Habitats – Seasonal Change

Name_____ **Class**_____

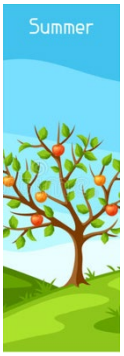
What you will need for this lesson: some stones or soil to weigh down the bottle, a 2 litre empty plastic bottle, a scissors, a ruler and some Sellotape.
Remember to always ask an adult to help you find these items and to help you carry out the investigation!

Lesson starter

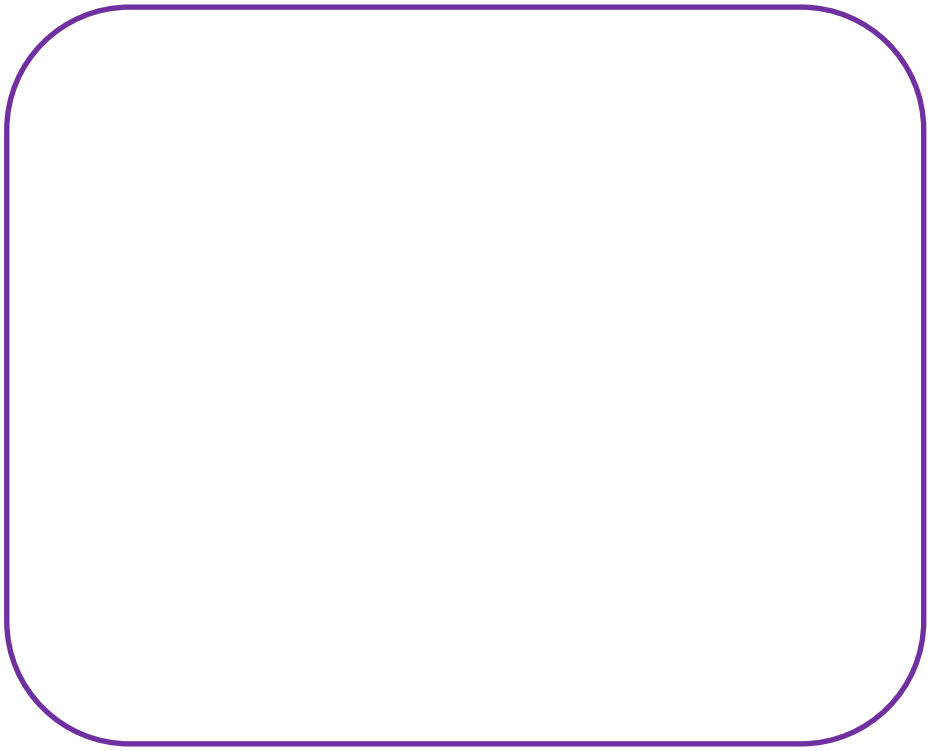
What are seasons?
Our year is divided into 4 seasons. Seasons are just names that we give to the different times of the year.
Each season has **different types of weather**: it will be warmer in some seasons and colder in others.
Plants and trees will be in different growing stages: trees may have no leaves, or they may be covered in blossom.
Animals will behave in certain ways: some animals will go to sleep for the season, or they may start to have their babies in another season.

Our seasons are

Winter, **Spring,** **Summer** **Autumn**

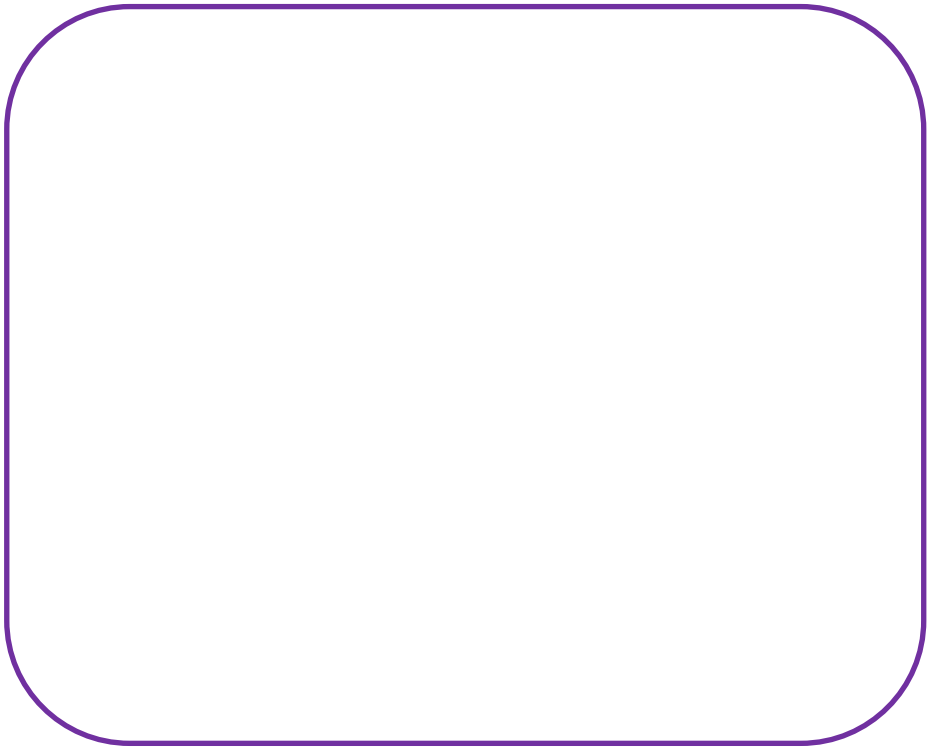


On the next 2 pages, draw a picture in each box that shows what you think the weather might be like in that season.



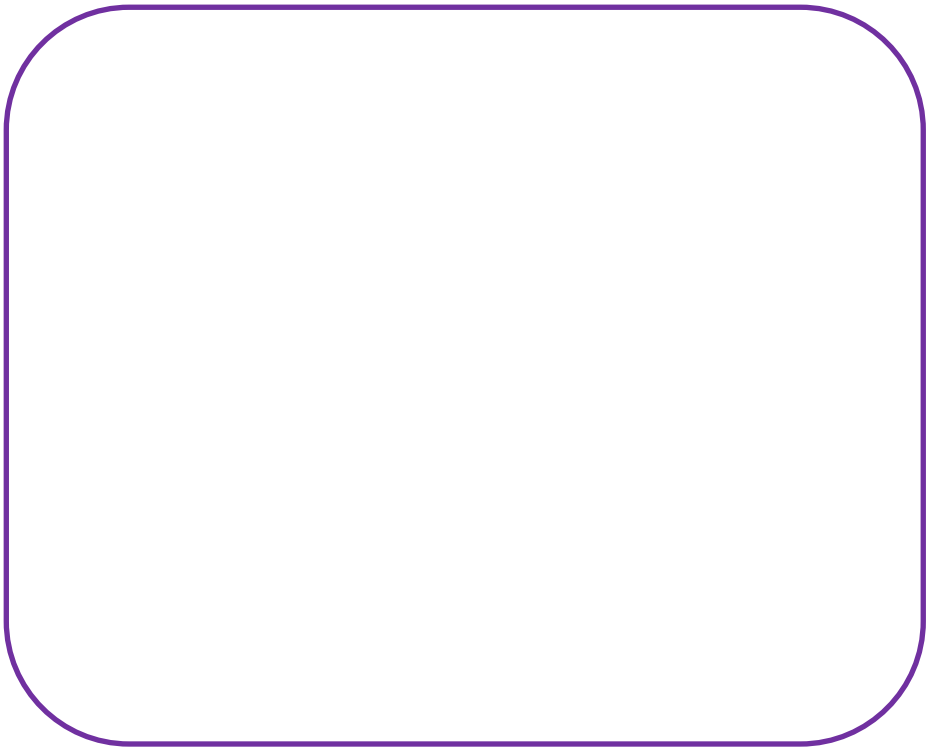
Winter

The weather is:



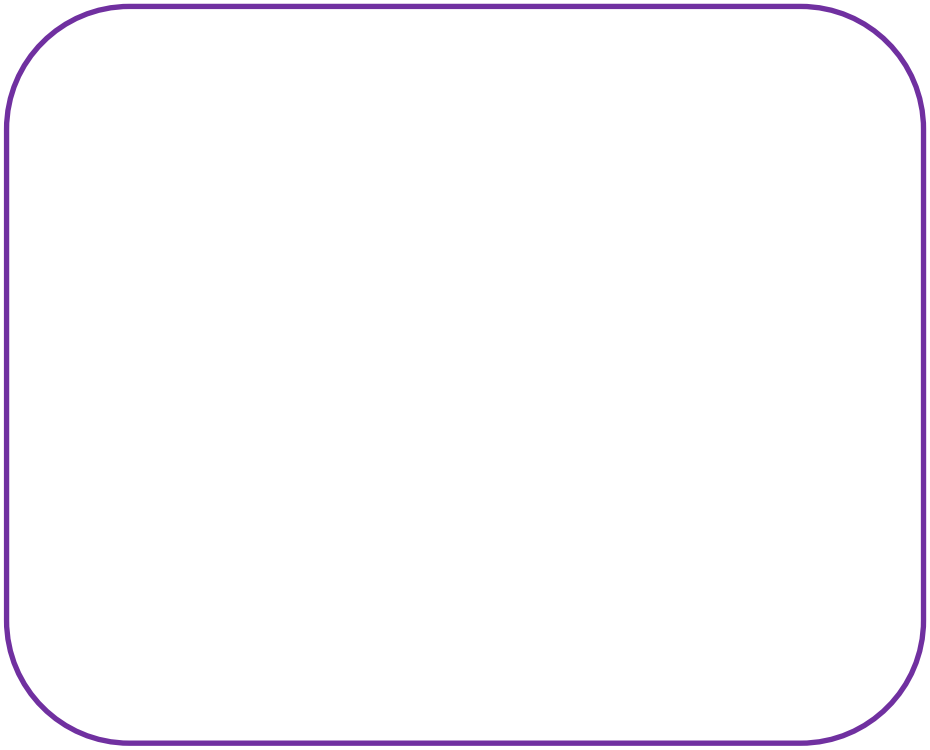
Spring

The weather is:



Summer

The weather is:



Autumn

The weather is:

The Investigation

You are going to make a rain gauge – this is a tool that will help you measure how much rain falls in your garden or somewhere near your home.

Remember you will need: some stones or soil to weigh down the bottle, a 2-litre empty plastic bottle, a scissors, a ruler and some sellotape. **Please make sure you ask an adult to help you!**

What you need to do first (The method):

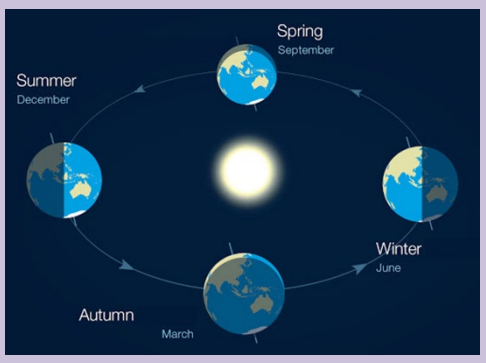
- Cut around your plastic bottle to make two pieces. The top part of the bottle should be a bit shorter than the bottom.
- Then fill the bottom part of the bottle with your stones or soil.
- After you have taken the cap off the bottle, turn the top part of the bottle upside down and place it in the bottom part of the bottle with the neck pointing downwards.
- Then, using your sellotape, tape both parts of the bottle together. This is a bit tricky so you will need an adult to help you.
- Then, stick the ruler to the outside of the bottle. Make sure that the measurement starts at 0 at the bottom of the bottle. It will be easier to take your measurements!
- Put your rain gauge outside. Try to find somewhere that is not sheltered or covered but not in people's way. We need the rain gauge to be able to collect as much rain as it can.
- Every day go and see how much rain has entered your bottle. Looking at the ruler, work out how many centimetres has fallen during the day.
- If the stones are wet at the bottom measure how far up the ruler the stones are wet.
- Remember to write this down in your rain diary. You can use the table on the next page.

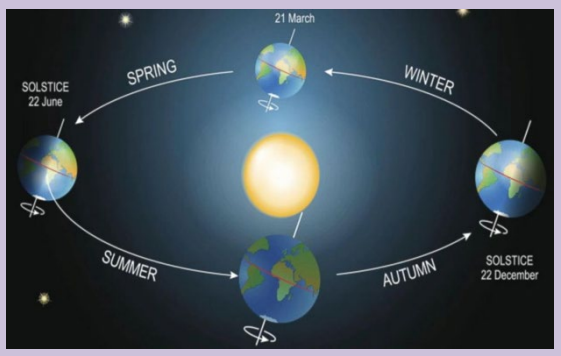
Day and date	Your rain measurement	Day and date	Your rain measurement

The Seasons – the science behind it all

Why do we have seasons?
It's really tricky to understand so don't worry if it's too much!

Planet Earth moves around (orbits) the Sun. As it goes around the Sun it also spins round itself. So, there are two spins taking place, one large one around the Sun and the smaller spin when it spins on its own.





Different parts of the Earth get different amounts of sunshine depending on where they are on Earth and where the Earth is on its spinning journey around the Sun.
This is what gives us the seasons. Sometimes where we are on the Earth leans away from the Sun and this is our Winter. During part of the year it is leaning towards the Sun and this is our Summertime. The two periods of time when the Earth is not tilting as much one way or the other give us Spring and Autumn.

So, depending where the Earth is, we get more or less sunshine. When we have more sunshine it is warmer and when we have less, it is colder. This is why we have seasons, why we have more or less sunshine and why it is warmer or colder.

Your Challenge!

Can you draw a picture to show why the summertime is warmer and why the wintertime is colder in our country?

During the winter, the number of daylight hours are shorter than in the summer. Can you explain why? Don't worry if it's too tricky, it's a very hard question!

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We hope you enjoyed this science lesson!