WHAT LOCAL FOOD COULD BE SUPERFOOD FOR THE FUTURE? – WYE VALLEY

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 the Wye Valley and go on to look at some of the history of such food, specifically honey. Learners identify different species of bee, explore pollination and learn more about the honeybee and life inside a beehive. They source honey so that they can make a meal and sell it in school.

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.
Learners' selected ingredients for making a meal with honey.

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 THE WYE VALLEY PRODUCE?

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

Screen 3

This screen informs learners that there are many excellent food producers in the Wye Valley. 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

Ask learners to consider the questions posed to interrogate the image.

Focus questions

- What can you observe?
- What can you infer?
- What else do you want to know?
- How will you find out?

Screen 5

Inform learners that local companies produce honey products from bees.

Explain that exactly how long honey has been in existence is hard to say because it has been around since as far back as records began.

Cave paintings in Spain from 7000BCE show the earliest records of beekeeping. However, fossils of honeybees date back about 150 million years.

Its 'magical' properties and versatility has given honey a significant part in history.

Screen 6

Ask learners to discuss the questions posed.

Focus questions

- Have you eaten honey? When? With what?
- If you have eaten it, what did it taste like?
- What other products are made from honey? How do you know?
- What products are made from beeswax? When have you seen or used them?

Screens 7-8

This screen gives a range of information about how honey has been traditionally used as a medicine and nutritional food in different countries around the world. Ask learners to consider the information and discuss the questions posed.

Focus questions

- Why is honey seen as a superfood?
- Why do you think we should eat raw honey rather than pasteurised honey?

TASK 3

WHAT IS A BEE'S LIFE LIKE?

Explain to learners that this task will help them to identify different species of bee and to learn more about the honeybee and life inside a beehive. They explore the process of pollination and reflect on the task.

Screen 3

Inform learners that there are over 270 bee species in Britain ranging from the well-known honeybee to bumblebees and solitary bees.

Tell them they are going to go outside to try and identify some species of bee.

Learners could use a free app, called Bee machine, available on iStore or GooglePlay.

Explain that you take a photo of the bee and the app will predict the species. By adding where you saw the bee, this data will be collected to give scientists an overview of bee species in the UK.

Alternatively, learners could access Collection: Apoidea (bees) a site that attempts to cover every species of bee in the UK.

Screen 4

Take the learners outside and invite them to use the app to identify some bee species.

Screen 5

Invite learners to discuss the questions posed.

Focus questions

- Which species of bees did you find?
- How many different bee species did you find?
- Which was the largest species of bee you found?
- Which was the smallest species of bee you found?
- Why do you think you didn't find all of the more than 270 species of bee living in the UK?

Screen 6

Explain to learners that there is only one species of honeybee living in the UK.

In the wild, honeybees live in wooded areas in large hives made of wax honeycombs.

The queen lays eggs whilst the workers care for the young, almost like a giant bee nursery. Every year a new queen will either take the place of her mother, or she will leave to start a colony of her own.

We provide beehives for colonies of bees, so that we can make honey.

Screen 7

Ask learners to watch the video entitled What You'd See If You Could Walk Into a Beehive (about 8 minutes) and to discuss the questions posed.

Focus questions

- What do the guard bees do?
- What are the honeycombs made of?
- What do bees use honeycombs for?
- What do worker bees do?
- Why do worker bees dance?
- How do bees maintain the temperature of the hive?
- What do drone bees do?
- What does the queen bee do?
- How does a new colony of bees form?
- Why is it important that all bees in a colony work together?

Screen 8

Inform learners that they are going to be given a problem to solve. Explain that one worker bee produces 1/12th (about 7g) of a teaspoon of honey in its lifetime.

As a whole, a hive can produce more than 200 pounds of honey for the colony in one year. Of this amount, a beekeeper can harvest 30-60 pounds of honey without risking the survival of the hive in the winter.

1 pound = 0.45kg.

Ask them to consider the information and to discuss the questions posed.

Focus questions

- How can we work out how many worker bees are in a hive?
- Worker bees only live for 6 weeks. Over a year, how many worker bees will be active in total?
- How surprised were you by the numbers of worker bees in a hive? Why?

Screen 9

This screen provides information about the importance of pollination, animals that are pollinators and how they carry pollen from plant to plant. Invite learners to read the information and to explore the webpage Love pollinators – Natural Resources Wales. Ask them to discuss the questions posed.

Focus questions

- What are the main risks to our pollinators?
- How can we help our pollinators to survive?

Screen 10

This screen explains to learners the threat to honeybees from Asian hornets. Invite them to read the article about the Asian hornet: Asian Hornet – Wye Valley Beekeepers Association, then to write a Tweet/X as a news reporter, warning people of the Asian hornet.

Screen 11

The final screen in this task provides learners with 10 different sentence starters. Invite them to use one or more of the sentence starters and to complete the sentences to reflect on the task.

TASK 4

HOW CAN WE MAKE AND SELL A MEAL USING HONEY?

Explain to learners that they will find out about meals that contain honey, source some honey and use it to make a meal and sell it in a pop-up café.

Screen 3

Invite learners to research online to find out about the types of meals that can be made with honey. This screen has a QuADS grid to help learners to plan and carry out their search. Ask them to store their findings digitally.

Screen 4

Explain to learners that honey can be bought from supermarkets and shops and that local beekeepers also sell their own honey. Inform them that they are going to source honey and use it in a meal for two people to sell in school. Ask learners to discuss the questions posed.

Focus questions

- What meal are you going to make?
- Where will you get your honey from? Why have you chosen to use this type of honey?
- How much honey do you need? Why do you think this?
- What are the other ingredients needed for your meal?
- How much of each of the other ingredients will you need? How did you work this out?

Screen 5

Explain to learners that before they make a meal, they need to think about how much it has cost to make as this will help them to 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 the 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 6

Explain to learners that they will sell their meal in a honey 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 7

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

Screen 8

Explain to learners that you want them to use the reflection triangle to think about how you planned for, made and sold their honey meal. Invite learners to drag and drop the terms provided to show their thoughts and to consider what other strategies they used and to record their ideas.