Year 1 Physical Science: Seasonal Changes (Autumn and Winter) Unit 1

Scientific Investigations:

- Observing Changes over Time
- Looking for Naturally- Occurring Patterns and Relationships
- Researching Using Secondary Sources

Scientists:

- George James Symons invented his own version of the rain gauge that is still used by meteorologists today.

Scientific Skills Taught:

ASK
- To explore the world around them
- To ask their own questions
- To find answers from books, photographs, videos (secondary sources)

BREAKDOWN
- To carry out simple tests
- To use simple measurements
- To use simple equipment

CAPTURE
- To observe closely
- To compare using simple features
- To record what they notice in different ways
- To notice patterns and relationships

DESCRIBE
- To explain what they found out
- To talk about what they have seen
- To use simple scientific language
- To know there are different ways to answer

Prior Learning:

- EYFS: Seasonal changes (Autumn walks, looking at colours of leaves and seeds, animals, and hibernation); weather; exploring ice; floating and sinking; habitats of animals in cold climates.
- 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)

Curriculum	Learning Intention	Knowledge and Key Vocabulary

Making links to previous learning and discuss the model (if needed)	What do you already know about autumn and winter pre assessment task?
	
	What is weather?
	Meteorologists: Explain what meteorologists do and share the information about meteorologist scientists.
	
	What is the weather like today?
	Rain Gauge: Describe the invention of the first rain gauges and the scientists who invented them. Practical activity of making own rain gages.
		Knowledge:
		- To know that weather is the way it feels outside such as:
		  - Temperature (hot or cold)
		  - Windy
		  - Raining
		  - Sunny
		  - Hailing
		  - Snowing
		  - Sleeting
		  - Foggy
		  - Cloudy

	What Are Seasons? • Name the 4 seasons • Explore how the seasons are created • Which months do the season land in? Can you name and describe the seasons? ○ Explore the changes in weather in each season	- To know that the seasons are caused by the tilt of the Earth's axis. - To know that the weather changes regularly and tends to be different during different seasons. - To know it is usually colder in winter and warmer in summer. - To know that days are longer (in time) in the summer and shorter in the winter. **Vocabulary:** - weather, season, spring, summer, autumn, winter, temperature, thermometer
Knowledge and skills through investigations Pupils should be taught to: - observe changes across the four seasons - observe and describe weather associated with the seasons and how day length varies. Notes and guidance (non-statutory) - Pupils should observe and talk about changes in the weather and the seasons. Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses. Pupils might work scientifically by: - making tables and charts about the weather; and making displays of what happens in the world around them, including day length, as the seasons change.	What do you expect to see if it is autumn? To observe and describe weather associated with the seasons by observing the weather in autumn. To gather and record data to help in answering questions by recording the weather, temperature, rainfall, and wind direction in autumn. What changes do we expect as autumn changes to winter? To observe and describe how day length varies in the context of autumn to winter. To observe changes across the 4 seasons What do you expect to see if it is winter? To observe and describe weather associated with the seasons by observing and recording the weather in winter. To gather and record data to help in answering questions by recording the weather, temperature, rainfall, and wind direction in winter. How can we measure the weather? To observe and describe weather associated with the seasons, by measuring rainfall with a rain gauge they have made. To gather and record data to help in answering questions, by measuring rainfall with a rain gauge they have made.	**Knowledge:** - To know there are 4 seasons of spring, summer, autumn, and winter. - To know that some leaves change colour during autumn. - To know that some trees lose their leaves during winter. **Vocabulary:** - Weather (sunny, rainy, windy, snowy etc.) - Seasons (winter, summer, spring, autumn) - Sun, sunrise, sunset, day length

Application and Assessment Activity	He measured the depth of leaves on the floor of a wood. Here are his results: January: 6 cm, April: 4 cm, July: 1 cm, October: 12 cm When do most leaves fall off the trees?  In winter In spring In summer In autumn The weather changes from month to month. Which one of these months is most likely to be very wet or very cold?  January May July September https://www.educationquizzes.com/ks1/science/

Thinking Deeper:

Watch your shadows

Work in pairs in the playground early on a sunny day. Each child should use chalk to draw a cross on the ground and then stand on the cross while their partner draws around their shadow, labelling it with the time and their name. Repeat several times during the day. Get the children to describe how their shadows have changed. They can use digital cameras to record their evidence. Repeat this throughout each of the 4 seasons, then get the children to discuss what is the same, what is different?

Links to other subjects:

- Subject Specific links –
  - English: new vocabulary, explaining their work, describing images and processes,
  - Maths: sorting activities, tally charts, graphs and comparing lengths of days
  - ICT: learning from activities and videos on IWB
  - Geography: weather, and how it impacts people and animals in other countries
  - Art & DT: seasons wheel

• Personal Development – Children will take more responsibility for presenting and discussing evidence of their learning, for example using digital cameras, videos, drawings and charts and diagrams as well as the more formal requirement to write.
• SMSC – - How to stay safe - Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses. - Learning how to stay warm / cool.
• Cultural Capital – Discuss the differences between certain seasons in England and in other countries.
• Careers – Scientist, meteorologist, astronomist, physicist, weather reader, journalism, radio broadcaster,
• British Values –working in pairs and small groups with others coherently.
• Equality – to respect one another's opinions in discussions of findings.