycle.	Justify material use.	Evaluate health choices.

Spring 2

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

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Unit	Plants	Plants	Plants	Animals Including Humans	Earth & Space	Living Things & Habitats
LO 1	Identify common plants.	Observe germination.	Identify plant functions.	Describe the digestive system.	Describe planets in the solar system.	Describe different life cycles.
LO 2	Identify plant parts.	Investigate growth conditions.	Investigate water transport.	Identify types of teeth.	Explain day and night.	Explain reproduction.
LO 3	Observe plant growth.	Measure change.	Explore pollination.	Construct food chains.	Model planetary movement.	Compare living things.
LO 4	Describe what plants need.	Record results.	Record observations.	Gather evidence.	Use diagrams and models.	Record findings clearly.
LO 5	Record plant growth.	Draw conclusions.	Evaluate findings.	Explain results.	Evaluate models.	Interpret evidence.

Summer 1

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Unit	Seasonal Changes (Spring–Summer)	Plants	Animals Including Humans	Living Things & Habitats	Living Things & Habitats	Evolution & Inheritance
LO 1	Observe spring and summer weather.	Identify plant varieties.	Identify nutrients.	Group organisms.	Compare life cycles.	Explore fossil evidence.
LO 2	Identify seasonal features.	Observe seed dispersal.	Identify skeletons.	Use classification keys.	Describe reproduction.	Identify inherited traits.

LO 3	Observe day length changes.	Explore habitats.	Investigate movement.	Explore environments.	Collect evidence.	Explain adaptation.
LO 4	Compare seasons.	Record data.	Record results.	Investigate environmental change.	Record data.	Use evidence to support ideas.
LO 5	Explain seasonal patterns.	Explain findings.	Draw conclusions.	Evaluate human impact.	Explain differences.	Draw conclusions about evolution.

Summer 2

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Unit	Everyday Materials	Living Things & Habitats	Plants	Animals Including Humans	Animals Including Humans	Living Things & Habitats
LO 1	Identify everyday materials.	Identify habitats.	Observe plant life cycles.	Identify body systems.	Describe human development.	Classify organisms.
LO 2	Describe material properties.	Identify food chains.	Record plant changes.	Explain body functions.	Explore lifestyle choices.	Investigate environments.
LO 3	Compare and group materials.	Observe relationships.	Analyse growth data.	Gather evidence.	Collect data.	Use scientific vocabulary accurately.
LO 4	Explain material uses.	Record observations.	Present findings.	Interpret results.	Analyse results.	Present conclusions clearly.

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LO 5	Justify material selection.	Evaluate findings.	Evaluate investigations.	Reflect on learning.	Evaluate health impacts.	Evaluate human impact on habitats.

End of Key Stage Expectations

End of Key Stage 1	End of Key Stage 2
Pupils should be taught to: **Working Scientifically** • Ask simple questions and recognise that they can be answered in different ways • Observe closely, using simple equipment • Perform simple tests • Identify and classify • Use their observations and ideas to suggest answers to questions • Gather and record data to help in answering questions **Animals, including humans** • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • Identify and name a variety of common animals that are carnivores, herbivores and omnivores	Pupils should be taught to: **Working Scientifically** • Ask relevant scientific 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, taking accurate measurements using standard units and equipment • Gather, record, classify and present data in a variety of ways • Record findings using scientific language, drawings, labelled diagrams, keys, bar charts and tables • Report on findings from enquiries, including oral and written explanations and conclusions • Use results to draw conclusions, make predictions and suggest improvements

- Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)
- Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense
- Notice that animals, including humans, have offspring which grow into adults
- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene

Plants

- Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees
- Identify and describe the basic structure of a variety of common flowering plants, including roots, stems/trunks, leaves and flowers
- Observe and describe how seeds and bulbs grow into mature plants
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

Everyday materials

- Distinguish between an object and the material from which it is made
- Identify differences, similarities or changes related to scientific ideas and processes
- Use straightforward scientific evidence to answer questions or support findings

Animals, including humans

- Identify that animals, including humans, need the right types and amount of nutrition and cannot make their own food
- Identify that humans and some other animals have skeletons and muscles for support, protection and movement
- Describe the simple functions of the basic parts of the digestive system in humans
- Identify the different types of teeth and their simple functions
- Construct and interpret food chains, identifying producers, predators and prey
- Describe the changes as humans develop to old age
- Identify and name the main parts of the human circulatory system and describe their functions
- Recognise the impact of diet, exercise, drugs and lifestyle on the way bodies function
- Describe how nutrients and water are transported within animals, including humans

- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- Describe the simple physical properties of a variety of everyday materials
- Compare and group together a variety of everyday materials on the basis of their simple physical properties
- Identify and compare the suitability of a variety of everyday materials for particular uses
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

Seasonal changes

- Observe changes across the four seasons
- Observe and describe weather associated with the seasons and how day length varies

Plants

- Identify and describe the functions of different parts of flowering plants
- Explore requirements of plants for life and growth and how they vary
- Investigate the way water is transported within plants
- Explore the role of flowers in reproduction, pollination, seed formation and dispersal

Living things and their habitats

- Recognise and group living things in a variety of ways
- Use classification keys to group, identify and name living things
- Recognise that environments can change and pose dangers to living things
- Describe differences in the life cycles of mammals, amphibians, insects and birds
- Describe reproduction processes in plants and animals
- Describe how living things are classified into broad groups based on characteristics
- Give reasons for classifying plants and animals

	Evolution and inheritance • Recognise that living things have changed over time and fossils provide information about past organisms • Recognise that offspring vary and are not identical to parents • Identify how animals and plants are adapted to their environment, leading to evolution **Rocks** • Compare and group different kinds of rocks • Describe how fossils are formed • Recognise that soils are made from rocks and organic matter **States of matter** • Compare and group materials as solids, liquids or gases • Observe changes of state due to heating or cooling • Identify evaporation and condensation in the water cycle **Properties and changes of materials** • Compare and group materials based on properties • Know that some materials dissolve and how to recover substances • Use knowledge of states of matter to separate mixtures

	• Give reasons for the uses of materials • Identify reversible and irreversible changes **Forces** • Explain that unsupported objects fall due to gravity • Identify effects of friction, air resistance and water resistance • Recognise how levers, pulleys and gears allow smaller forces to have a greater effect **Light** • Recognise that light travels in straight lines • Explain how objects are seen • Use understanding of light to explain shadows **Sound** • Identify how sounds are made • Recognise vibrations and sound travel • Find patterns between pitch, volume and vibration • Recognise that sounds get fainter with distance **Electricity** • Identify common appliances that run on electricity

	• Construct simple series circuits • Recognise switches, conductors and insulators • Use recognised symbols in circuit diagrams • Compare how components work in circuits