



# Peatlands

## Stage 1: Identifying learning need

Authentic context for learning	
<p><b>Big question / global issue / big idea:</b></p> <p>Healthy peatlands are vital to life on Earth.</p>	<p><b>Why this learning matters for our young people:</b></p> <ul style="list-style-type: none"> <li>• Peatlands are among the most carbon-rich ecosystems on Earth, storing twice as much carbon as the world's forests.</li> <li>• Peatlands are wetlands which occupy 3% of the global land surface and 12% of UK land area.</li> <li>• In healthy condition, peatlands have a cooling effect on climate, help reduce flood risk and support biodiversity.</li> <li>• Around 80% of UK peatlands have been degraded or damaged due to a range of human activities.</li> </ul>
Making meaning	
<p><b>Understanding:</b></p> <p>Learners should come to understand that:</p> <ul style="list-style-type: none"> <li>• Peatlands are critical to our, and other species, survival.</li> <li>• How we use and manage peatland is impactful now and in the future.</li> <li>• Healthy peatlands capture CO<sub>2</sub> from the atmosphere through photosynthesis.</li> <li>• Healthy peatlands store vast quantities of carbon, locking in an estimated 3.2 billion tonnes in the UK alone.</li> <li>• Damaged peatlands are estimated to be a net source of greenhouse gas emissions to the atmosphere as opposed to a net sink, due to the way they have been managed in the past.</li> <li>• Action is now being taken to restore and sustainably manage peatlands in the UK.</li> </ul>	<p><b>Underpinning concepts:</b></p> <p>Learner's understanding will be founded upon:</p> <ul style="list-style-type: none"> <li>• Carbon sequestration</li> <li>• Climate change</li> <li>• Biodiversity</li> <li>• Ecosystem services</li> <li>• Photosynthesis</li> <li>• Habitats</li> <li>• Land use</li> <li>• Flooding</li> <li>• Pollution</li> <li>• Risk</li> <li>• Resilience</li> </ul>



## Stage 2: Identifying progression

Prior knowledge, skills and understanding		
<b>Learners already know:</b> <div>Educator to input here</div>	<b>Learners already can:</b> <div>Educator to input here</div>	<b>Learners already understand:</b> <div>Educator to input here</div>
Purposes of learning	Transferable learning	
<b>Learners can become increasingly effective by:</b> <ul style="list-style-type: none"> <li>Explaining the ideas and concepts they are learning about.</li> <li>Thinking creatively to reframe and solve problems.</li> <li>Understanding and considering the impact of their actions when making choices and acting.</li> <li>Showing their commitment to the sustainability of the planet.</li> </ul>	<b>Learners might use their learning in other contexts by:</b> <div>Educator to input here</div>	
Knowledge and skill acquisition		
<b>Learners should broaden and deepen their knowledge of:</b> <ul style="list-style-type: none"> <li>What are peatlands?</li> <li>What types of peatland can be found in Wales?</li> <li>What ecosystem services do peatlands provide?</li> <li>How can we improve the health of peatlands?</li> <li>What human activities have detrimental impacts on peatlands?</li> <li>How do healthy peatlands affect human health and well-being?</li> <li>Why is it crucial that peatland ecosystems are restored and preserved?</li> </ul>	<b>LNF/DCF/AoLE</b> <div>Educator to decide the skills foci depending on learners' needs</div>	



## Essential questions

**Students should consider and reconsider:**

### Topic level questions

- Why are peatlands important?
- How can healthy peatlands help us adapt to climate change?

### Unit level questions:

- How do we sustainably manage peatlands?
- How can we improve peatlands?
- How do we minimise our impacts on peatlands?
- What kind of skilled workforce is needed to sustainably manage peatlands?

## Stage 3: Demonstrating learning

Learner portfolio	Foci for progression	Evidence of learning
<b>Learners might demonstrate their understanding by:</b> <div>Educator to input here</div>	<b>Learners should make progress in:</b> <div>Educator to input here</div>	<b>What might you see / hear / read that demonstrates progression?</b> <div>Educator to input here</div>
<ul style="list-style-type: none"> <li>• Investigating distinct types of peatlands.</li> <li>• Discovering nearby peatlands and identifying their type.</li> <li>• Explaining or demonstrating how peatland systems work.</li> <li>• Presenting information on the ecosystem services that peatlands provide.</li> <li>• Explaining historical uses of peatlands.</li> <li>• Exploring sustainable peatland management practices.</li> <li>• Comparing peatland management in other countries.</li> </ul>	<ul style="list-style-type: none"> <li>• Their effectiveness as learners.</li> <li>• The breadth and depth of their knowledge.</li> <li>• Their understanding of the ideas of the AoLE.</li> <li>• The sophistication of their skills.</li> <li>• Their ability to transfer understanding to new contexts.</li> </ul>	<div>Educator to input to document learners' progression</div>



## Stage 4: Learning Plan

Overview of learning activities (to be designed by the educator)	Focus of learning (Acquisition / Making meaning / Transfer)	Future progression (How should learners be developed next?)
<p>These resources, their supporting information and other games and activities, are available on our '<a href="#">Peatlands</a>' education webpage.</p> <ul style="list-style-type: none"> <li>• Activity plan - Why are peatlands important?</li> <li>• Activity plan - Shrinking peatlands</li> <li>• Information note - Peatlands: How carbon sinks turn into carbon emitters</li> <li>• Activity plan - Assessing peatland condition, depth, age and carbon content</li> </ul> <p><b>Or:</b></p> <ul style="list-style-type: none"> <li>• Dive into how we manage peatlands via our National Peatland Action Programme <a href="#">webpages</a>.</li> <li>• Explore the interactive <a href="#">Wales Peatland Data Portal</a> to find out where peatlands are and the areas that need restoring.</li> <li>• Undertake a case study of a nearby peatland.</li> <li>• Compare local/regional peatlands with other nations.</li> <li>• Investigate the current and/or historical use of peat.</li> <li>• Explore the role of peatlands as significant to Wales' culture including providing inspiration for stories and songs, travel routes, and place names.</li> </ul>	<p><b>Acquiring skills:</b></p> <ul style="list-style-type: none"> <li>• Field skills and observation.</li> <li>• Data collection.</li> <li>• Action planning.</li> <li>• Critical thinking and Comparison</li> <li>• Monitoring change.</li> </ul> <p><b>Knowledge about:</b></p> <ul style="list-style-type: none"> <li>• Land management.</li> <li>• Cause and effect, how our growing population impacts on the natural environment.</li> <li>• How we sustainably manage our energy needs.</li> <li>• How global warming affects ecosystems.</li> </ul> <p><b>Connect learning together:</b></p> <ul style="list-style-type: none"> <li>• Using knowledge to inform future actions to reduce carbon emissions.</li> <li>• Influencing others to support improving peatland health.</li> </ul> <p><b>Transfer of knowledge and understanding:</b></p> <ul style="list-style-type: none"> <li>• Habitat loss</li> <li>• Wildfires</li> <li>• Agriculture</li> <li>• Flooding</li> <li>• Biodiversity</li> <li>• Other ecosystems such as woodlands.</li> <li>• Use of natural resources</li> <li>• Human health</li> <li>• Careers</li> </ul>	<p><b>Learners need to extend their knowledge of:</b></p> <div>Educator to input here</div> <p><b>Learners need to be more skilled at:</b></p> <div>Educator to input here</div>



To support further learning about peatlands:

- Plant a bog garden at your setting.
- Investigate peat free compost alternatives for use in growing at your setting.
- Visit a nearby peatland with your learners.

**Learning in, learning about, and learning for the natural environment.**

**Looking for more learning resources, information and data?**

Visit <https://naturalresources.wales/learning>

Alternative format; large print or another language, please contact:

**[enquiries@naturalresourceswales.gov.uk](mailto:enquiries@naturalresourceswales.gov.uk)**

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