HOW CAN WE USE BERRIES AND PLANT EXTRACTS FROM BANNAU BRYCHEINIOG?

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 consider what they already know about berries and learn more about them. They carry out research to find out why berries are good for our health and write a slogan to persuade others to eat more berries. Learners forage for berries to make a drink and sell it to others in school. They explore a historical perspective of witchcraft before considering how witches and herbalists make use of berries for medicinal purposes, considering whether these ideas are fact, belief or opinion. Learners consider how humans have used plant extracts for dyeing fabrics and use blackberries to dye a white t-shirt, comparing the final product with peers. They research online to find out how to make dyes from plant extracts and as a class, make a patchwork of squares of patterned dyed fabric.

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.
White, cotton t-shirt to dye.
Means of dyeing fabric, salt, water, string, rubber bands, twigs, etc.
Means of extracting chosen plant extracts, e.g. pestles and mortars, hammers, boiling water, blender, etc.
Squares of white cotton, e.g. 10cm x 10cm (an old cotton sheet will suffice).

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

WHAT IS A BERRY?

Explain to learners that this task should help them to understand more about what berries are and why they are good for us.

Screen 3

This screen shows an image of berries. Ask learners to discuss the questions posed.

Focus questions

- What do you think a berry is? Why?
- Where do berries come from? How do you know?
- How many different types of berries do you know?
- Which berries have you eaten? What did you think of the taste?

Screen 4

A definition of a true berry is given here.

Invite learners to discuss the questions posed.

Focus questions

- What is a botanist? How do you know?
- What is a fruit?
- What is an ovary in a flower? Where is it? What does it do?

Screen 5

Information about berries as fruits is given here.

Screen 6

Invite learners to try the quiz on this screen about which are berries.

When learners have tried the quiz, they are informed that all are classed as berries by botanists.

Screen 7

Inform learners that they are going to research on the internet to find out why berries, in the traditional sense, are very good for our health.

Remind them that to carry out internet searches they need to consider:

Before researching...

- How will you carry out this research? Why?
- What search terms could you use? Which are the best? Why?
- What type of sites will be the best to look at, why?

When assessing information/data...

- How do you know the information/data is reliable? How could you find out?
- Could the information/data be biased? Why do you think that?

Invite learners to carry out their research.

Screen 8

Explain to learners that having completed their research, they now need to use what they found out to write a slogan to persuade others to eat more berries.

The screen provides examples of healthy eating slogans.

Invite learners to invent a slogan about berries and to share it with the class.

TASK 2

WHAT BERRIES GROW IN BANNAU BRYCHEINIOG?

Explain to learners that this task will support their knowledge and understanding of what berries can be found locally and how they can be used to make a healthy drink.

Screen 3

Explain to learners that they are going to forage for berries to make a drink and sell it to others in school.

However, they firstly need to forage for berries in Bannau Brycheiniog National Park. Typical berries are listed.

Screen 4

Inform learners that are going to invent a berry drink, make it and sell it in school.

Screen 5

Invite learners to discuss the questions posed.

Focus questions

- What do you need to do first? Why?
- How will you know which berries are edible?
- How will you know which berries are poisonous?
- How will you store the berries you forage?
- What type of drink will you make?
- How can you make sure your drink is healthy and tastes good?
- What weight of berries do you need to forage?
- What type(s) of berries do you need to forage?
- What other ingredients will you need for your berry drink?

Then, ask learners to make a plan, using the flow chart provided on the next screen.

Screen 6

Here is the flow chart for learners to use.

Screen 7

Take learners outside to forage for berries.

Screen 8

Explain to learners that now they have foraged for berries they will need to clean them, check that they are all edible and not poisonous and weigh them.

Invite learners to consider the questions posed.

Focus questions

- What's the weight of each type of berry you have foraged?
- How much of your drink can you make with this weight of berries? How can you work this out?
- How much of each other ingredient do you need? How can you work this out?
- What's the cost of the other ingredients?
- How much should you charge for your drink so that you make a profit? Will people pay this? Why?

Screen 9

Inform learners that they will sell their drink in school and ask them to discuss the questions posed.

Focus questions

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

Screen 10

Invite learners to make their drink and sell it in school.

Screen 11

Explain to learners that you want them to use the reflection triangle to consider how they planned for, made and sold their berry drink.

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.

TASK 3

WISE WOMEN'S POTIONS

Explain to learners that this task will encourage them to explore a historical perspective of witchcraft and how witches have always made use of berries and natural products for medicinal purposes.

Screen 3

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

Screen 4

This screen gives historical information about witchcraft. Invite learners to discuss the questions posed.

Focus questions

- What do you know about witchcraft in the past in Wales?
- Why do you think the great majority of witches were women?
- How do you think the language spoken might have had an impact on who was cited as a witch?

Screen 5

As a starting point, you could ask learners to suggest why they think so few witches were prosecuted and executed in Wales. Then, to read the explanatory text.

Screen 6

The screen provides an image of 'The Witches Pool' near Talgarth, which was used in mediaeval times to judge women who were thought to be witches. Invite learners to look at the image and discuss the question posed.

Focus question

- How do you think the pool was used to judge witches?

Screen 7

Explain to learners that white witches and herbalists think the things stated onscreen about blackberries. Ask learners to discuss the questions posed.

Focus questions

- How should we view this information?
- Do you think the information is fact, belief or opinion? Why?
- How could you find out whether the information is fact, belief or opinion?

Screen 8

Ask learners to imagine they were a wise woman living in a mediaeval village. They gave a blackberry root tea to a local Lord for his diarrhoea. The Lord died four days later. Then, to discuss the questions posed.

Focus questions

- What do you think would happen to you? Why?
- How could you try to prove your innocence?

TASK 4

DYEING WITH PLANT EXTRACTS

Explain to learners that this task will encourage them to explore how humans have historically used plant extracts for dyeing fabrics, before researching and using dyes themselves.

Screen 3

Explain to learners that for many centuries, humans have used plant extracts for dyeing fabrics. Invite them to look at the image and discuss the questions posed.

Focus questions

- What plant extracts do you think could have been used for each of these scarves? Why?

Screen 4

Inform learners that they are going to dye a white t-shirt with blackberries and provide them with and explain the onscreen instructions. Invite learners to discuss the questions posed.

Focus questions

- What equipment will you need to do this experiment?
- What will you have to measure? Why?
- How will using string, rubber bands, etc. create patterns on your t-shirt?

Screen 5

Invite learners to collect their equipment and to dye their t-shirt.

Screen 6

Invite learners to compare their t-shirt with others in the class and to discuss the questions posed.

Focus questions

- What did you notice while dyeing your t-shirt?
- How well has your pattern making worked?
- Which types of pattern making have worked well?
- What is it about these types of pattern making that made them successful?
- Which types of pattern making have not worked so well?
- If you were to do this again, how would you change the way you made your patterns?

Screen 7

Inform learners that they are going to make a patchwork of squares of dyed fabric with the rest of the class.

They will work in small groups and each group will need to dye 5 squares of fabric, each with a different pattern.

Explain that natural dyes can be made from many different plant extracts. Invite pairs of learners to research online to find and make a list of plant extracts they could use and type their ideas in the box.

Screen 8

Ask pairs of learners to research online to find out how to make dyes from the plant extracts they found previously.

Invite them to select one simple way of making a dye from plant extracts and describe it to the newly formed group.

Screen 9

Ask each group of learners to review all of the ways described to make a dye from a plant extract. Then, to decide which of the ways they are going to use and to list the equipment they will need in the box provided.

Screen 10

Ask learners to think about the different ways they used to make patterns on their t-shirt and to describe the most successful ways to the group.

Invite each group to decide how they are going to make patterns on each of the 5 squares of fabric. Remind learners that each square should have a different pattern and ask them to add any further equipment needed to their list in the box provided.

Screen 11

Take learners outside to collect the plants to make their extracts.

Screen 12

Ask learners to use the plants they have collected to make their extracts. Invite them to dye and pattern five squares of fabric using the methods agreed in their group. Learners should then create their patchwork using the dyed fabric squares created by the class.

Screen 13

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