

Science

Year 2- Autumn 1

Unit: Pirates- Materials

Hook: Children receive a letter from a pirate asking for their help to design a new boat as they can't find any wood.

Learning Question	Learning Intention	Impact
Can you sort materials into groups?	Introduce Hook (letter) Children decide what information they need in order to answer letter accurately. Discuss what a property of a material is. What properties can they remember? Sort materials into different groups according to properties e.g. rigid/flexible using Venn diagram Maths link	Working Scientifically- <i>identifying and classifying</i>
Are you able to name properties of materials?	Recap different materials. What properties do they remember? Focus on rigid/flexible, waterproof/absorbent and smooth/rough. Classroom find and sort of objects with different properties.	Working Scientifically- <i>identifying and classifying</i>
Which material would be good to make a boat?	Investigation Recap what has been learned so far. Children decide on how to investigate the best material for a boat. Children are given the question but class decide on the method. Children record what the resources they need, how they will carry out investigation. Carry out investigation and report the results and write a reply to the pirates as to what they found.	Working Scientifically- <i>observing closely, using simple equipment. Using their observations and ideas to suggest answers to questions. Performing simple tests.</i> Uses of everyday materials – <i>compare the suitability of a variety of everyday materials.</i>
What are materials best suited too?	Espresso video of what materials work best for different purposes. For example, why does glass make a good window but not a good storage box?	Uses of everyday materials – <i>identify and compare the suitability of a variety of everyday materials.</i>

Year 2- Autumn 2

Unit: Living Things and their habitats & Animals including humans

Linked to English and Geography

Learning Question	Learning Intention	Impact
Where in the world are the cold regions?	Show on maps of the world the cold regions. List features of a cold place especially the animals. Read the book Penguin Small by Mike Inkpen. Geography link.	Working Scientifically- <i>identifying and classifying</i>
Can you identify animals that live in cold regions?	Brainstorm animals they know that live in cold regions. Watch videos of a selection of animals in the polar regions. Compare how they are similar and how they are different.	Living things and their habitats- <i>identify that most living things live in habitats that are suited to them.</i>
How have animals adapted to survive in cold regions?	Research animals and make notes on how they survive. Children write notes next to pictures of animals how they have adapted to survive in the cold.	Living things and their habitats- <i>identify that most living things live in habitats that are suited to them and describe how different kinds of animals depend on each other.</i>
What do humans need to survive in the cold?	What do the children remember from the snow last year? How did they survive? Look at real life explorers and their story of how they survived and prepared for the weather.	Animals including humans- <i>find out and describe the basic needs of animals, including humans for survival.</i>
How does a polar bear walk on the ice without cracking it?	Investigation Look at video of a polar bear crossing the ice. How is this possible? Children create a list of ideas as to how they think it is possible. Create and carry out an investigation to test their ideas. Record the investigation.	Living things and their habitats- <i>identify that most living things live in habitats that are suited to them.</i> Working scientifically- <i>observing closely using simple equipment. Using their observations and ideas to suggest answers to questions.</i>

Year 2 – Spring 1

Unit: Plants

Learning Question	Learning Intention	Impact
Can you identify a variety of plants? Can you use the words deciduous and evergreen?	Introduce the topic of Plants- what questions do they have about plants. Plant/tree walk. Discuss how the plants look different or similar. What features do the chn notice?	Working Scientifically- <i>identifying and classifying</i>
Can you say how much water plants need to stay healthy?	Investigation question; How much water does a plant need to stay healthy? Chn to plan a simple test where the chn plant seeds in their groups to find out how much water the plant needs to stay healthy. This lesson may go over 2/3 weeks as the seeds grow.	Working Scientifically- <i>observing closely, using simple equipment. Using their observations and ideas to suggest answers to questions. Performing simple tests.</i>
		
Can you say how much water plants need to stay healthy?	What observations have the chn made over the weeks of them growing the seeds ? What conclusion can the chn draw from their investigation?	Working Scientifically; <i>Observing closely, asking simple questions , performing simple tests, using their observations to suggest answers to questions, gathering and recording data to help in answering questions</i>

Year 2 – Spring 2

Unit: Materials

<u>Learning Question</u>	<u>Learning Intention</u>	<u>Impact</u>
Can you sort materials according to whether they bend, stretch or twist?	<p>Give the chn a variety of materials on their table – which materials can change shape? How?</p> <p>Put 3 hoops into a venn diagram with labels for bend, stretch and twist (overlapping in middle). Investigate which materials twist, bend and stretch.</p>	Children will understand how to compare materials. They will be able to say some similarities and differences between elastic and playdough.
Can you say what is similar and different about elastic and playdough?	<p>Show the chn an elastic band and a piece of playdough. Predict will be the same/different about these materials.</p> <p>Give the chn time to explore the materials. Then discuss again and record their findings – what was the same and what was different about these two materials?</p>	Children will understand how to compare materials. They will be able to say some similarities and differences between elastic and playdough.
Can you design and carry out an investigation?	<p>Tell the chn that they need to design a bridge to get from the Titanic to the nearest life boat. Look at a variety of materials – which ones do the chn think will make the strongest bridge? Prediction.</p> <p>Investigation question; What material will make the ‘best’ bridge to cross to the lifeboat?</p> <p>Conduct investigation and discuss.</p> <p>(two sessions)</p>	Children will be able to design and carry out a simple investigation. They will be able to make a conclusion and explain their thinking.

Year 2 – Summer 1

Unit: Living things and their habitats

<u>Learning Question</u>	<u>Learning Intention</u>	<u>Impact</u>
Can you say what a habitat and micro habitat is? Can you find some habitats in our local environment?	Take the chn on a habitat/ micro habitat walk in the school grounds. Explain that different animals live in different places to suit their size, the food they eat etc. What habitats are similar or different? Do the chn think these habitats are in every country? Why or why not?	Children will be able to say what a habitat or micro habitat is. They will be able to identify some habitats in the school grounds.
Can you say where in the school grounds Steve the stick insect would find the most friends?	Investigation question; Steve the stick insect is visiting from Australia. Where in the school grounds would he find the most friends? Conduct investigation and discuss. (two sessions)	Children will be able to say where in the school grounds they would find the most insects or animals.
Can you sort into living, dead or never been alive?	Chn to sort things into living, dead or never alive and justify their answers to a partner. Discuss.	Children will be able to explain the words alive, dead and never alive. They will be able to sort pictures into these categories and explain their reasoning.

Year 2 – Summer 2

Unit: Animals including humans

<u>Learning Question</u>	<u>Learning Intention</u>	<u>Impact</u>
Can you say what the basic needs of animals (and humans) are for survival?	Show short videos of animals hunting, which animals are predators? Which are prey? Recap the terms 'carnivore', 'herbivore' and 'omnivore' Introduce the idea of food chains - show chn a simple food chain and discuss it.	Children will be able to say what the basic needs of animals are for survival.
Can you discuss how animals have offspring that change and become adults?	Children to show pictures of themselves as babies, toddlers and now – what differences can they see? What things can they do now that they couldn't do as a baby or toddler? What changes might happen to them in the future? What new things might they be able to do as they become adults?	Children will be able to talk about how animals have offspring and how those offspring change until they become adults.