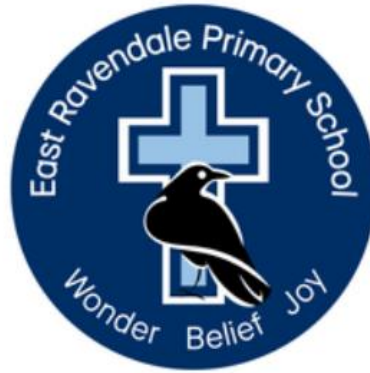




YEAR 1 AND 2 SCIENCE CURRICULUM CYCLE A

EAST RAVENDALE C OF E PRIMARY SCHOOL

At East Ravendale, we strive to develop independent, self-motivated and inquisitive learners of all ages. We celebrate our uniqueness and value all as God's children. We aim to give all members of our community opportunities to succeed, now and in the future, knowing they are safe and valued.

Our vision is underpinned by our core values of wonder, belief and joy.

"I can do all things through God who strengthens me." Philippians 4:13



Science at East Ravendale

At East Ravendale, our science curriculum reflects our vision to develop independent, self-motivated and inquisitive learners who feel valued, safe and inspired to succeed now and in the future. Rooted in our Christian ethos, we celebrate each child as unique and valued as God's creation. Guided by the belief that ***"I can do all things through God who strengthens me"*** (***Philippians 4:13***), we nurture confidence, curiosity and resilience. Through science, we bring our values of **wonder, belief and joy** to life while developing a strong understanding of the scientific world.

Wonder

We inspire a sense of wonder about the world God has created through engaging, hands-on experiences. Children are encouraged to question, explore and investigate through practical learning and outdoor opportunities. By building on prior knowledge across biology, chemistry and physics, pupils develop curiosity and become increasingly independent, inquisitive learners.

Belief

We foster belief by developing children's confidence in their ability to think scientifically and overcome challenges. Through carefully sequenced learning and working scientifically skills, pupils learn to trust in their abilities. By exploring science-related careers, children are encouraged to believe in their potential and aspire for the future.

Joy

We promote joy through exciting and engaging science experiences, including practical lessons, STEM events and cross-curricular learning. These opportunities create enthusiasm and help children retain knowledge. As a result, pupils develop a lasting love of science and a desire to continue exploring the world around them.



Year 1/2 Science Curriculum Cycle A

	<u>Autumn</u> <u>1</u>	<u>Autumn</u> <u>2</u>	<u>Spring</u> <u>1</u>	<u>Spring</u> <u>2</u>	<u>Summer</u> <u>1</u>	<u>Summer</u> <u>2</u>
Programme of Study	Everyday Materials/Uses of Everyday Materials		Animals inc. Humans	Plants	Animals inc. Humans	
Area of Science	Chemistry		Biology	Biology	Biology	



Why this, why now?

<u>Year 1/2</u> <u>Cycle A</u>	<u>Why this, why now?</u>
Autumn 1/2: Everyday Materials/Uses of Everyday Materials	Pupils will be able to use knowledge related to materials to apply within their history driver in Autumn 2 to explain the suitability of materials used in the Great Fire of London. This will provide a basis for developing their knowledge of materials in Cycle B within a different context.
Spring 1: Animals inc. Humans	Pupils will learn about their own bodies and be able to visualise different body parts and what they look like. This will support learning about other animals' body parts and structures in Spring 1 Cycle B.
Spring 2/Summer 1: Plants	Pupils will be able to observe and measure plants growth over a period, and it will enable bulbs planted in the autumn term to be in bloom for the pupils. As the learning is continued over two terms it will give the pupils the chance to watch plant growth in real time as well. This is also spread across two terms to ensure full coverage due to Statutory Testing periods in these terms.
Summer 2: Animals inc. Humans	Pupils will be able to apply their knowledge of the needs of plants learnt in Spring 2/Summer 1 and state similarities and differences to the needs of animals. Pupils will be able to apply knowledge of lifecycles learnt in EYFS (Spring 1 Cycle B) to develop their understanding of different animals and their offspring.

Scientists

At East Ravendale, children learn about a diverse range of scientists alongside their National Curriculum science studies. By exploring **historical** and **contemporary** scientists from a variety of backgrounds, including **underrepresented** groups, pupils develop science capital, see the relevance of science in everyday life, and recognise that science is for everyone.

"I can do all things through God who strengthens me." Philippians 4:13



Autumn 1 & 2 – Everyday Materials/Uses of Everyday Materials

Prior Knowledge	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal) Distinguish between an object and the material from which it is made. (Y1 - Everyday materials) Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 - Everyday materials) Describe the simple physical properties of a variety of everyday materials. (Y1 - Everyday materials) Compare and group together a variety of everyday materials based on their simple physical properties. (Y1 - Everyday materials)
Objectives to be taught	<u>Y1 Objectives</u> • Distinguish between an object and the material from which it is made • Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and a rock. • Describe the simple physical properties of a variety of everyday materials • Compare and group together a variety of everyday materials based on their simple physical properties. <u>Y2 Objectives</u> • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. • Find out how the shapes of solid objects made from some materials can be changes by squashing, bending, twisting & stretching.



East Ravensdale C of E Primary School

Core Knowledge	▪ To know and name the material which the object is made from ▪ To know simple properties of everyday materials and use scientific language to describe ▪ To know how to sort materials into at least 2 groups ▪ To know how to perform simple tests and make predictions, observations and conclusions in relation to a question ▪ To know different uses of everyday materials ▪ To know the suitability of different everyday materials for a purpose ▪ To know how different materials can be changed (twisted, melted, frozen etc)
Working Scientifically Statements	○ Ask their own simple questions about what they notice and recognising that they can be answered in different ways ○ Observing closely, using simple equipment (changes over a period of time, noticing patterns) ○ Performing simple tests (simple comparative tests) ○ Identifying and classifying (grouping and classifying) ○ Using their observations and ideas to suggest answers to questions ○ Gathering and recording data to help in answering questions ○ Begin to use simple scientific language to share what they've found out
Vocabulary	material, metal, plastic, wood, paper, glass, rock, fabric, sand, hard, soft, rough, smooth, shiny, dull, bendy, waterproof, strong, weak, sort, stretchy, magnetic, not magnetic, lets light through, transparent, natural, man-made, change, bake, bend, twist, stretch, squash, heat, cool, freeze, melt, boil
TAPS Assessment	Materials Hunt – click here Material Reflectiveness – click here
Scientists	Chester Greenwood – inventor of earmuffs Becky Schroeder – inventor of Glo-Sheets which she patented at 12-year-old



Suggested Resources

CLEAPSS

[Billy Goats Gruff Bridge](#)

[Absorbent Materials](#)

[Sunshine Absorbency](#)

[Stretchy Materials](#)

[Squashable Materials](#)

[Using Materials that Bend](#)

[Can you see through it?](#)

[Rough and smooth feely bags](#)



Spring 1 – Animals including Humans

Prior Knowledge	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal)
Objectives to be taught	<u>Y1 Objectives</u> • Identify, name, draw and label the basic body parts of the human body and say which part of the body is associated with each sense.
Core Knowledge	▪ To know the names of different parts of the human body ▪ To know the locations of different human body parts ▪ To know the jobs of different human body parts ▪ To know which body part each sense is related to
Working Scientifically Statements	○ Ask their own simple questions about what they notice and recognising that they can be answered in different ways ○ Performing simple tests (simple comparative tests) ○ Identifying and classifying (grouping and classifying) ○ Using their observations and ideas to suggest answers to questions ○ Gathering and recording data to help in answering questions (using secondary sources to find information) ○ Begin to use simple scientific language to share what they've found out
Vocabulary	sense, eye, ear, nose, mouth, hand, foot, arm, leg, head, neck, knee, elbow, face, hair, teeth, see, hear, smell, touch, feel, body, human
TAPS Assessment	Body Parts – click here



East Ravensdale C of E Primary School

Scientists	Leonardo Da Vinci – anatomical drawing, ‘Vitruvian Man’ Miller Hutchinson – engineer who invented the first electric hearing aid Patricia Bath – Ophthalmologist and inventor of using lasers in cataract operations
Suggested Resources	<u>CLEAPSS</u> <u>Popcorn Senses</u> <u>Smell Bottles</u>

“I can do all things through God who strengthens me.” Philippians 4:13



Spring 2 & Summer 1 – Plants

Prior Knowledge	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal) Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants) Identify and describe the basic structure of a variety of common flowering plants, including trees. (Y1 - Plants)
Objectives to be taught	<u>Y1 Objectives</u> • Identify and name a variety of common wild & garden plants, including deciduous and evergreen trees • Identify and describe the basic structure of a variety of common flowering plants, including trees <u>Y2 Objectives</u> • 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 <i>Plant bulbs in Autumn 2 observe regularly throughout year until Summer 1</i>



Core Knowledge	▪ To know similarities, differences and be able to make observations about plants, bulbs and seeds ▪ To identify, name and describe the structure of a flowering plant, tree and other common plants (fruits/vegetables) ▪ To know names of wild and garden plants ▪ To know names and be able to identify common deciduous and evergreen trees ▪ To know what a plant needs to stay healthy ▪ To know the order and be able to describe the lifecycle of a plant (from bulb and seed)
Working Scientifically Statements	○ Asking simple questions and recognising that they can be answered in different ways ○ Observing closely, using simple equipment ○ Performing simple tests ○ Identifying and classifying ○ Using their observations and ideas to suggest answers to questions ○ Gathering and recording data to help in answering questions ○ Begin to use scientific language to share what they have found out
Vocabulary	plant, branch, root, stem, trunk, flower, leaf, leaves, petal, soil, seeds, seedling, grow, bulb, water, deciduous, evergreen, germinate, wild, garden, weed, grass, flowering, shoot, seed dispersal, sunlight, nutrition, light, air, space, water, temperature
TAPS Assessment	Plant Structure – click here Plant Growth – click here



Scientists	Maria Sibylla Merian – German Artist, scientific illustrator and naturalist Daneil Solander – botanist who worked with Joseph Banks on Captain Cook’s voyage around the world Joseph Banks – naturalist of Captain Cook’s voyage around the world Thomas Wyatt Turner – botanist who studied plant disease Poppy Okotcha – horticulturalist interested in the connection between healthy environments, healthy food and healthier people Dr Ben Woodcock – ecological entomologist who helps farmers grow food, so it is safe for insects and other wildlife Angie Burnett – plant biologist who grows plants and sees how they react to different conditions that make it more difficult for them to grow
Suggested Resources	<u>CLEAPSS</u> <u>Growing Seeds</u> <u>Finding out what plants need to stay healthy</u>



Summer 2 – Animals inc. Humans

Prior Knowledge	Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals, including humans) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (Y1 - Animals, including humans)
Objectives to be taught	<u>Y2 Objectives</u> • 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.
Core Knowledge	▪ To know the names of animals and their offspring ▪ To know how animals have their offspring ▪ To know the order of a lifecycle of a chosen animal and can describe features of each stage ▪ To know different ways in which human grow and develop through their lifecycle ▪ To know the basic needs of all animals to survive ▪ To know specific needs of animals to survive ▪ To know what happens to the body when we exercise ▪ To know the importance of exercise for the body ▪ To know the basic food group names ▪ To know food names within the basic food groups ▪ To know how to be hygienic (washing, brushing teeth) and why this is important



Working Scientifically Statements	○ Ask their own simple questions about what they notice and recognising that they can be answered in different ways ○ Performing simple tests (simple comparative tests) ○ Identifying and classifying (grouping and classifying) ○ Using their observations and ideas to suggest answers to questions ○ Gathering and recording data to help in answering questions (using secondary sources to find information) ○ Begin to use simple scientific language to share what they've found out
Vocabulary	grow, move, young, reproduce, feed, diet, variety, healthy, unhealthy, exercise, adult, parent, baby, toddler, child, teenager, offspring, develop, change, basic needs, survive, food, air, balanced diet, hygiene, germs, fruit and vegetables, protein, dairy, carbohydrates, fats
TAPS Assessment	Hand Spans – click here
Scientists	Florence Nightingale – nurse and founder of modern nursing Elizabeth Garrett Anderson – first English woman to qualify as a doctor Dr Kelly Blacklock – Veterinary surgeon Daniella Dos Santos – Veterinary surgeon
Suggested Resources	CLEAPSS Glitter Germs

