

# Peatlands

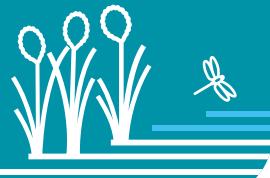
## Stage 1: Identifying learning need

Authentic context for learning	
<p><b>Big question / global issue / big idea:</b> Healthy peatlands are vital to life on Earth.</p>	
<p><b>Understanding:</b> 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>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>
<p><b>Underpinning concepts:</b> 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		
Learners already know:	Learners already can:	Learners already understand:
Educator to input here	Educator to input here	Educator to input here
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> Educator to input here
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> Educator to decide the skills foci depending on learners' needs



### 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?

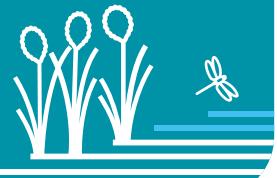
## Stage 3: Demonstrating learning

Learner portfolio	Foci for progression	Evidence of learning
<p><b>Learners might demonstrate their understanding by:</b></p> <p>Educator to input here</p>	<p><b>Learners should make progress in:</b></p> <p>Educator to input here</p>	<p><b>What might you see / hear / read that demonstrates progression?</b></p> <p>Educator to input here</p>
<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>	<p>Educator to input to document learners' progression</p>



## 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> <p>Educator to input here</p> <p><b>Learners need to be more skilled at:</b></p> <p>Educator to input here</p>



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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