Holmesdale
Yearly Knowledge and Skills Progression
Subject: Science We follow the KAPOW Curriculum for Science
Year group: Reception

British Values/SMSC

- enable students to develop their self-knowledge, self-esteem and self-confidence;
- encourage students to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the school and to society more widely
- further tolerance and harmony between different cultural traditions by enabling students to acquire an appreciation of and respect for their own and other cultures; encourage respect for other people

The EYFS framework is structured very differently to the national curriculum as it is organised across seven areas of learning rather than subject areas. Each area is split into 17 aspects, all of which are interwoven. The most relevant for science are taken from the following areas of learning: Understanding The World, with elements from Communication & Language, PSED and Expressive Arts and Design.
We have identified 3 BIG IDEAS that run through our science curriculum. These are evident threads that run through the year groups – 1. Cause and effect. 2. Change. 3. Structure and functions. These are highlighted throughout the maps.

Changing Seasons (Forces, Earth and Space)	**Animal Adventures (Animals, inc. humans; Living Things and their Habitats)**	**Our Beautiful Planet (Plants)**	**I am a Scientist (Materials)**
			
A unit to be taught across the year: observing how the natural world transforms through the year and recognising how these changes affect the weather, plants and animals.	Exploring animals big and small on the school grounds and further afield, identifying similarities and differences and sorting animals into groups.	Exploring outdoors, children discover the wonders of the natural world. They plant seeds, mix plants in the mud kitchen and learn to care for our beautiful planet.	Encouraging curiosity, the children explore the natural world through hands-on investigation, discovering how processes and changes occur around us.

Throughout the year – Changing Seasons

Knowledge:
To recognise changes outside in autumn.
To recognise different types of weather.
To recognise how animals prepare for winter.
To recognise changes outside in spring.
To investigate the mixture needed to build a sandcastle.
To recognise changes outside in summer.

Skills: ELG Understanding The World with links to Communication & Language, PSED and Expressive Arts and Design
Asking questions about the natural world with support.
Beginning to share ideas and suggestions, when working practically.
Beginning to make guesses about what might happen.
Commenting on what they see and hear in the natural world.
Describing their discoveries when working practically.
Using non-standard units to measure.
Drawing and labelling pictures of plants and animals.
Recognising that tables can be used to record information.
With support, grouping objects, plants and animals.

Key Vocabulary:

autumn	mixture
season	hearing
spring	seaside
summer	sense
weather	sight
winter	smell
symbol	taste
hibernation	touch
growth	

End points:
By the end of Reception, children to know:

- Some trees change in the four seasons.
- Some signs of each season (leaves on the ground, cold weather, daffodils growing and sunny weather).
- Some animals hibernate or store food in winter.
- The weather changes throughout the year.
- And compare weather types (rain, sun, snow and wind).

By the end of Reception, children to have skills in:

- Beginning to share ideas and suggestions about what to do when working practically.
- Beginning to make guesses about what might happen.
- Commenting on what they see and hear in the natural world.
- Using non-standard units to measure.
- Drawing and labelling pictures of plants and animals.
- Recognising that tables can be used to record information.
- With support, grouping objects, plants and animals.

How can we enrich this at Holmesdale?

Outdoor learning
Use of woodland
Autumn walk, collecting and creating with autumn natural products
Winter walk and ice investigation
Spring walk
Summer walk

Autumn Term – I am a Scientist

Knowledge:
To explore ways to make objects move.
To explore how light makes shadows.

Skills: ELG Understanding The World - The Natural World
Asking questions about the natural world with support.
Beginning to share ideas and suggestions when working practically.
Beginning to make guesses about what might happen.
Commenting on what they see and hear in the natural world.
Grouping objects, plants and animals with support.
Describing their discoveries when working practically.

Key Vocabulary:

dark	nighttime
daytime	pull
light	push

How can we enrich this at Holmesdale?
Outdoor learning
Road safety
Woodland

Spring Term – I am a Scientist, Our Beautiful Planet

Knowledge:
To explore freezing and melting
To explore different sounds

To identify and name plants and name plant parts
To recognise ways to look after the planet

Skills: ELG Understanding The World - The Natural World
Commenting on what they see and hear in the natural world.
Recognising that information can be found online and in books.
Drawing and labelling pictures of plants and animals.

Key Vocabulary:

loud	flower
material	leaf
quiet	roots
volume	stem
freeze	grow
melt	plant
human-made	seed
natural	care
	Earth

How can we enrich this at Holmesdale?
Space Dome Visit
Space food
Growing seeds and bulbs
Outdoor learning
Woodland
British Science Week activities

Summer Term – I am a Scientist, Our Beautiful Planet, Animal Adventures

Knowledge:
To find and describe a minibeast
To sort objects into living and non living

To explore whether objects float or sink
To sort animals based on where they live

Skills: ELG Understanding The World - The Natural World
With support, asking questions about the natural world.
Commenting on what they see and hear in the natural world.
Drawing and labelling pictures of plants and animals.
With support, grouping objects, plants and animals.

Key Vocabulary:

alive	farm
grow	group
move	desert
non-living	ocean
sort	polar
compare	sort
minibeast	woodland
float	zoo
sink	

How can we enrich this at Holmesdale?
School trip – Nower Wood
Pond
Outdoor learning
Woodland

End Points:

Children at the expected level of development by the end of Reception should know:

Some objects move when pushed or pulled. Some objects freeze or melt. Objects float or sink. Day is light because the sun is in the sky. Night is dark because the sun is not in the sky. Shadows happen when something blocks the light. About differences in sound.

Some objects found in nature are natural, e.g. plants and animals. Names for the basic plant parts (leaves, flowers, stem and roots.) Some familiar flowering plants (e.g. daisy, rose, sunflower or daffodil). Plants and animals live in a range of different places. Some different places where animals live on the school site. Plants are alive. Seeds need water to grow. Seeds grow into plants if taken care of. Animals and plants move, grow and feed.

The difference between things that are living and things that are non-living.

How to help care for the planet.

The names of familiar animals (e.g. farm animals, pets and animals seen in storybooks.) The main body parts of common animals (number of legs, wings, fur and tail). Animals, including humans, use their senses to explore the world. Animals need food. Animals and plants move, grow and feed. The difference between things that are living and things that are non-living. Plants and animals live in a range of different places (land, sea, air). Some different places where animals live on the school site.

Children at the expected level of development by the end of Reception should have skills in:

- Beginning to share ideas and suggestions about what to do when working practically.
- Beginning to make guesses about what might happen.
- Commenting on what they see and hear in the natural world.
- Using non-standard units to measure.
- Drawing and labelling pictures of plants and animals.
- Recognising that tables can be used to record information.
- With support, grouping objects, plants and animals.
- Describing their discoveries when working practically.
- Recognising that information can be found online and in books.
- Asking questions about the natural world

Diversity and Cultural Capital
Different cultures use of light e.g. Diwali Different celebrations through the seasons e.g. harvest, Lunar New Year Different plants and animals from around the world e.g. Islands, sea creatures

Barriers & Scaffolds

Possible barriers:
Limited prior exposure to scientific vocabulary.
Difficulty understanding abstract terms (e.g. living habitat, material).
EAL learners may not have home language equivalents for scientific words.
Confusion between everyday vs scientific meanings.
Struggling to generate or understand questions.
Sensory overload during investigations (noise, movement).
Accessing outdoor environments (mobility, sensory sensitivity).

Possible scaffolds:
Pre-teach key vocabulary using real objects, images, and actions.
Use Now/Next and dual-coded picture cards.
Provide sentence stems, e.g.: "I observe that…" "This material is suitable because…" "The plant needs ___ to grow."
Use word banks on tables during investigations.
Repeat vocabulary through songs, stories, drama, actions and chants.
Use small-step modelling ("I do → we do → you do").
Provide worked examples: simple diagrams of food chains, labelled plant diagrams.
Give pre-drawn diagrams for children to label.
Use thick pencils, chunky tweezers, child-safe droppers.
Small group work, adult led if necessary.
Give clear and repeated modelling of each stage.
Provide question prompts: "What will happen if we…?" "How could we test…?"
Use structured comparison tables (Sorting into "changed / didn't change", etc.).
Use guided analysis questions, e.g.: "What do you notice?" "Did anything surprise you?"
Use retrieval routines: 2-minute quizzes, picture recalls, pair-share.
Use cumulative comparisons (e.g., "What's the same / What's different?").
Offer low-stimulus versions of activities (quiet zone table, headphones).
Provide predictable routines, visual cues for each stage.
Offer adapted outdoor tasks (e.g., tray-based microhabitats).
Use tactile and multi-sensory resources (natural objects, textured materials).