Be Brave, Be Curious, Be Kind

Lesson Breakdown - Science

LANDAU FORTE ACADEMY MOORHEAD

Spring – Cycle A – KS1

Prior Learning - EYFS
• identify the seasons • explore seasonal changes, including weather • introduced to the processes of melting and freezing • explore the effect of the weather on their environment

Project: <u>Seasonal Changes</u>	Learning Objective	Skills	Knowledge	Resources
Introductory Knowledge: The four seasons Lesson 1	Understand key facts about the four seasons.	There are four seasons: spring, summer, autumn and winter. Certain events and weather patterns happen in different seasons.	In winter, the weather can be cold and frosty. Days are short. Deciduous trees are bare, and animals are less active. In spring, days begin to lengthen. The weather is changeable. Trees grow leaves and blossom, and plants start to grow. Animal life is more active, and baby animals are visible. In summer, days are long. There is abundant growth of plants and animals. The weather is warm and sunny with some rain. In autumn, days begin to shorten. The weather is cool and often wet and windy. Some leaves change colour, and plants die off. Animals are active and preparing for winter. The pattern of the seasons is repeated every year.	
Engage: Experiencing the season Lesson 2	Observe changes across the four seasons.	Observe changes across the four seasons. Observe the local environment throughout the year and ask and answer questions about living things and seasonal change.	There are four seasons: spring, summer, autumn and winter. Certain events and weather patterns happen in different seasons. The local environment is a habitat for living things and can change during the seasons.	• Camera or tablet • Large envelope
Engage:	Identify and classify wild and garden plants.	Observe objects, materials, living things and changes over time,	Objects, materials and living things can be looked at and compared.	• Twigs from deciduous

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Deciduous and evergreen trees Lesson 3		sorting and grouping them based on their features. Identify, compare, group and sort a variety of common wild and garden plants, including deciduous and evergreen trees, based on observable features.	Plants are living things. Common plants include the daisy, daffodil and grass. Trees are large, woody plants and are either evergreen or deciduous. Trees that lose their leaves in the autumn are called deciduous trees. Examples include oak, beech and rowan. Trees that shed old leaves and grow new leaves all year round are called evergreen trees. Examples include holly and pine.	and evergreen trees
Engage: Seasonal changes in deciduous trees Lesson 4	Answer scientific questions about the world around them.	Describe, following observation, how plants and animals change over time.	All living things (plants and animals) change over time as they grow and mature. Apple trees are deciduous. In winter, branches are bare and develop buds. In spring, buds open as leaves or blossom and fruit starts to grow. In summer, apples grow quickly and ripen.	
Engage: Lesson 5	Observe changes for animals across the four seasons.	Observe changes across the four seasons.	There are four seasons: spring, summer, autumn and winter. Certain events and weather patterns happen in different seasons. In spring, many animals give birth to young or lay eggs that hatch. In summer, animals eat a lot of food, and young animals grow and learn to look after themselves. In autumn, animals eat or collect lots of food and make nests and shelters to prepare for winter. In winter, animals protect themselves from the cold weather by hibernating, migrating or spending time in their nests.	
Engage: What is the weather? Lesson 5	Observe and describe weather associated with the seasons.	Observe and describe different types of weather.	Different types of weather include sunshine, rain, hail, wind, snow, fog, lightning, storm and cloud. The weather can change daily and some weather types are more common in certain seasons, such as snow in winter. The weather is what the air is like outside in one place and at one time.	

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Develop: Day length Lesson 5	Observe and describe how day length varies.	Observe and describe how day length changes across the year.	Day length (the number of daylight hours) is longer in the summer months and shorter in the winter months. The length of daytime in winter in the UK is shorter because the Northern Hemisphere is tilted away from the Sun. The length of daytime in summer is longer because the Northern Hemisphere is tilted towards the Sun.	
Develop: Sun's rays Lesson 6	Perform simple tests to prove why being safe in the sun is important. **A sunny day is needed for this lesson.**	Describe ways to stay safe in some familiar situations. With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen. With support, use simple equipment to measure and make observations.	It is important to stay safe. Some ways to stay safe include staying safe in strong sunlight (sun cream, sun hat and sunglasses), crossing roads (stop, look and listen), in the kitchen (not touching hot or sharp objects) and with household chemicals (not touching, drinking or eating). Simple tests can be carried out by following a set of instructions. Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses. The Sun provides Earth with heat and light. However, it gives out invisible rays that can damage our skin and eyes over time.	• UV beads • Elastic • Petri dishes or similar • High factor sun cream • Sunglasses with UV filters • T-shirt • Sun hat • Water • Tray • Camera or tablet
Develop: Measuring and recording the wind (Lesson 1)	Gather and record data about the weather to help in answering questions.	With support, gather and record simple data in a range of ways (data tables, diagrams, Venn diagrams). Observe and describe different types of weather. Investigate weather using toys, models or simple equipment.	Data can be recorded and displayed in different ways, including tables, pictograms and drawings. Different types of weather include sunshine, rain, hail, wind, snow, fog, lightning, storm and cloud. The weather can change daily and some weather types are more common in certain seasons, such as snow in winter. Simple equipment can be used for measuring weather, such as measuring temperature with a thermometer; identifying wind direction and force with a windsock or measuring rainfall with a rain gauge.	• Windsock • Anemometer (optional)

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Develop: Measuring and recording the wind (Lesson 2)	Use their observations and ideas to suggest answers to questions.	Talk about what they have done and say, with help, what they think they have found out.	The results are information that has been found out from an investigation.	
Develop: Measuring and recording the temperature (Lesson 1)	Observe the temperature closely, using simple equipment.	With support, use simple equipment to measure and make observations. Investigate weather using toys, models or simple equipment.	Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses. Simple equipment can be used for measuring weather, such as measuring temperature with a thermometer; identifying wind direction and force with a windsock or measuring rainfall with a rain gauge. Temperature is the measure of how hot or cold something is. It is measured using a thermometer on many different scales, including degrees Celsius.	• Range of thermometers • Large primary outdoor thermometer
Develop: Measuring and recording the temperature (Lesson 2)	Use their observations and ideas to suggest answers to questions.	Talk about what they have done and say, with help, what they think they have found out.	The results are information that has been found out from an investigation.	
Develop: Measuring precipitation	Ask simple questions and recognise that they can be answered in different ways.	Ask simple scientific questions.	Question words include what, why, how, when, who and which. A rain gauge is a piece of equipment used for measuring rainfall in millimetres (mm).	• Rain gauges • Sticky notes
Develop: Weather forecasting	Use their observations and ideas to suggest answers to questions.	Talk about what they have done and say, with help, what they think they have found out.	The results are information that has been found out from an investigation. A weather forecast predicts the weather, including the temperature, the type of weather, the chance of precipitation and the strength of the wind for a specific place and time.	• tablets

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Innovate: Asking and answering questions Step 1 (15mins)	Ask simple questions and recognise that they can be answered in different ways.	Ask simple scientific questions.	Question words include what, why, how, when, who and which. • Is today's weather forecast correct? • Could the Sun burn me on a cloudy day? • Does it rain the same amount every week? • Does it rain more in the mornings? • Is the wind strength different in different parts of the playground? • Do all sun creams block the Sun's rays? • Where is the coldest part of the playground?	• Windsocks • UV beads • Anemometer (optional) • Rain gauges • Primary outdoor thermometers • Cameras or tablets • Other resources needed will be dependent on the question you investigate
Innovate: Asking and answering questions Step 2 (30mins)	Perform simple tests.	With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen.	Simple tests can be carried out by following a set of instructions.	DEPENDANT
Innovate: Asking and answering questions Step 3 (1 hour)	Observe closely, using simple equipment.	With support, use simple equipment to measure and make observations.	Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses.	DEPENDANT
Innovate: Asking and answering questions Step 4 (15mins)	Gather and record data to help in answering questions.	With support, gather and record simple data in a range of ways (data tables, diagrams, Venn diagrams).	Data can be recorded and displayed in different ways, including tables, pictograms and drawings.	

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Innovate: Asking and answering questions Step 5 (10mins)	Use their observations and ideas to suggest answers to questions.	Talk about what they have done and say, with help, what they think they have found out.	The results are information that has been found out from an investigation.	

Links within other projects:	Learning Objective	Skills	Knowledge
Geography: Bright Lights, Big City Seasonal Sorting	Identify and classify.	Observe objects, materials, living things and changes over time, sorting and grouping them based on their features.	Objects, materials and living things can be looked at and compared.

Gaps:

- **Creating and interpreting forms of data.**
- **Features of different seasons.**
-

Key Vocabulary:							
air amphibian	chart cloud	dormant earth	hot hurricane	night time	record reptile	summer sun	unit UV beads

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anemometer	cold	environment	insect	northern	research	sun cream	volume
animal	compare	equipment	investigation	hemisphere	results	sunglasses	warm
autumn	dark	evergreen	leaf	observe	season	sunrise	weather
bar chart	data	fog	light	observe	seasonal change	sunset	weather forecast
Beaufort scale	daytime	fruit	mammal	precipitation	sleet	table	weather symbol
bird	deciduous	gale	measurement	prediction	snow	temperature	wind
blossom	degrees Celsius	grow	meteorologist	rain	spring	thermometer	windsock
breeze	describe	hail	migrate	rain gauge	storm	tree	winter
bud	diagram	hibernate	millimetre	rainfall			
				rays			