Potters Gate C of E Primary School

Curriculum Overview: Science

ST. ANDREW'S C. of E. INFANT SCHOOL
An Academy in The Good Shepherd Trust

Reception

 					
ELG: The Natural World	ELG: The Natural World	ELG: The Natural World	ELG: The Natural World	ELG: The Natural World	ELG: The Natural World
-know the names for parts of my body -know the life cycle of a human -Know that food comes from seed (Harvest seeds for our garden) -Know that Autumn is a Season - Observe changes in the environment as we head into Autumn.	-Know that Winter is a season. -Observe changes in the environment as we head into Winter. -Explore freezing and melting. -Exploring Hibernation and hedgehog habitats.	-Know that Palaeontology is the study of fossils -Know how to use non-fiction books to learn about dinosaurs -Know some animals which lay eggs -Know that in Winter the days are shorter -Make observations of light and shadow by	-Know that Spring is a Season -Make observations of the signs of Spring. - Know how to use information books to learn about inside the human body -Know that humans have a skeleton	-Categorise and compare minibeasts -Know about the life cycle of a frog and a butterfly as well as other mini-beasts -Know the life cycle of a plant/seed -Know how to grow and care for plants -Make observations on the structure of plants (seed, root, shoots, stem, flower, leaves)	- Know that some objects float and some sink -Know how to make predictions -Know that Summer is a Season Make observations about the signs of Summer -Know that some objects are man-made and some are natural
Nature Connectivity Autumn nature walks around school Making bird feeders for our garden	Nature Connectivity Freezing and melting outside	Nature Connectivity Winter nature walks around school. Reptile Handler visit.	Nature Connectivity Spring nature walk around school. Growing in our garden	Nature Connectivity Visit to Gilbert White Garden Hunting for minibeasts in our garden	Nature Connectivity Visit to Space to Grow Nurturing our garden and harvesting food Building boats outside

Potters Gate C of E Primary School

Curriculum Overview: Science

ST. ANDREW'S C. of E. INFANT SCHOOL
An Academy in The Good Shepherd Trust

Year 1

					
Biology	Biology	Chemistry	Chemistry	Biology	Biology
Animals including humans Seasons - Autumn	Animals including humans	Materials Seasons - Winter	Materials Seasons - Spring	Trees	Plants Seasons - Summer
• Identify, name, draw and label body parts of the human body • Associate different parts of the body to different senses • Identify differences and similarities within the four seasons.	• Identify and name animals in our environment. • Name the different body parts of different animals. • Compare animal groups. • Begin to understand the difference between the animals in different groups. • Learn which animals are carnivores, herbivores and omnivores.	• Measure and record Winter weather • Interpret data • Identify materials that different objects are made from. • Name a range of different materials.	• Group a range of different materials based on their properties. • Name the properties of different materials. • Explain why materials were chosen to make objects.	• I know how to identify different trees in the school environment • I know the different parts of trees. • I know how to draw and label a diagram of a tree. • I know the names of trees in the school environment. • I know how to identify and name different trees in my locality. • I know how to compare deciduous and evergreen trees.	• I know how to set up a bean to grow and be observed over time. • I know how to identify and name the parts of a plant. • I know how to name and identify wildflowers. • I know how to observe signs of summer.
Nature Connectivity Autumn walk	Nature Connectivity Farm Visit Exploring living things within the school grounds.	Nature Connectivity Winter Walk Measuring Winter Weather	Nature Connectivity Materials hunt around the school. Spring walk	Nature Connectivity Trip to Alice Holt. Exploration of trees and plants in the school grounds.	Nature Connectivity Summer Walk Identify signs of Summer and observe seasonal weather changes.

Potters Gate C of E Primary School

Curriculum Overview: Science

ST. ANDREW'S C. of E. INFANT SCHOOL
An Academy in The Good Shepherd Trust

Year 2					
					
Biology	Biology	Chemistry	Biology	Biology	Biology
Animals including humans	Living things and their habitats	Materials and their uses	Animals including humans	Plants	Plants
• Compare the life cycles of different animals • Stages of a human life cycle • The basic survival needs of humans • Importance of exercise, diet and hygiene	• Compare the differences between things that are living, dead or have never been alive. • Exploring habits of plants and animals	• Identify a range of materials and their uses • Understand what a natural material is and what it can be used for • Compare the suitability of a variety of everyday materials • Find out how the shapes of objects made from some materials can be changed by squashing, bending, twisting and stretching • Explore which materials can be recycled and what they are used as	• Identify, know and understand what an invertebrate is • Explore different microhabitats and create a suitable one for a minibeast (wormery) • Explore why minibeasts and their microhabitats are important. • Observe changes to a habitat (wormery) over time	• Explore different plants and trees in the school environment • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. • Investigate different plants and their seeds and the conditions they need to grow	• Know and understand the lifecycle of a plant • Explore why minibeasts and their microhabitats are important. • Name and identify different plants and whether they are edible • Understand the role bees play in helping plants and our environment • Compare the different features of plants and how they are suited to their environment
			Nature Connectivity Wormery	Nature Connectivity Hillier Gardens Planting own seeds	

Potters Gate C of E Primary School

Curriculum Overview: Science

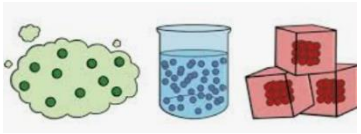
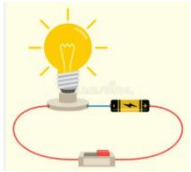
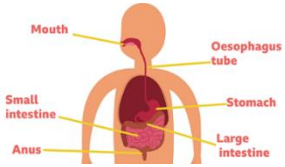
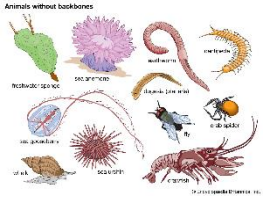
ST. ANDREW'S C. of E. INFANT SCHOOL
An Academy in The Good Shepherd Trust

Year 3					
					
Chemistry	Chemistry	Physics	Physics	Biology	Biology
Rocks and Soils	Rocks and Soils	Light and Dark	Forces and magnets	Living things (animals)	Living things (plants)
• Identify natural or man-made rocks. • Compare and group rocks. • Investigate the hardness and permeability of rocks. • Understand the key features of metamorphic, igneous and sedimentary rocks.	• Observe the effect acid has on rocks. • Rock walk to identify real life use of rock. • Explain how fossils are formed. • Create and excavate a fossil. • Identify layers of soil and their properties. • Classify different soils.	• Understand that darkness is the absence of light. • Explain the difference between a light source and a reflector. • Understand how light reflects off different objects. • Understand how shadows are formed.	• Know what a force is. • Compare how different things move. • Plan a method, fair test, predict and record results. • Record results and a conclusion. • Observe how magnets work.	• Compare different animals and their nutritional needs. • Explain the things humans need to survive. • Understand what the human skeleton is for. • Group animals depending on their skeleton. • Investigate how skeletons affect movement. • Describe muscles in the body and their function.	• Identify the parts of a flowering plant and their jobs. • Investigate how water is transported in plants. • Explain why plants have leaves. • Draw he parts of a flower and know their role in pollination and fertilisation. • Understand the lifecycle of a flowering plant. • Investigate how seeds are dispersed.
Nature Connectivity Visit from geologist	Nature Connectivity Rock walk				

Potters Gate C of E Primary School

Curriculum Overview: Science

ST. ANDREW'S C. of E. INFANT SCHOOL
An Academy in The Good Shepherd Trust

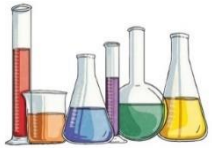
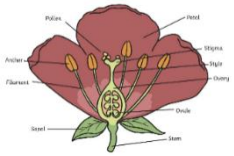
Year 4					
					
Chemistry	Physics	Biology	Physics	Biology	Biology
States of Matter	Electricity	Digestive System	Sound	Living things and their habitats	Living things and their habitats
• Compare and group materials according to whether they are solids or liquids • Properties of gases • The difference in particles of solids, liquids and gases. • Explore the change of a solid to a liquid.	• Identify appliances that run on electricity. • Identify how to say safe with electricity. • Constructing simple circuits • Understand the purpose of a switch • Understand conductors and insulators	• Investigate different types of teeth • Investigate how teeth decay • Identify the effects of different substances on the teeth • Explain the functions of the digestive system • I know how to create a working digestive system	• Identify how sounds are made, associating some of them with something vibrating. • Find patterns between the pitch of a sound and features of the object that produced it. • Find patterns between the volume of a sound and the strength of the vibrations that produced it. • Recognise that sounds get fainter as the distance from the sound source increases.	• Identify living and non-living things. • Classifying invertebrates • Constructing food chains for a pond habitat • Identify that environment change	• Identifying physical changes • What is puberty? • Respecting privacy and boundaries • Understanding different type of relationships. • Changes in feeling and emotions
Nature Connectivity	Nature Connectivity				

Potters Gate C of E Primary School

Curriculum Overview: Science

ST. ANDREW'S C. of E. INFANT SCHOOL
An Academy in The Good Shepherd Trust

Year 5

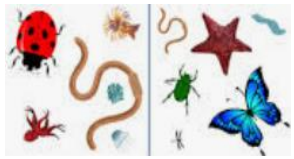
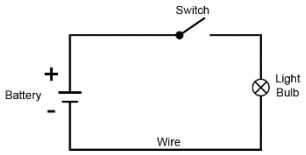
					
Physics	Physics	Chemistry	Biology	Biology	Biology
Forces	Space	Materials and separating mixtures	Living things and their habitats	Animals and humans	Generation restoration
• Explain gravity and resistance. • Understand the effects of air resistance and friction. • Investigate how pulleys and gears work. • Explore water resistance.	• Understand the movement of the Earth, and other planets, relative to the Sun in the solar system • Explore the movement of the Moon relative to the Earth • Understand the Sun, Earth and Moon as approximately spherical bodies • Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	• Compare and group materials based on their properties • Understand that some materials will dissolve in liquid to form a solution • Describe how to recover a substance from a solution • Understand how mixtures might be separated, through different processes • Demonstrate that dissolving, mixing and changes of state are reversible changes	• Understand the differences in the life cycles of a mammal, an amphibian, an insect and a bird • Describe the life process of reproduction in some plants and animals.	• Describe the changes as humans develop to old age. • Understand stages in the growth and development of humans. • Learn about the changes experienced in puberty.	• Understand the importance of pollinators, with a focus on bees • Explore reasons behind decline in bee populations and threats to their survival • Learn about the role beekeepers have in protecting bees • Investigate how they can be active in aiding pollinators, including helping to adapt habitats to support pollinators; giving them shelter, water and food sources
Nature Connectivity Flying parachutes	Nature Connectivity Winchester Science Centre			Nature Connectivity Investigating habitats on the school site	

Curriculum Overview: Science

Potters Gate C of E Primary School

ST. ANDREW'S C. of E. INFANT SCHOOL
An Academy in The Good Shepherd Trust

Year 6

					
Biology	Biology	Physics	Biology	Physics	Chemistry
Living things and their habitats	Evolution and Inheritance	Light	Human Circulatory system	Electricity	Chemistry Projects
• Identify and describe the five kingdoms of living things. • Describe how to classify plants and animals. • Create a classification key. • Understand the significance of key scientists in this area.	• Understand the different categories of fossils and how they are made. • Explain how fossils provide information about living things that inhabited the Earth millions of years ago. • Identify how plants and animals are adapted to their environment. • Explain how natural selection may lead to evolution. • Explain the difference between inherited and acquired characteristics.	• Explain how light travels. • Describe how light affects the human eye. • Investigate how mirrors help us see around corners. • Explain how distance from a light source affects a shadow. • Investigate what happens to light when it is shone through a prism.	• Identify the main parts of the human circulatory system and their functions. • Explain the structure of the heart. • Understand the impact of diet, exercise, drugs and lifestyle on the way our body's function.	• Interpreting circuit diagrams. • Drawing circuit diagrams with correct symbols. • Explain increasing and decreasing voltage. • Designing switches for a simple circuit.	• In groups, children plan, conduct and evaluate a chemistry project of their choice and present their findings.
Nature Connectivity Using the school grounds to find different plants.					