

Pioneer Federation
Medium term plan
KS1- Cycle 1 Term 1
Science




Subject: Science	
Key question: How does the weather vary?	
Key Concept/ Theme: <ul style="list-style-type: none"> • Observe changes across the four seasons • Observe and describe weather associated with the seasons and how day length varies Skills: <ul style="list-style-type: none"> • Record • Predict • Conclusions/So What? 	
Prior Learning links: Children in EYFS will have: <ul style="list-style-type: none"> - Explored natural phenomena such as plants growing, trees changing colour, the <u>weather</u> - Explored natural materials, such as leaves, grass, bark, water, sand. To begin exploring seasons and <u>weather</u> through stories and play. 	
Vocabulary: Seasons: In the UK, there are four seasons each year. They are spring, summer, autumn and winter. Autumn: In autumn, the temperature begins to get lower and it can be quite chilly and windy. It starts to get darker earlier in the day. Some animals get ready to hibernate and some types of trees lose their leaves. Winter: Winter is the coldest season of the year. It can be very rainy and windy and it might even snow. Not many flowers are in bloom during winter and lots of trees have lost all their leaves. Some animals hibernate during winter and many are less active than in the warmer months. Weather: The weather includes the temperature outside, how windy it is and rainfall (how much it rains). We can also describe cloud, snow and sun. Daylight: Daylight is when it is light outside. The amount of daylight changes with each season	
1.	Prior learning reconnection (year group, cycle & term): EYFS – seasons and weather is repeated throughout the EYFS curriculum to notice seasonal changes LO: To record, measure and observe wind. To predict the weather based on observations. Enquiry skill: prediction Activity: Reconnect: Show the children the winter scene photo and discuss which season they think it is and why. Ask them to think about what they would have to do to cope with being in the cold temperature. Are the children able to explain how they can keep warm in winter? Key Vocabulary: seasons, autumn, winter, weather, daylight, weather What Is Weather? recap the definition of weather and the different types of weather. Then, as a class, use the Lesson Presentation to match the weather to the correct weather symbol and then look at the following six photos to discuss what types of weather can be seen. Use talk partners to discuss what the weather is like today, what season it is and whether today's weather is typical of the season. Wind: Discuss the wind, the different strengths of wind and the things we might do when it is windy. Go through pictures and look at what type of wind they think it would be.

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Explain to the children that they will be taking part in a scientific enquiry in order to answer an enquiry question. Introduce the scientific enquiry question and explain the steps the children will follow in order to try to answer the question. Can the children say what they need to do in order to answer the scientific enquiry question?

Weathervane: Explain what a weathervane is to the children, showing them the pictures, and how they will be using one of these to find out the direction of the wind throughout their scientific enquiry. Discuss how their weathervane will show them which direction the wind is coming from, either north, south, east or west, and that these are the main directions that things (such as wind) can travel in. If individual weathervanes are to be made, follow the instructions on the Weathervane Instructions Poster. Do the children understand how to use a weathervane?

Measure the wind throughout the week with your class, then discuss your findings.

 Make a prediction.	T
Can I sometimes suggest what may happen in a familiar context, with prompts?	
Can I suggest what may happen in a familiar context, with prompts?	
Can I make a prediction about what might happen using key vocabulary as a prompt?	
Can I explain if my prediction was correct at the end of an experiment and explain why?	

2

Reconnection: What do they know about autumn?

LO: To know the changes from autumn to winter

Activity:

Go over the vocabulary for the lesson:

Weather: Ask the children to think about and describe the weather in autumn. Discuss how the weather changes from autumn to winter. Discuss the weather expected in winter and how we cope with this cold, wet weather. Can the children describe the winter weather and any activities we might do during winter. What do we do in winter to help us to prepare for the weather?

Nature in Winter: Ask children to think about what nature is like in autumn, including trees, plants and what animals might be doing. Look at the pictures on the Lesson Presentation and discuss which picture looks like it was taken in winter and how we know. Are the children able to explain how nature changes during winter?

Animals in Winter: Use the Lesson Presentation to discuss with the children how animals survive the cold winter months, including how some animals hibernate, some migrate and some make other changes (adapt) based on the weather.

Activity: Go outside with clipboards and get the children to sketch what they can see that shows it is winter, HA to add in words they know linked to winter. Adults to get pupil voice of children discussing the changes from autumn to winter.

3

Reconnection: How does the weather change from Autumn to Winter?

LO: To know how the length of day changes with the season they are in- comparison between term 1 and term 3. To record, measure and observe rain.

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Skill: record

Activity:

This lesson is going over what we did in Term 1, then adding to their predictions:


Can they recall the amount of rain from the previous time we did this? Was there a lot of rain in Autumn? Do they think there will be more rain in Winter or less than Autumn?

Children to understand that the amount of rainfall changes throughout the year. Why is rainfall important for the land? Link to harvest time and how the farmers use the land.

<https://www.bbc.co.uk/bitesize/articles/z82xjsg#zpc3qt>

Add into science book any celebrating or links they might have to wintertime and reflect on how the weather has effected harvesting, if there are any parents who are farmers in the class they could come in to explain how they use the weather in their job. Children to make their own rain gauge and then record the amount of rainfall at different points in the year. If they still have theirs record new rainfall for Term 3, or create new ones again.

Once they have collected their results for rain, they need to compare this to Term 1, what is similar what is different? What do they notice?

 Record results	TCH
Can I sort into two groups? (colour, shape) Can talk about my results to an adult and sometimes, with support, record them on a pre-prepared table?	
Can I group things together by their features? Can, with adult support, record results on a table provided by my teacher.	
Can I group and classify things explaining my reasons for my groupings? Can I collect my results and record them in my own way? <u>Can, with adult support, record results accurately on a table provided by my teacher?</u>	
Can I record my findings on tables provided by my teacher? Can I start to design my own tables for recording? Can I choose how to classify and group the information and explain how this helps me?	

4 **Reconnection:** Why do we learn about the weather? Why does the weather matter?

Watch: <https://www.bbc.co.uk/bitesize/articles/zjdk7v4>

LO: To draw conclusions about the rainfall collected then link this to the real world.

Enquiry skill: conclude/so what?

Activity:

Let's look at our results from the last lesson. Let's discuss: What do you notice about our findings? Are there any patterns? How could we group our results?

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How do these results link to the real world and rain fall?

How does rain effect our daily lives? Discuss with the children, when it rains we have to have wet play, we can't do PE outside- we need to wear coats, it can flood roads ect.

Then watch- <https://www.bbc.co.uk/bitesize/articles/zbmptrd>

How does rain affect our lives?

- Rain gives **animals and plants** the water they need to **grow and survive**.
- The water in our taps start off as rain. We **drink this water** and use it for our **showers and baths** every day. It's part of our *water cycle*.
- We have to think about **what we're going to wear** when it's raining. We should think about wearing **waterproof** clothing.
- We have to think about **how we are going to travel** when it's raining. We might take the bus, car or train instead of walking or cycling.
- Too much or too little rain can cause *extreme weather* events like *floods* and *droughts*.
- Extreme weather events can affect **travel** or **our ability to grow food**.
- In the UK, we don't often get huge extremes of rain or drought but many places do.

Extreme weather

Discover what happens when we get too much or too little rain.

Floods: They happen when there is a lot of heavy rain and it can't drain away properly. Floods can make travelling difficult. For example, roads and bridges might be closed.

Show them videos of recent flooding in the UK- <https://www.bbc.co.uk/news/articles/cn7mnmng038o> - There might be some more recent news stories

Droughts: If there's too little rain, we might experience a drought. In July 2018, the UK had one of its hottest summers ever which caused droughts. This wheat field in England dried up making it difficult to grow crops.

Activity:

Write down or draw some examples of how rain has affected their week since they collected their results:


Ideas:

- We use water that comes from the rain to brush our teeth, take baths and clean our dishes.
- Rain helps crops grow so we have food to eat.
- If it's raining outside, we have to think about wearing something **waterproof** and we might change how we travel.
- It rained to heavy and we needed to do PE inside.
- We had a wet play day because of the rain

Extension- How can they relate the results of their experiment to what happens to weather in the real world, could our results mean that there could a drought (little rainfall) or flooding (lots of rainfall).

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Finish lesson by reading: Welcome, Rain! by Sheryl McFarlane

 Explain conclusions	TCH
Can I notice when something unexpected happens. Can I respond to question prompts from an adult?	
With adult support, Can I make simple comparisons between observations? Can I use scientific language from short list provided by teacher? Can I notice when something unexpected happens? Can I respond to question prompts from an adult? Can I tell an adult two or more things I saw happening?	
Can I explain my observations and the changes I see over time? Can I make observations using scientific language from my topic? Can I notice patterns and use scientific language to explain these? Can I notice similarities and differences and explain these using scientific language?	
Can I say, with help, whether what happened was as expected? Can I make simple comparisons between observations? Can I, use simple scientific language to describe results?	

5

Reconnection:

LO: To compare different weather locally to that around the world and why our seasons are different to those in Australia.

Activity:

Begin by discussing the weather in the UK, what have we learnt so far this term about weather, is it always the same?

Go over the weather in the UK.

Discuss with the children where Australia is, what do they already know about this country?

Watch- <https://www.bbc.co.uk/teach/class-clips-video/articles/zjrtscw>

Talia, 9, from Mossley, Greater Manchester tells us what it's like to live in a town that experiences all weather types but where the weather is generally quite mild. She explains that what she likes to do depends on what it's like outside: playing the piano when it rains and having snowball fights when it snows.

In contrast, Khynaan, 9, from Townsville, Australia, goes to the beach on Christmas day and wears sunscreen all year round. During cyclone season, his family takes various precautions, taping up the windows and staying inside.

Talia's family also have to take weather related precautions, using pots and pan to catch the water coming through a leaky roof.

What is the weather like in Australia, what do we notice about this?

Compare the two countries weather, what is similar what is different? If you have been to Australia discuss this with the Children. Mrs Tucker went during our spring, but it was there Autumn- use pictures in the lesson.

Why is this the case? Why are our seasons different?

Children then record the similarities and differences between the weather in the two countries, HA to link this to our seasons, why do we have different seasons at different times?

6

Quiz/assessment

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Science End of Term Quiz Term 3

Can you draw what we use to measure wind?

How does the weather change from Autumn to Winter?

Autumn Winter

What affects does rain have on us at school?

How is our weather different to Australia?

hotter or colder wet or dry

End points:

To know the changes from autumn to winter.

To know how the length of day changes with the season they are in- comparison between term 1 and term 3.

To compare different weather locally to that around the world and why our seasons are different to those in Australia.

To record, measure and observe rain and wind.

To predict the weather based on observations.

To draw conclusions about the rainfall collected then link this to the real world.

Future learning links:

Y5- Earth and space: Pupils should be taught to:

- describe the movement of the Earth, and other planets, relative to the Sun in the solar system
- describe the movement of the Moon relative to the Earth
- describe the Sun, Earth and Moon as approximately spherical bodies
- use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.