



Flooding

Stage 1

Authentic context for learning

Big question / global issue / big idea:

Flooding impacts human and environmental health.

Why this learning matters for our young people:

- People can be injured or killed by flooding.
- Wildlife habitats are destroyed by flooding.
- Contaminated flood water can pollute water courses, affecting drinking water.
- Services we rely on, including power supplies, transport, hospitals, schools and local business can be disrupted or closed due to flooding.
- Homes and personal possessions can be damaged or washed away.

Making meaning

Understanding:

Learners should come to understand that:

- Flooding can occur from the natural processes like heavy rain, storms, snow melt, tidal surges, raised groundwater levels.
- Floods are the most common and widespread of all weather-related natural disasters to occur in Wales, the UK, and overseas.
- Flooding happens when water overflows onto land that is normally dry.
- Increases in the occurrence of flooding events are caused by environmental and human factors.

Underpinning concepts:

Learner's understanding will be founded upon:

- Climate change
- Population growth
- Natural disaster
- Vulnerability
- Capacity
- Topography
- Flow
- Pollution
- Causes and consequences
- Risk
- Resilience
- Health



Stage 2: Identifying progression

| Prior knowledge, skills and understanding | | |
|--|--|------------------------------|
| Learners already know: | Learners already can: | Learners already understand: |
| Purposes of learning | | Transferable learning |
| Learners can become increasingly effective by: <ul style="list-style-type: none">Building up a body of knowledge and having the skills to connect and apply that knowledge in different contexts.Engaging with contemporary issues based upon their knowledge and values.Understanding and considering the impact of their actions when making choices and acting.Showing their commitment to the sustainability of the planet. | Learners might use their learning in other contexts by: | |
| Knowledge and skill acquisition | | |
| Learners should broaden and deepen their knowledge of: <ul style="list-style-type: none">Flooding, what is it?The causes of flooding.How we manage water to prevent flooding.The impacts of flooding on ourselves and the natural environment.How floodwater causes pollution and affects human health.How the climate impacts seasonal variation in discharge.The impact of flooding on landform change. | LNF/DCF/AoLE | |



Essential questions

Students should consider and reconsider:

Topic level questions:

- How do human actions contribute to flooding?
- How can we adapt to increasing flood events?

Unit level questions:

- How do we minimise flooding?
- How do we keep ourselves and others safe from floodwater?
- How do we manage the impacts of flooding?
- What can we do to reduce flooding?
- What are the causes and effects of flooding at a Welsh location?
- What are the current and future management approaches to the problem of flooding in the UK?

Stage 3: Demonstrating learning

| Learner portfolio | Foci for progression | Evidence of learning |
|---|---|---|
| <p>Learners might demonstrate their understanding by:</p> | <p>Learners should make progress in:</p> | <p>What might you see / hear / read that demonstrates progression?</p> |
| <ul style="list-style-type: none">• Explaining or demonstrating how the water cycle and/or river systems work.• Understanding how flooding might impact fluvial processes.• Investigating local water systems and water bodies.• Examining flood risk in their locality.• Considering how to keep themselves/their family/their setting, safe in the event of a flood.• Presenting information on the causes, consequences and how to combat flooding.• Comparing how flooding impacts other countries. | <ul style="list-style-type: none">• Their effectiveness as learners.• The breadth and depth of their knowledge.• Their understanding of the ideas of the AoLE.• The sophistication of their skills.• Their ability to transfer understanding to new contexts. | |



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 and their supporting information are available on our 'Flooding' education webpage.</p> <ul style="list-style-type: none">PowerPoint – An introduction to floodingActivity plan – Dangers of floodwaterActivity plan – What's in flood waterActivity plan – How to prepare for a floodActivity plan – Writing a flood planActivity plan – Investigating the emotional and psychological effects of floodingActivity plan – Impacts of flooding <p>Or:</p> <ul style="list-style-type: none">Sign up for flood warning messages and check for flood risk warnings on our flooding webpages.Undertake a case study of flooding on a local river or water body.Compare local/regional flooding with global events.Investigate flood defences. | <p>Acquiring skills:</p> <ul style="list-style-type: none">Data collection.Action planning.Comparison.Critical thinking.Field skills.Observation.Monitoring change. <p>Knowledge about:</p> <ul style="list-style-type: none">River systems.Cause and effect, how our growing population impacts on the natural environment.How we manage water.How global warming affects weather systems. <p>Connect learning together:</p> <ul style="list-style-type: none">Using knowledge to inform future actions to reduce carbon footprint.Influencing others to prepare for a flood event. <p>Transfer of knowledge and understanding:</p> <ul style="list-style-type: none">Extreme weather events.Keeping safe.Habitat loss.Wildfires.Droughts. | <p>Learners need to extend their knowledge of:</p> <p>Learners need to be more skilled at:</p> |



To support further learning about flooding:

- Visit a local water management facility.
- Go on a field study to the local river system or water body.
- Take a site visit to a nearby flood defence.

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

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