Nature Detective

If you spend hours watching television programmes about wildlife, maybe you've got an ecologist inside you trying to get out!

Contents:

Key Learning	page 3
Experiences and Outcomes: Second Level	page 3
Learning Intentions and Success Criteria	page 3
Notes for Teachers	page 4
Resources needed	page 5
Nature Detective Challenge	page 6

Key Learning
To investigate the role of an ecologist on the A9 Dualling project.

Experiences and Outcomes - Second Level

I am investigating different careers/occupations, ways of working, and learning and training paths. I am gaining experience that helps me recognise the relevance of my learning, skills and interest to my future life. ***HWB 2-20a/HWB 3-20a/HWB 4-20a***

I can discuss the environmental impact of human activity and suggest ways in which we can live in a more environmentally/responsible way. ***SOC 2-08a***

I can consider the advantages and disadvantages of a proposed land use development and discuss the impact this may have on the community. ***SOC 2-08b***

I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. I have contributed to the design or conservation of a wildlife arena. ***SCN 2-02a***

When I engage with others, I can respond in ways appropriate to my role, show that I value others contributions and use these to build on thinking. ***LIT 2-02a***

Learning Intentions

- I am learning about the type of work an Ecologist does
- I am learning about the natural habitats of some animals and plant life to help me understand the decisions that an Ecologist has to make to protect them if their habitat is disturbed.

Success Criteria

- I can explain the type of work an Ecologist does
- Through discussion with others I can make informed choices to protect natural habitats' of some animals and plant life when a new road has to be built/dualled.

Notes for Teachers

- The A9 corridor will share the habitat of some very rare species of plants and animals.
- The A9 dualling project will need to carefully consider these rare species, as a result **Ecologists** are currently involved in Wildlife Field Surveys along the A9 corridor.
- An **Ecologist** is a scientist who studies how animals and plants interact with their environment.
- **European Protected Species (EPS)** are species of plants and animals (other than birds) protected by law throughout the European Union.
- **Ancient Woodland** is land that has had woods on it for at least 250 years.

Nature Detective: Ecology Challenge for the Primary Roadshow – resourced for 6 pupils

Resources needed by Ecologist:

1 plastic box	
7 lanyards	6 (Apprentice) Ecologist / 1 Senior Ecologist
6 printed and laminated A3 paper evidence mats	
6 magnifying glasses	
1 test tube of bat droppings	
1 plastic bag of nibbled cones	
Oak, Silver Birch and Oak leaves – **need to be collected by each consultancy before going into schools**	
1 plastic A4 envelope containing	2 x otter holt photos - A5 1 x otter scat photo – A5 2 x otter foot print photos - A5 and 1p 1 x squirrel drey photo – A4 2 x ancient woodland – A5/A4 1 x single carriageway photo – A5 1 x dual carriageway photo – A5 6 x 4 colour coded playing cards (red squirrel, bat, otter and ancient woodland 4 wildlife description cards
1 timer	
1 A1 map and 2 road options	
1 pack of Blue tack	
Red Squirrel, bat and otter clips	Uploaded to SharePoint
1 wood block	
3 soft toys	red squirrel, bat and otter
1 small plastic tubs	containing voting counters red/yellow
Small voting cards	Postit Notes
Key words	laminated on a A4 sheet

Nature Detective Activity – led by Ecologist

Required by school: Provide name badge for each pupil and a pot of pencils.

Key Learning: To investigate the role of an ecologist on the A9 Dualling project.

Key Vocabulary: ecologist, echolocation, habitat, drey, holt, connectivity, native, spraint, single and dual carriageway.

Introduce yourself to the pupils (name, job title).

Today I am here to help you understand what an ecologist does on the A9 Dualling project. You are going to be ecologists with me and take part in some of the activities I do every day. *Hand out an ecologist lanyard to each pupil.*

Before a project like the A9 Dualling begins **I need to go to on site to where the new dualled A9 may be built. I need to look closely at the land, making a record of any plants or animals by looking for clues or evidence they have left. I need to focus on those plants and animals that are protected by the law or that are very rare.** I have brought some evidence collected along the A9 corridor to show you.
The evidence will be set out on 6 A3 mats with 6 magnifying glasses:

1. Bat droppings in a test tube
2. Nibbled squirrel cones
3. Oak, silver birch and hazel leaves
4. Photos of 2 otter footprints plus penny and photo of otter scat
5. Photo of a squirrel drey
6. 2 photos of an otter holt

Let's look at the evidence. *Pupils examine each one, **1-2 minute timed** rotation led by ecologist. Ecologist to rotate in opposite direction to explain one piece of evidence to each pupil. When pupils have had the opportunity to see all the evidence ask* What animal or plant do you think this comes from? Ask **one** pupil per evidence. I can reveal this evidence came from… repeat for 6 pieces of evidence. These are all protected species: **otter, bats are <u>European Protected Species</u>, red squirrels are protected by UK Law and oak, silver birch and hazel are found on <u>Ancient Woodland Sites.</u>** Collect evidence samples.

I also need to look closely at the features of the land that provide animals and plants with their homes and food. *Show the pupils the map.* I am giving you 4 colour coded playing cards (red squirrel, otter, bat and ancient woodland), place each one on the map where you think they may live or feed. Ask **4** pupils to explain where they placed **one** of their playing cards.

Animals are often shy, therefore **ecologists need to use camera traps to see their natural behaviour** showing where they live and feed. I have a short clip of an otter on the iPad. Show the clip and repeat if necessary. Are you happy where you have placed your otter card after seeing the camera trap? Repeat for the bat and red squirrel. There is no clip for woodland - show the pupils the A4 photo of ancient woodland and give them a brief description and ask if they are happy with their card placement.

I need to learn how plants and animals are connected with their environment and what they need to survive. Let's learn a little more about these 4 species. Place 3 soft toys and 1 tree stand on the map. Place the 4 describing cards in the centre of the map face down. I will read out the description to you. Which animal or plant do you think this is? *Continue until all 4 cards are used. Remove all items from the map.*

When I have gathered all my evidence I need to look at how widening the A9 might change the environment and whether this will have an impact on the animals and plants. Let's look at the road on the map, this is a single carriageway (show photograph), the A9 is to be a dualled carriageway (show the photograph). What are the differences? With all the new information you have learned about the animals and plants you are now going to make an informed choice as to where the new dualled A9 could go.

- Show Option 1 – red road. What wildlife would be affected?
- Show Option 2 – yellow road. What wildlife would be affected?

You are now going to decide your preferred option. I am going to give you a voting card and a pencil. I would like you to shield your answer and write down option 1 or 2 on your voting card. There is no right or wrong decision this is an individual choice. I will give you a counter and based on your answer place your counter right side up on the road you chose. Ask **a few** pupils to explain in one sentence why they chose that option. **Tally scores** and announce the preferred option.

If I had to make a professional decision I would choose option … because…

That concludes your time as an ecologist. I hope you have learned a little about my job on the A9 dualling. As you pass me your lanyard tell me one thing an ecologist does? Would any of you like to be an ecologist? Have you any questions?

After each session

Please use the contents page to ensure that all resources are returned to the box.