WHAT LOCAL FOOD COULD BE SUPERFOOD FOR THE FUTURE? – PEMBROKESHIRE COAST NATIONAL PARK

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 find out about where the food they eat comes from and consider whether they should eat food that has been produced locally. They find out about foods produced in Pembrokeshire and go on to look at some of the history of such food, specifically laver seaweed. They forage for laver so that they can make a meal and sell it in school. Learners find out about the 'superfood' qualities of laver and design a method to culture it commercially.

CURRICULUM FOR WALES

Areas explored:

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

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

RESOURCES

Internet enabled device and internet access.
Means of foraging laver, e.g. buckets, scissors, etc.
Learners' selected ingredients for making a meal with laver.

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.
- 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 DOES OUR FOOD COME FROM?

Explain to learners that this task should help them to find out more about where the food they eat comes from and to consider whether they should eat food that has been produced locally.

Screen 3

Invite learners to think of the last meal they ate and answer the questions posed.

Focus questions

- What was in the meal? List the components.
- Where do you think each component was bought from?
- What do you think were the ingredients of each component?
- Where do you think each component/ingredient was produced?
- Which component/ingredient travelled the furthest distance to get to your plate? Why do you think that?

Ask learners to draw a mind map to show their ideas.

Screen 4

Explain to learners that they are going to do some online research to find out whether their ideas on their mind map are correct.

Ask them to think about...

- Which search engine or AI will you use? Why?
- What are the key search terms/prompts to use? What do you want to find out?
- What type of websites will be the best to look at, why?

Then, to make a digital poster to show their findings.

Screen 5

Invite learners to review their digital poster and to discuss the questions posed.

Focus questions

- What surprised you about where the food came from? Why did it surprise you?
- Thinking of the food that travelled the furthest, where could this food have been grown/produced locally? How do you know?

Screen 6

The final screen in this task offers learners a chance to use one or more of the sentence starters provided to reflect on the task - I understood better when...; The thing that really helped me today was...; One thing we did today that made me realise...; To improve I could...; After reading, I...; I could use this strategy when...; After talking to...; The next time I could...; The thing I found most difficult was...; One idea/thing I still don't understand is....

TASK 2

WHAT FOODS DOES PEMBROKESHIRE PRODUCE?

Explain to learners that in this task they will find out about foods produced in Pembrokeshire and go on to look at some of the history of such food. It is wise not to tell them this task is about laver seaweed to enhance their learning in the source square.

Screen 3

This screen informs learners that there are many excellent food producers in Pembrokeshire. Ask them to discuss the questions posed.

Focus questions

- What local food producers do you know about? What do they make?
- How can you find out about other local food producers? What will you do?

Invite learners to make a list of 10 local food producers and describe what they make.

Screen 4

Invite learners to interrogate the image using the source square.

Screen 5

Explain to learners that local companies produce seaweed products from the coast of Wales and that one of these is laver seaweed (image on screen). Laver has been cultivated as a food in Wales since at least the 17th Century.

Screen 6

Ask learners to discuss the questions posed.

Focus questions

- Have you eaten laver seaweed? When? With what?
- If you have eaten it, what did it taste like?

Screen 7

This screen gives a source from Britannia, written by William Camden (1551-1623), which mentions laver and laverbread and how it was used in Pembrokeshire.

Ask learners to consider the source and then discuss the questions posed.

Focus questions

- When is the laver collected?
- How was the laverbread prepared?
- What illnesses was laverbread supposed to cure?

Screen 8

Another source is given here about a cargo ship, Thomas M Reed, which sailed from San Francisco but was shipwrecked at Freshwater West in 1879. Ask learners to consider the source and then discuss the questions posed.

Focus questions

- What type of ship do you think the Thomas M Reed was?
- What was the approximate date of the shipwreck?
- How much was the total cargo weight in kg (without the beef and shells)?

The cargo weight was measured in tons. One ton = 0.907 metric tonnes. One metric tonne = 1,000kg.

Screen 9

This screen goes on to expand the shipwreck source by discussing a deal struck between ladies of the local villages and seaweed salespeople in Swansea. Ask learners to consider the source and then discuss the questions posed.

Focus questions

- Why was it important to dry the laver before transporting it?
- Why do you think there is now only one hut at Freshwater West?

TASK 3

HOW CAN WE MAKE AND SELL A MEAL WITH LAVER?

Explain to learners that this task will help them to forage for laver so that they can make a meal using laver and sell it in school.

Screen 3

This screen sets the scene for laverbread how it is prepared and mentions its relative, nori, used in sushi.

Screen 4

Invite learners to research online using the QuADS grid to find out more about laver and laverbread. Ask them to store their completed table digitally to be used in Task 4.

Screen 5

Explain to learners they are going to forage for laver and use it in a meal for two people, which they are going to sell in school. Ask them to discuss the questions posed. They will need further access to recipes on the internet to answer the questions purposefully.

Focus questions

- Where will you look for laver?
- How will you recognise laver?
- What meal are you going to make?
- How will you prepare the laver for your recipe?
- How much laver do you need? Why do you think this?
- What are the other ingredients needed?
- How much of each of the other ingredients will you need? How did you work this out?

Screen 6

Ask learners to watch the short video on how to recognise laver (14 seconds) and to read the text on screen about how to forage laver.

Screen 7

Invite learners to go outside and collect enough laver for their meal. If their recipe is using laverbread rather than laver seaweed, they will need to calculate how much laver they need to collect.

Screen 8

Explain to learners that before they make their meal, they need to think about how much it will cost to make. This will help them decide how much to sell it for. Ask them to discuss the questions posed.

Focus questions

- How much did each pack of ingredient cost?
- How much of each ingredient did you use from the pack?
- How much did each ingredient cost in your meal?
- How much energy did you use to cook the meal? How can you find out? How much did this energy cost?

- How much time did foraging and cooking take? What cost do you think this could add to your meal?
- What price will you charge for your meal? Why?
- How much profit will you make when you sell your meal? How did you work this out?

Screen 9

Inform learners that they will sell their meal in a laver pop-up café in school. Ask them to discuss the questions posed.

Focus questions

- What information do you need to give to the people who might buy your meal?
- How will you give them this information?
- Who is your meal suitable for in terms of dietary needs? (e.g. vegetarian, vegan, coeliac, diabetic, etc.)
- How will you encourage people to choose to buy your meal?
- How will you make your meal look attractive?

Screen 10

Invite learners to make their meal and sell it in the laver pop-up café.

TASK 4

LAVER – A SUPERFOOD?

Explain to learners that they will find out about the 'superfood' qualities of laver and design a method to culture it commercially.

Screen 3

Inform learners that many people have taken inspiration from laver and laverbread. Ask them to listen to Max Boyce reading his Address to Laverbread (about 2 minutes). Then, to discuss the questions posed.

Focus questions

- How does Max describe laverbread?
- Why does Max think that laver has been abandoned?
- Why do you think Max's address shows his love of Wales?

Screen 4

This screen explains that laver is very nutritious because of its high proportions of protein, iron, iodine as well as vitamin C, vitamin B12 and antioxidants. Many see it as a superfood with demand only increasing over time as we eat less meat and the world population increases. Ask learners to discuss the questions posed.

Focus questions

- Why is laver seen as a superfood?
- Why do you think humans are eating less and less meat over time?

Screen 5

Explain that as laver is a plant it undergoes photosynthesis. Learners will need their stored table from Task 3 to help answer the questions posed.

Focus questions

- Looking back at your saved table from Task 3, what does laver need to grow?
- Thinking of photosynthesis, what else does laver need to grow well?
- How does laver attach to materials to allow it to grow?

Screen 6

Explain to learners that across the world seaweeds are used as a source of nutrition. With the exception of Japan and south Asia (nori), most is foraged and not grown commercially.

However, there is much research in this area, e.g. Swansea University is collaborating with MEECE (marine engineers) to test rope growing systems for cultivating seaweed. An image on the screen shows how seaweed grows naturally on ropes.

Screen 7

Ask small groups of learners to use what they have learned about laver and how it grows, to suggest a system that could be used to cultivate laver commercially. Then, to draw a mind map of everything they know about how and where laver grows.

Screen 8

As learners develop their ideas as to how they could cultivate laver, ask them to consider the questions posed.

Focus questions

- What will your cultivation system look like? What will it be made of? Why?
- What factors will the laver need to grow? How will you ensure the laver gets enough of these factors to grow well?
- Where will your cultivation system be placed? Why?
- What effect could your cultivation system have on the other organisms in the environment? How could you minimise any negative effects?
- How big will your cultivation system be? Why?
- How often will you harvest your laver? Why?
- How will you make sure you don't kill the whole laver plant as you harvest it? Why will this work?

Screen 9

Invite learners to draw their cultivation system and label its key features to explain how it will work.

Screen 10

Ask learners to present their cultivation system to the class.

Screen 11

Invite learners to start at the base of the triangle and think about the ways they worked: individually, groups, online, paired work. Then, to consider the strategies they used from: reading, researching, drawing, reviewing prior work, classifying, discussing, making prototypes, using models, using examples, making lists. They can also suggest other strategies used. Finally, ask learners to consider which strategies worked the best. This latter information will be useful for similar future activities.