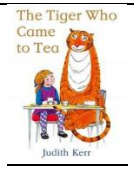
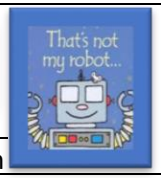
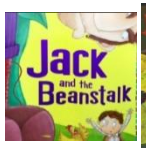
Science Knowledge and Skills Coverage. (Year 1)

INTENT

	Animals Including Humans	Materials	Plants	Seasonal Changes
Content/ Knowledge	I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals I can identify and name a variety of common animals that are carnivores, herbivores and omnivores. I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) I can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	I can distinguish between an object and the material from which it is made. I can identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock. I can describe the simple properties of a variety of everyday materials. I can compare and group together a variety of everyday materials on the basis of their simple properties.	To identify and describe the basic structure of a variety of common flowering plants including trees. To identify and name a variety of common wild and garden plants including deciduous and evergreen trees	I can observe changes across four seasons. I can observe and describe weather associated with the seasons and how day length varies.
Book/ Science Capital		 Macintosh   Tim Peake	  	
Scientific Enquiry	Identify parts of body. Identify parts of body. Spot patterns between groups of animals Identify and classify animals Comparative tests	Identify materials and classify As above Classify based on how they feel. Classify materials Compare suitability of materials Patterns in test results,	Find out how different fruits grow. Observe seeds over time. Identify plants in the environment. Identify and classify parts of a plant. Identify and classify leaves. Observe leaves over time.	Identify 4 seasons Look for patterns in colours. Observe formation of crystals over time. Compare results to research on rain. Simple comparative test. Identify different clouds
Working Scientifically	Ask questions Venn diagrams Make comparisons and give reasons. Observe features of human body Carry out tests to compare and classify Make predictions using senses.	Use observations to classify Record in a table Ask and answer questions Simple test Make predictions on best materials. Evaluate test	Make careful observations. I can explain how a seed grows. Draw and label a plant Label parts of a plant Ask yes and no questions to classify. Make simple predictions	Observe similarities and differences. Predict colours in a leaf. Can explain what winter feels like. Labelled diagrams Evaluate test and suggest improvements Ask simple questions

IMPLEMENTATION

Ideas/WOW moments.	1- Draw around body and label 2- Compare features that are the same and different. Explore senses Parts of tongue and taste- taste new foods. Sight Test. 3- Body parts bingo Animals and smell Smell test.
	1. Rocket landing in school grounds and mission from Tim Peake. - Sorting materials -Whats in the bag 2. Recap materials -Odd one out -Properties of materials -Material hunt. 3. Materials bingo -Feely wall -Mystery bag
	1. Read tiny seed -Identify fruits and where they grow -Zoom in activity. -Observation of fruits and veg -Growing potatoes. 2- Read Jack and the beanstalk -Order how seeds grow. -What do plants need to grow?
	1. Identify 4 seasons -Read Snow rabbit, spring rabbit. -Sort clothes according to season 2. Season song. - Autumn video -Chromatography in leaves and pens. 3- Zoom in, zoom out -How are crystals formed experiment

IMPLEMENTATION		Feely bag 4- Order sounds Classify animals and animal groupings 5- Animal X rays Compare and contrast animals- How big and how small 6- Zoom in and out Tiger who came to tea. Sort carnivore, herbivore and omnivore. Animal teeth	-That's not my books- find suitable materials. 4- Astro nappy absorbency test. -Charles Macintosh. 5- Make curtains for spaceship (transparent/opaque) 6- Stretchy material test.	-Plant diary 3- Plant hunt in local environment. -Identify parts of a plant. 4-Plant bingo -Plant dissection -Plant modelling 5- Read Leaf Man -Leaf walk -ID leaves using ID sheet and group leaves. 6- Odd one out -Why do leaves fall off trees test. -Deciduous vs evergreen.	-How snow is formed experiment -What does winter feel like? 4- Odd one out -Spring walk using ID sheet spotting signs of spring. -Rain water collecting and measuring. 5- Facts about the sun -Dangers of looking at the sun. -UV bead experiment. Additional UV oven/shadows 6- Day and night seasons modelling using globe and torch. -Identification of clouds -Cloud in a jar experiment.
	Cross curricular links/opportunities	• **Geography**- exploring animals around the world and comparing. • **Maths-** comparing sizes of animals/mini-beasts, taking measurements. • **MFL**- learn parts of the body in different languages. • **English**- written evidence when interpreting evidence. Use scientific language. • **IT**- Explore Xray Apps. • **PSHE**- links to health and hygiene and how our bodies grow.	• **History**- links with science in the past and how scientific developments have helped us. • **Maths**- measurements of materials. Link to Venn diagrams • **DT**- selecting and choosing materials, making a product for a purpose. • **English-** reading familiar texts and writing own book based on scientific content. Use scientific language. • **Outdoor learning-** material hunt.	• **Geography**- plants from around the world. Looking at different climates. • **English**- reading familiar traditional tales to support science learning. Creating pictorial and written diaries. Using ID guides. Plant drama. • **Outdoor learning**- plant hunt in the locality • **Art and design**- making own plant using a range of materials and scientific knowledge of plants. • **IT**- using identification apps. • **Maths**- measurements of plant growth	• **Maths-** measuring rain fall and size of puddles. Using basic UV scales. Use of measuring equipment. Reading scales. • **Music-** Singing plant songs • **IT**- use of videos and time lapse to support scientific learning. Use of data loggers. • **Geography**- link to seasons and temperature linked to day and night in different parts of the world. Links to climate change. • **Outdoor learning**- spring walk. • **MFL**- learn the seasons in different languages- introduce songs to support. • **PSHE**- how to keep ourselves safe in the sun. • **ART/DT**- making and designing a solar oven selecting the correct materials.
	Resources needed to accompany the scheme	• **Post it notes** • **Large paper and pens** • **Jars or containers to put different smells into (suggestions; chocolate, coffee, coconut, garlic, orange, mint, pepper- this could be bottled or real)** • **Range of sweet, sour, salty, bitter foods e.g. honey, lemon, sweets, donuts, celery, crisps, smarties, berries.**	• **Post it notes** • **Different metals e.g aluminium, foil, nuts, bolts, screws, coins, wire, paper clips, mental bottle tops, keys.** • **Different wood- lolly sticks, skewers, cocktail sticks, pegs, twigs, tree bark, wooden spoons, pieces of wood.** • **Different plastics- bags, cling film, bubble wrap, cutlery.** • **Different types of paper- writing paper, sugar paper, crepe paper,**	• **Post it notes** • **Large paper/pens** • **Jack and the beanstalk book (optional)** • **Cotton wool, water, soil, runner bean seeds (other seeds could be used e.g. cress)** • **Magnifying glasses** • **Pansy plants** • **Junk modelling materials** • **Leaf man book (optional)** • **Paper towels, waxy paper (greaseproof)** • **Paperclips**	• **Post it notes** • **Selection of leaves (if you do not want children to collect from school grounds)** • **Spinach** • **Clear jars or beakers** • **Surgical spirit** • **Spoons** • **Bowls** • **Hot water** • **Cling Film** • **Filter paper**

IMPLEMENTATION			**tissue paper, cardboard, newspaper, tracing paper, paper straws, sticky notes.** • **Different fabrics- fur, leather, suede, voile, netting, denim and cotton.** • **Sorting hoops** • **Sponge and plastic strip, beakers, timer.** • **Selection of absorbent and non-absorbent materials.** • **Selection of opaque and transparent materials.** • **Range of stretch and non-stretchy materials e.g. blutack, plasticine, ruler, stone, elastic band, nylon, lycra.**		• **Epsom Salt** • **Pipettes** • **Food colouring** • **Baking soda** • **White hair conditioner** • **Binoculars** • **Magnifying glasses** • **Bottles** • **Measuring cylinders** • **UV beads** • **Pipe cleaners (optional)** • **Globe** • **Torch** • **Clear glass** • **Ice** • **Metal dish**
IMPACT		Can name a range of animals which includes animals from each of the vertebrate groups. Can describe the key features of named animals. Can label key features on a picture/diagram. Can write descriptively about an animal. Can write a 'What am I? riddle about an animal. Can describe what a range of animals eat. Can compare and classify animals.	Can label a picture/diagram of an object made from different materials. Can describe the properties of materials. Can sort materials using their properties. Can test evidence to answer a question.	Can name trees and other plants they see regularly. Can describe key features of the trees and plants e.g. shapes of leaves/colour of the flower/blossom. Can point out trees which lost their leaves and those who keep them all year. Can point to and name parts of a plant. Can use simple charts to sort. Can use photos to talk about how plants change	Can name four seasons and identify when in the year they occur. Can observe and describe weather in different seasons. Can describe days being longer in summer and shorter in winter. Present data in tables charts and compare seasons.