SUPPORT MATERIALS

WHY IS FARMING IMPORTANT TO THE WYE VALLEY?

Learners look at farms near school and across the Wye Valley to find out the goods they produce. They make a collage from natural materials to show their findings. Learners explore meat farming in Wales and plan, design, and use an online quiz about this for others. They consider veganism and the growth of arable crops in Wales, considering energy transfers in a simple food chain. Learners grow vegetables to sell at the school fête, considering how seedlings are nurtured and any potential profit. Finally, learners consider organic farming and its advantages and disadvantages.

CURRICULUM FOR WALES

Areas of Learning and Experience 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.
Access to Find out what every symbol means on an OS Explorer map - OS GetOutside.
Means of cutting/shaping natural materials for a collage, e.g. scissors.
Means of growing vegetables, e.g. compost/soil, containers or beds, etc.

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.
- Some tasks might be more effective if pairs or groups of learners have access to an internet enabled device.
- 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

HOW DO WE FARM IN THE WYE VALLEY?

Explain to learners that they will look at farms near school and across the Wye Valley to find out the goods they produce. Then, they will make a collage from natural materials to show their findings.

Screen 3

Ask learners to discuss the questions posed.

Focus questions

- Where is the nearest farm to school? What goods does this farm produce? How do you know?
- How many farms do you think there are within a 10km radius of school? Why?
- How many farms do you think there are in the Wye Valley?
- What goods do Wye Valley's farms produce?
- Where do local farmers sell their goods? Why?

Screen 4

Invite learners to use the OS map to check their ideas about farming in the Wye Valley and discuss the questions posed.

Focus questions

- Where is the nearest farm to school? What does this farm produce? How can you tell?
- How many farms are within a 10km radius of school? How will you work this out?
- How many farms are in the Wye Valley? How will you work this out?

Screen 5

Inform learners that they are going to produce a collage about farming in the Wye Valley to show the range of goods that farms produce. The collage will be made from natural materials outside.

Ask them to discuss the questions posed.

Focus questions

- How can you find out what the Wye Valley's farms produce?
- What types of websites could you use to find out? Why would these be good sites to use?
- How could you use AI to find answers to your question? Which AIs could you use?

Then, ask them to list the goods that the Wye Valley's farms produce in the box provided.

Screen 6

Learners need to plan what their collage will look like and think about the natural materials they could use. To do this take them outside to decide the criteria stated:

- where you will make your collage
- what natural materials are available to use
- what your collage will look like and show
- whether you need other natural materials to make your collage
- if you need other materials, what they are and where you will get them from
- the size of your collage.

Screen 7

Take learners outside to plan their collage.

Screen 8

Here learners' list of goods that the Wye Valley farms produce is given again. Ask them to think about how they will sketch out the collage by discussing the questions posed.

Focus questions

- What natural materials will you use?
- How will you use each type of natural material to show one of the goods? Why will this work? Is there another natural material that could show this better?
- How big will your collage be? Why?
- How will you mark the edges of your collage?

Then, ask them to collect all the materials they need and any equipment to make the collage.

Screen 9

Take learners outside to make their collage.

TASK 2

HOW DO WE FARM MEAT IN WALES?

Explain to learners that in this task they will explore meat farming in Wales and plan, design, and use a quiz about this for others.

Screen 3

Show the video: Food Adventure Monmouthshire Producers (about 3 minutes). Ask learners to discuss the questions posed.

Focus questions

- Why does the narrator think that Monmouthshire is the 'food capital of Wales'?
- What other goods do you now know Monmouthshire produces?
- What jobs does the video show the farmers and food producers doing?

Screen 4

Show the video: The uniquely Welsh way of farming – Chef Francesco Mazzei visits a hill farm (about 4 and a half minutes). Ask learners to discuss the questions posed.

Focus questions

- Why do you think the farmer has Welsh mountain sheep rather than any other breeds?
- Why does the chef want to buy Welsh lamb?
- How does selling to top restaurants help Welsh farmers?
- When did you last eat Welsh lamb? What was it like?

Screen 5

Explain to learners that Welsh farmers are known across the world as producers of high-quality meat. The screen gives data about Welsh sales of lamb. Ask learners to discuss the questions posed.

Focus questions

- What calculations could you do to show % exports in monetary terms? Do the calculations.
- How could you show your calculated data clearly? Use Excel to show the data.

Instructions are on screen for using Excel.

Screen 6

This screen gives data about Welsh sheep farming over time. Ask learners to discuss the questions posed.

Focus questions

- What trends can you spot in the data? What reasons could you give for these trends?
- What is the relationship between the total number of sheep and lambs and the flock size? Why do you think this happens?

Screen 7

Here are data about the 'finished sheep price', i.e. the average return to the holdings/ farms per kg of a sheep's live weight. Ask learners to discuss the questions posed.

Focus questions

- What trend can you spot in the data? What reasons could you give for this trend?
- In butchers, Welsh lamb can be priced at £18 per kg. Why do you think there is such a difference between the money a farmer receives per kg and that charged in butchers? List as many reasons as you can.
- If you eat Welsh lamb in a restaurant, you could be charged £32 for two lamb chops, weighing 300g. What price are you paying per kg of lamb?
- Why do you think there is such a difference between the butcher's price and that charged by a restaurant? List as many reasons as you can.

Screen 8

Ask learners to access and read the webpage: Industry Statistics - HCC / Meat Promotion Wales. Invite pairs of learners to develop a quiz for other learners based on the infographic.

They will use an online survey tool to host the quiz, send the link electronically and feedback to the quizzers as to how well they have done. Instructions for using Google forms are given on a later screen, though any other online survey tool could be used.

Screen 9

Ask learners to discuss the questions posed.

Focus questions

- What type of questions will you ask – open or closed? Why?
- Looking at the infographic again, what do you want to ask questions about? Why?
- How can you ensure some questions are easier than others?
- How could you ask more complex questions that make quizzers really think? What types of questions could you ask?

Invite learners to draft ten questions.

Screen 10

Invite learners to access Google Forms. Then, explore how the tool works and the types of questions they can ask.

Ask them to use their draft questions, put them into a form and keep redrafting until they are sure they will work.

Finally, ask learners to share a link to the completed quiz with others by sending an electronic link, asking them to try the quiz.

Screen 11

Ask learners to review others' responses to their quiz and discuss the questions posed.

Focus questions

- How well did your quiz work? Why?
- Which questions did others find the easiest? Were these the questions you expected to be easy?
- Which questions did others find the most difficult? Were these the questions you expected to be difficult?

Then, to give feedback on how well the class performed on the quiz.

TASK 3

WHAT ELSE DO WE FARM IN WALES?

Explain to learners that they will consider veganism and the growth of arable crops in Wales.

Screen 3

Explain to learners that many people believe that we should eat less or no meat. Others believe we should not use any animal products for food or goods. Ask them to discuss the questions posed.

Focus questions

- Why do people have these different beliefs?
- What are your beliefs in terms of farming animals for food? Why?
- If you were to become vegan, what would that mean for your life? What would change? Why?
- How easy or difficult do you think it would be to become vegan? Why?

Screen 4

Inform learners that many farmers grow arable crops. Ask them to discuss the questions posed.

Focus questions

- What arable crops are grown near your school or home?
- What arable crops do you think are grown in the Wye Valley? How do you know?
- What other arable crops do you think are grown in Wales? Why do you think this?

Screen 5

Ask learners to read the information about arable crops grown in Wales. Then, to discuss the questions posed.

Focus questions

- Which of the crops and fruit and vegetables above are grown near school or your home?
- Why might it be a problem that Wales produces only 20% of the horticultural produce eaten in the country?

Screen 6

A pie chart here shows how agricultural land is used in Wales. Ask learners to discuss the questions posed.

Focus questions

- How can you estimate the percentages of each of the usages?
- What do you think could be in the usage category of 'other'? List as many ideas as you can.

Screen 7

Explain to learners that farming is almost totally dependent on the soil, geology and topography of land available. Land can then be classified as shown in the table on screen.

Screen 8

Invite learners to access the map New map - DataMapWales and explore the land classifications. Then, to discuss the questions posed.

Focus questions

- What surprises you about the land grades for Wales? Why does it surprise you?
- What grade does most of the land fall into? Why do you think this is?
- What are your estimates for % of land coverage for grades:
    - 3a
    - 3b
    - 4
    - 5?
- How did you work these estimates out? Do others have similar estimates? Why?
- Looking at the grades of land, what would you expect to be the main types of farming in Wales? Why?

Screen 9

This screen gives a food chain and text about energy transfers. Ask learners to discuss the questions posed.

Focus questions

- Why do you think that energy transfer is inefficient?
- What could the cereal be 'using' the energy for?
- What could the consumer be 'using' the energy for?
- Why does the cow not gain all the energy from the cereal?
- Why don't we gain all the energy from a cow?
- Why is it more energy efficient for humans to eat cereal rather than cows?

TASK 4

GROWING YOUR OWN

Explain to learners that they are going to grow vegetables to sell at the school fête.

Screen 3

Inform learners that they are going to grow some vegetables to sell at the school fête. Whatever they decide to grow, will have to be ready to sell at the right time. Invite them to research on the internet to decide which vegetable seeds they will plant.

Screen 4

Explain to learners that the seed packet will have instructions for planting and nurturing the seedlings. Ask them to look at the seed packet on screen and discuss the questions posed.

Focus questions

- When should carrot seeds be planted?
- How far apart should carrots be grown? Do you think this is how far apart the seeds should be sown? Why?
- How should you care for carrot seedlings?
- How long after planting seeds will the carrots be ready to harvest?

Screen 5

Ask learners to buy seeds or give them the seeds and read the packet carefully. Then, to discuss the questions posed.

Focus questions

- When should you sow your seeds?
- How deep should you plant the seeds?
- How should you nurture the seedlings?
- When will your vegetables be ready to harvest?

Screen 6

Take learners outside to sow their seeds.

Screen 7

Tell learners that before they sell the vegetables, they need to think about how much they have cost to grow. This will help them decide how much to sell them for. Ask learners to discuss the questions posed.

Focus questions

- How much did the seeds cost?
- How much time did you spend on nurturing your seedlings? What cost do you think this could add to your vegetables?
- What did you do to nurture your seedlings? Is there a cost to that, if so what is the cost?
- How will you sell your vegetables – individually or in a pack or by weight?
- What price will you charge per vegetable/pack/kg?
- How much profit will you make when you sell your vegetables? How did you work this out?

Screen 8

Invite learners to sell their vegetables. They can then work out how much profit they have made and what they might do better next time.

TASK 5

WHY IS ORGANIC FARMING IMPORTANT?

Explain that this task is about organic farming and its advantages and disadvantages.

Screen 3

Explain to learners that some people and farmers use chemicals to assist seedling growth or to get rid of other plants, insects or other pathogens (a definition for pathogens is given in the pop-up). Then, ask them to discuss the questions posed.

Focus questions

- What types of chemicals do some people use to assist seedling growth? What do these chemicals contain? Why do they assist plant growth?
- What do we call chemicals that some people use to get rid of other plants, insects or other pathogens? How do these chemicals work?

Screen 4

Explain to learners that when arable farmers don't use synthetic fertilisers or pesticides their faming is said to be 'organic'. These farmers only use natural methods to care for the land and nurture seedlings. Then, ask them to discuss the questions posed.

Focus questions

- Where is the nearest organic arable farm to school? How do you know?
- Why is organic arable farming important?
- What damage does using synthetic fertilisers and pesticides have on the environment? Why?

Screen 5

Inform learners that they are going to do some research on organic farming in the Wye Valley and Wales to produce a Sway to encourage people to buy organic produce.

Remind them that to carry out internet searches you 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?

Screen 6

Tell learners that each group will need to find out information about:

- the advantages of organic farming
- the disadvantages of organic farming.

Ask them to discuss the questions posed.

Focus questions

- Who is going to do what in your group? Why?
- Are you going to work in pairs or threes or individually? Why?
- How are you going to record what you find out? Why do it this way?
- How are you going to share your findings with others? Could this be done digitally? If so, how?

Then, to carry out their research and produce a Sway.

Screen 7

This screen gives instructions for making a Sway. Ask learners to share their Sway with others.

Screen 8

Invite learners to start at the base of the triangle and think about how they prepared for and produced their Sway: 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.