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| Subject: Science Year: Phase 1 Seasonal Changes, Earth and Space  NC/PoS:  EYFS: ELG   * Explore the natural world around them, making observations and drawing pictures of animals and plants * Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class * Understand some important processes and changes in the natural world around them, including the seasons   NC/PoS:   * observe changes across the four seasons * observe and describe weather associated with the seasons and how day length varies.   (N.B. this unit to be completed over the year) |
| Prior Learning (what pupils already know and can do)  Know the names of the four seasons and that changes occur within the seasons. Know the difference between day and night. |
| End Goals (what pupils MUST know and remember)  To know in Autumn the leaves of many trees change colour, the temperature grows colder, plants stop making food and animals prepare for the months ahead.  To know in Winter it is usually the coldest time of the year and in some places, it brings freezing temperatures, snow and ice.  To know in Spring dormant plants begin to grow again, new seedlings sprout out of the ground, plants grow new leaves and hibernating animals awake.  To know in summer that it has long, usually sunny days and is the hottest season.  Compare some similarities and differences between the seasons.  To know that the movement of Earth in space gives us day and night.  To know a day on Earth last 24 hours – how long it takes to orbit the sun  To know that in the UK, the day length is longest at mid-summer (about 16 hours)  To know that from the summer solstice the number of daylight hours decreases each day until mid-winter.  Observe changes across the 4 seasons.  Observe and describe weather associated with the seasons and how day length varies.  Observe change over the year. |
| Key Vocabulary  Earth’s tilt, compare, seasons, weather patterns, daylight hours, months, changes, preparation, weather symbols, harvest, migration, hibernation, deciduous, wind direction, windsock, bud, rain gauge, growth, dormant, seedlings, heatwave, droughts |
| Session 1: review prior learning  Watch <https://www.youtube.com/watch?v=VYpGBtR8Lbs> BBC teach the great British year  What are the seasons? Which months are in the seasons?  Winter – December, January, February ; Spring – March, April, May ;Summer – June, July, August ; Autumn – September, October, November  Season is defined by weather patterns and amount of daylight hours  Look at the job of a meteorologist <https://www.youtube.com/watch?v=qOAhv_U0vh8>  Working scientifically: Research using secondary sources  Ask one or two simple questions linked to seasons.  Vocabulary: seasons, weather patterns, daylight hours, months |
| Session 2:  Recap: what are the seasons? Which order do they happen? What does a meteorologist do?  LO: To observe the changes in Autumn  <https://www.youtube.com/watch?v=QvIh7nrEdeM> Autumn  Plants may begin to grow inactive. Animals might prepare themselves for the upcoming cold weather, storing food or travelling to warmer regions. Farmers harvest crops to eat over the colder months  Working Scientifically: Observing over time  Be able to answer their questions using simple sentences using their observations or  Measurements.  Need to go out for at least two sessions during Autumn to look at the change in leaves, plants and amount of animals seen   * Introduce the weather symbols * Record weather for 2-3 weeks (keep as will use to compare later on in the unit) and use to draw a pictogram and discuss what it shows * Introduce bear to go home at weekends (or daily) the children must put it to bed when it gets dark and record the time in his book (use to compare daylight hours later)     Vocabulary: changes, preparation, weather symbols, harvest |
| Session 3:  Recap: what happens in Autumn  LO: to observe the changes in Winter  <https://www.youtube.com/watch?v=X0Bv6hchrg0> Winter  In winter the average is between 2 and 7 degrees Celsius, but temperatures often drop to just below 0 degrees. Deciduous trees have bare branches, animals try to keep themselves warm and lack of flowering plants.  Need to go out for at least two sessions during Winter to look at the change in leaves, plants and amount of animals seen   * Look at animal hibernation and migration * Using windsock and thermometer collect wind direction data and temperature for 2-3 weeks – record and present * Look at range of clothing people wear at this time of year. Why? * Discuss the bedtime of the bear what does it tell you about the amount of daylight hours (shortest daylight 8 hours)   Vocabulary: migration, hibernation, deciduous, wind direction, windsock |
| Session 4:  Recap what happens in Autumn and Winter  Lo: to observe the changes in Spring  <https://www.youtube.com/watch?v=vLAnt9__5Mg> Spring  Animals wake or return from warmer climates, often with a new born. Seeds take root and plants begin to grow. Weather becomes warmer, often wetter and increased rainfall, can cause flooding.  Need to go out for at least two sessions during Spring to look at the change in leaves, plants and amount of animals seen   * Introduce the rain gauge and collect data weekly (record and present) * Ensure that snowdrops and daffodils have been planted as indicator of spring * Look for birds making nests, appearance of insects * Look at daylight hours   Vocabulary: bud, rain gauge, growth, dormant, seedlings |
| Session 5:  Recap: changes in Autumn, Winter and Spring?  Lo to observe the changes in Summer  <https://www.youtube.com/watch?v=w12ZbGBWZ_k> Summer  Temperatures may increase to their hottest of the year.  If the temperature goes high, heat waves or droughts may cause trouble for people, animals, and plants.  Need to go out for at least two sessions during Summer to look at the change in leaves, plants and amount of animals seen   * Record the weather for 2-3 weeks (rainfall, temperature and wind) use weather symbols * Look at amount of insects visible, number of flowering plants * Discuss daylight hours (longest daylight 16 hours)   Working Scientifically: Identifying, classifying and grouping  Be able to ask a Yes/No questions to aid sorting. Identify the headings for the two groups (it is …., it is not ….). Be able to compare on obvious, observable features e.g. size,  shape, colour, texture etc.  N.B. dangerous to look directly at the sun  Vocabulary: heatwave, droughts |
| Session 6:  Recap: Changes in seasons  Lo: to compare the changes through the seasons  Changes due to the tilt of the Earth, when the Uk is closest to the sun, it is Summer and when furthest away, it is Winter.  Compare the data collected over the year    Vocabulary: Earth’s tilt, compare |
| Link to career scientist:  Meteorologist <https://www.youtube.com/watch?v=qOAhv_U0vh8> |
| Scientists who have helped develop understanding in this field: In 350 BC, Aristotle wrote Meteorology. He is believed to be the founder of metereology. |