Taking Learning Outdoors

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| Learning experience and season |
| Winter: Measuring and recording aspects of the weather.  |
| CfE Level: First  |
| Experiences and Outcomes and associated benchmarks |
| E&OsBy using a range of instruments, I can measure and record the weather and discuss how weather affects my life. **SOC 1-12a**I can estimate how long or heavy an object is, or the amount it holds, using everyday things as a guide, then measure or weigh using appropriate instruments. **MNU 1-11a** By safely observing and recording the sun and moon at various times, I can describe their patterns of movement and changes over time. I can relate these to the length of a day, a month and a year. **SCN 1-06a** I can design and construct models and explain my solutions. **TCH 1-10a**  | BMs**SOC 1-12a*** Uses instruments to measure and record at least two different weather elements, for example, temperature, rainfall and wind direction.
* Contributes to a discussion giving reasoned opinions on how the weather affects life.

**MNU 1-11a*** Uses knowledge of everyday objects to provide reasonable estimates of length, height, mass and capacity.
* Makes accurate use of a range of instruments… when measuring lengths, heights, mass and capacities using the most appropriate instruments for the task.

**SCN 1-06a*** Demonstrates understanding of how the tilt of the Earth on its axis as it circles the sun causes the pattern of the seasons and changes to the number of daylight hours over the course of the year.

**TCH 1-10a*** Creates and justifies a solution to a given design challenge considering who it is for, where and how it will be used.
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| Overview of learning experience |
| Pupils choose and aspect of the weather to measure and record (e.g. wind, rain or temperature) and design and create an instrument to record the weather using natural resources and other materials. They will then use standard instruments to confirm their results.  |
| Outline of learning |
| **LI/SC**To measure and record the weather. * I can make an instrument that will measure the weather.
* I can describe how each instrument measures the weather.
* I can record information about the weather.
 | **Resources*** Ice
* A range of resources without standard units.
* Measuring jugs, weathervane, wind sock, anemometer, thermometers.
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| **Description of learning experience and assessment opportunities:****Discussion:** Pupils begin by revising the reasons we have seasons; that they are caused by the tilt of the earth on its axis as it orbits the sun. Pupils can create a mindmap or infographic about winter weather. **Activity:** Learners spend time outdoors, experiencing different aspects of the winter weather for example wind direction and speed, rainfall, snow and ice, sunshine and temperature. Pupils work together to use natural resources from the environment and/or additional materials to create an instrument to measure the weather. Pupils will be able to explain how their instrument operates and justify their choice of materials. Pupils will record the weather using their instrument, this may have to take place over several days. This could involve recording data on a table, making sketches of taking photographs. Pupils will display their data appropriately. Pupils will now research the standard instruments used to measure the weather – if the school has examples of these instruments (e.g. a weathervane), these could be demonstrated for the pupils or the MET office has produced some guides to make these instruments: * [Make your own weather station - Met Office](https://www.metoffice.gov.uk/weather/learn-about/met-office-for-schools/other-content/other-resources/weather-station/index)

Pupils should now use available standard instruments to measure and record the weather and present this data appropriately.  |
| Consideration of risk |
| Take care in wet or icy conditions. Take care when collecting items. If using tools, follow relevant risk assessments.  |
| Taking it further – what else could you do? |
| * Find the location of a local weather station and visit.
* Explore how the weather can be used to generate energy e.g. solar and wind.
* Explore the impact of materials used for insulation on temperature.
* Explore the [MET Office resources for schools](https://www.metoffice.gov.uk/weather/learn-about/met-office-for-schools/resources-for-7-11)
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