

WHY ARE LIGHTHOUSES IMPORTANT?

SUPPORT MATERIALS

If you need further support on specific aspects of outdoor learning these materials can enhance the engaging experiences you are providing. They can support you as you design, plan and implement your curriculum. Outdoor learning is a great way to develop learners' integral skills (creativity and innovation, critical thinking and problem-solving, personal effectiveness, planning and organising). You will want to focus on why learning matters and ensure you are meeting your learners' needs.

These materials show a path that could be taken through the activity. This is not meant to be prescriptive. You should adapt your approach depending on your learners' needs and interests and your local area.

OVERVIEW

Learners explore where lighthouses can be found in Llŷn National Landscape. They consider working lighthouses, carry out research to find out more about them and use their ideas to write about a day in their life in a working lighthouse in 1966. Learners consider how lighthouses work, explore signalling with light and make use of electric circuits to build a model lighthouse. They consider the design and characteristics of lighthouses and receive peer feedback on these aspects of their model.

CURRICULUM FOR WALES

Areas explored:

- Expressive Arts
- Health and Well-being
- Humanities
- Languages, Literacy and Communication
- Science and Technology

Activity also incorporates aspects of cross-curricular skills outlined in the LNF and DCF.

RESOURCES



Internet enabled device and internet access.

Access to [Find out what every symbol means on an OS Explorer map - OS GetOutside](#).

Means of making model lighthouses, bulbs, batteries, motors, cardboard, recycled materials such as crisp tubes, paper cups and plastic bottles, glue and paints.

DOING THE ACTIVITY



- Most tasks require learners to work in pairs or groups.
- Encourage learners to share their ideas, and through open questioning, explain and justify their ideas when possible. Focus questions have been suggested to guide learners through the tasks.
- To access the scale in Google maps, click on 'View larger map'.
- When taking learners outdoors, it is essential that the [Countryside Code](#) is adhered to and any relevant risk assessments have been carried out with risks mitigated.



TASK 1

WHERE ARE OUR LOCAL LIGHTHOUSES?

Explain to learners that they will consider where the lighthouses are on or near the Llŷn Peninsula and use maps and first-hand experience to further explore working lighthouses in the area.

Screen 3

Invite learners to discuss the questions posed.

Focus questions

- Where are there lighthouses on or near the Llŷn Peninsula? How do you know?
- Which lighthouses have you visited?
- Which lighthouses are still working? How do you know?
- There are some lighthouses near the Llŷn Peninsula that are no longer used. Which of these do you know about?
- Why do you think some lighthouses are no longer used?

Screen 4

Ask learners to access the map of the lighthouses on or near the Llŷn Peninsula and to answer the questions posed.

Focus questions

- Which lighthouse is nearest to school?
- How can you work out the distance to the nearest lighthouse from school?

Screens 5-6

Ask pairs of learners to find out which Llŷn Peninsula lighthouses are still working and to record their names on screen. Invite learners to choose one lighthouse and to search online to find out more about it, using these questions to help them.

Focus questions

- What does the lighthouse look like?
- Where is the lighthouse?
- When was the lighthouse built?
- Is the lighthouse manned? If not, when was it last manned?
- Can you visit the lighthouse? If so, how can you travel to it from school?

Ask learners to write and illustrate a fact card to tell others about the lighthouse.

Screens 7-9

Inform learners that they will be taken to a lighthouse. Invite them to download the table on screen, find the lighthouse on the map and use the map to complete the table. Learners should save the table and then go outside to gather more information about the lighthouse.

Ask learners to look at the table again and try to complete it with the evidence gathered from their lighthouse visit.

Screen 10

Ask learners to review the completed table and to discuss the questions posed.

Focus question

- How well did you read the map to find out answers to the questions?
- Which questions couldn't you answer from the map? Why?
- Which questions do you still not know the answer to? Why? How can you find out?
- What else do you want to know about the lighthouse? How can you find out?

Screen 11

Invite learners to look at the information and discuss the questions posed.

Focus question

- Why do you think the guiding fires were built on hilltops?
- What do you think early fire platforms might have been built of? Why?
- Why do you think we no longer use fire for lighthouses?

Screens 12-13

Ask learners to read the information, watch the video [The isolated life of lighthouse families in 1966](#) (about four and a half minutes) and discuss the questions posed.

Focus questions

- Why do you think school lessons would be by correspondence?
- How do the people get onto the island? What do you think about the safety of this method? Why?
- How do the people get to the lighthouse once they are on the island? What do you think about the safety of this method? Why?
- What do you think life would have been like for the lighthouse keeper and their family? Why?

Screen 14

Ask learners to imagine living in a working lighthouse in 1966 and to write a diary or vlog about one day in their life.

Screen 15

Invite learners to reflect on the whole task by completing at least one of the sentence starters and share these in class.

TASK 2

HOW DO LIGHTHOUSES WORK?

Explain to learners that this task will allow them to explore the characteristics of lighthouses and give them the opportunity to build a model lighthouse.

Screens 3-4

Ask learners to read the information, look at the images and discuss the questions posed.

Focus questions

- How tall was the light from the sea? What is this measurement in metres?
- What's the difference between the heights of the old and new lighthouse? How did you work this out?
- What shape were the rooms in the lighthouse? Why might this be problematic for someone living there?
- Why do you think lighthouses were built as cylinders rather than more of a box shape?
- How many steps do you think led from the entrance to the lantern room? How did you estimate this?

Screen 5

Invite learners to watch the video and discuss the questions posed.

Focus questions

- What can you see in the video?
- How would the light look to distant ships? Why?
- How do you think this light effect is achieved?

Screen 6-7

Ask learners to read the information about signalling with light and to explore the map at [Lighthouses and lightvessels - Trinity House](#) to see how the lighthouses near the Llŷn Peninsula have different characteristics, discussing the questions posed.

Focus questions

- How are the characteristics different between the lighthouses near the Llŷn Peninsula?
- What else did you learn about the lighthouses that you didn't know before?

Screens 8-9

Inform learners that they will build a model lighthouse and provide them with a bulb, a motor, wires and batteries. Ask them to practise building the circuit(s) they will need for their lighthouse and to discuss the questions posed.

Focus questions

- Thinking of the characteristics of lighthouses, how will you ensure the light is a single beam, rather than a constant light?
- How can you amend your circuit(s) so that you have a single beam of light?

Screen 10

Inform learners they now need to consider the size of their lighthouse; the materials they will use to build it and how it will be painted/coloured.

Provide recycled items such as plastic bottles, cardboard, crisps tubes, clear plastic, etc. and encourage them to look at these videos for ideas:

[Light house model](#) (over 10 minutes)

[DIY How to make a lighthouse](#) (over 7 minutes)

[How to make a Paper Cup Lighthouse](#) (about 2 minutes)

Invite learners to draft a diagram of their lighthouse, showing its dimensions, materials and its external design.

Screen 11

Ask learners to build their lighthouse, sticking to the draft plan where possible, but to change it if it doesn't work. Invite them to redraw a plan of the lighthouse, showing all dimensions and materials. Then, to give the lighthouse's characteristics as the speed of the turning light and its external design.

Screen 12

Ask learners to share their lighthouse, its plan and its characteristics with others and to ask them to feedback on:

- Two things about the model lighthouse they thought were good and why.
- One thing that could be better about the lighthouse and why.