

HILARY'S STORY



Hilary's keen observations and passion for nature highlight important themes that often get overlooked in discussions around climate change – biodiversity and ecosystems.

Bude looks very different now to 200 years ago, when it was a salt marsh bustling with biodiversity. This is a very common story all over the globe, with 77% of the world's land having been claimed from wilderness, predominantly for farming and industry. Our need to feed a growing population has led to exploitative practices that have degraded our land and significantly damaged many ecosystems.

You can read more on [what an ecosystems is, ecosystems and climate change and our role here](#). We have also suggested some links at the end of this toolkit.

THIS TOOLKIT

This toolkit has been devised to help KS3 pupils think about climate change in relation to their own experiences and locality.

Using Hilary's digital story as a starting point, we hope to encourage discussion and the sharing of memories and experiences around the themes of biodiversity, ecosystems and nature connection.

To delve deeper into these themes we have outlined a series of activities and ideas for you to adapt to your class needs, time availability and teaching method. Whether you dip in for an hour or run with an idea for a whole term, there's scope for interpretation and creativity. It can be cross curricular and incorporate literacy, art, design, geography and science and gives scope for classroom work and independent research.

GET THINKING

Before you start it might be helpful to unpick some of these terms through a class discussion as pupils will need to have an understanding of what they mean. Here are some thoughts and ideas you might want to explore to get the ball rolling.

ECOSYSTEMS

Where have you heard this word and in what context? What does it mean? Hilary captures the essence of an ecosystem perfectly when she describes an area of nature with animals, insects and plants that each rely on having the correct food and environment. What ecosystems can you think of in Bude? In Bude we have a diverse range, including our dunes, rockpools, ancient oak woodland, river, canal, salt marshes and seashore. What elements are in an ecosystem? An ecosystem also includes non-living things, such as rocks, and the environment, such as temperature, altitude, weather. How are ecosystems like human communities? Each ecosystem has a range of living things in it and needs a favourable set of conditions to thrive. What are the ecosystems in your life? Describe them and how they help you to thrive?

BIODIVERSE

Where might you have heard this word before and in what context? The number of different species contained in the ecosystem denotes its biodiversity. The more biodiverse an ecosystem is, the more capable it is of maintaining balance, as diversity leads to resilience. How might this relate to Bude? What areas locally can you think of that are biodiverse? What areas are lacking biodiversity? How diverse is your class and in what ways? Choose a plant or animal from the natural world that best describes you or which you identify with and then see how diverse your class becomes.

INTERDEPENDENT

Where have you heard this word and what context? What does it mean? Within an ecosystem, all living things are interdependent. Can you think of any examples of living things that are interdependent? How do you think it applies to you? Is there interdependency amongst some of the groups or between the communities you belong to? Describe this and how this works? Is being interdependent important for humanity?

HABITAT

Where have you heard this word before and in what context? What does it mean? A habitat is a place that an animal/plant lives, providing everything it needs to survive (such as food, water, shelter, light, air). There are many different sorts of habitats around the world. Make a list of as many habitats as you can think of. Do you have a favourite?

WILDERNESS

Where have you heard this word and in what context? What does it mean? The WILD Foundation defines wilderness areas as: The most intact, undisturbed wild natural areas left on our planet – those last truly wild places that humans do not control and have not developed with roads, pipelines or other industrial infrastructure. What is its opposite word?

GET SHARING

To help you relate this story to your lives, you might like to use these prompts to share some of your own experiences and reflections.

This could be done in pairs, small groups or as a class. It's a good opportunity to practice your listening skills, taking it in turns to share with each other.

What is your favourite natural place to spend time in? What do you do here?

What is your favourite natural place to spend time in and how important is the wildlife here?

Do you record your experiences of nature in any way?

How does it make you feel to know that nature and wildlife are under threat because of climate change?

Do you do anything to protect nature and wildlife?

What wildlife species do you most enjoy seeing? Why?

Is there a small natural area around you that you protect or would like to protect and how do or might you do this?

Have you ever seen any unusual or rare species around Bude? How did this make you feel?

Which area of nature around Bude do you visit most? Why?

What is your favourite season? Why?

What amazing things have you seen close up in nature?

Have you a memory of being amazed at what nature has shown you?

What season do you most look forward to? Why?

Have you ever looked after or helped wildlife in any way? How?

What species would you like to see more of?

What species do you find most interesting? Why?

ON THE SPOT

Discovering and championing local ecosystems

This could be done in pairs, small groups or individually. The initial recording form could be done as homework, so that it encompasses a wide range of ecosystems, or if possible a session of fieldwork where children can roam. If you don't have access to quadrats you can mark out a square using string.



Hilary spends a lot of time really looking at details. Her photographs of different species become part of a much larger data-base that helps conservationists understand what species are still present and how many of them there are, enabling them to better protect them.

Another way of documenting is through using a tool called a **QUADRAT** (a square frame). Scientists use this tool to work out what insects, slow moving animals and non-living elements exist in an area. This builds up a picture of how healthy an area of land is, and when done over time is a good way of assessing changes in biodiversity.

Select an area which you're drawn to or interested in, and place your quadrat down. Fill in a recording form (found on the next page). You might like to use magnifying glasses/lens to zoom in on things.

Books or internet access via phones would be handy here. For identification the **Plantnet app** is very useful.

For the second half of this form, you will need to do some research in the classroom.



FIELD WORK

LOCATION:

PLANTS PRESENT:

(name as many as you can)

CREATURES PRESENT:

(name as many as you can)

FUNGI PRESENT:

(name as many as you can)

OTHER ELEMENTS:

(for example rocks or water- name as many as you can)

VULNERABILITIES:

(What challenges does this area face? For example water pollution or trampling)

DETAILED DIAGRAM (Do some drawings of what you can see. Get as much detail as possible)

TOTAL NUMBER OF SPECIES:

SMALLEST ELEMENT:

LARGEST FEATURE:



PHOTOGRAPHIC EVIDENCE:

(take some photos of your quadrat)

CLASSROOM WORK

What are the **RELATIONSHIPS** between the species and elements present (**INTERDEPENDANCE**)?

(eg What eats what? Any waste products reused?)

What you found in your quadrat will be part of a **WIDER ECOSYSTEM**. What else would be part of this ecosystem that you didn't find in your quadrat? What role does each species you found bring to the wider ecosystem?

OVERALL HEALTH of the area? How do you make this assessment? Explain your reasoning.

CREATIVE COMMUNICATION

Finding creative ways to champion nature

You might like to specify an approach (e.g. posters or short videos) or you might like to open it up to interpretation... animation, videos, editorial, gifs, podcasts, spoken word, creative writing, photography, graphic design etc. This could be used as an assembly challenge, or perhaps the best campaign could be a feature in the school newsletter/magazine?



IMAGINE that what you found in your patch (quadrat) is under threat. For example, someone's going to build a carpark here. You need to create something to communicate why it's worth saving.

How much from the recording form can you communicate and how will you do this?

How are you going to best communicate why it's important to save your patch?

What language or words do you want to use?

What images or symbols are you going to use?

Is there going to be a title?

What colours will help communicate the message?

Can you weave a story into your communication?

ADVOCATES FOR THE VOICELESS

Put yourself in the role of guardian of your patch (what you found in your quadrat). This patch can't talk, so it needs your help to voice why it's important. Share your campaign with the class/school.

DISCUSS as a class...

Who has put forward the best case for saving their patch? Why?

What form of communication best helped champion their patch? Why?

Whose patch had the highest number of species and is therefore the most biodiverse?

What elements are present that have supported so many species?

Try and imagine what would happen if you removed something from your patch? What could you remove without causing too much change? What do you think would cause the most harm if you removed it?

How would this patch change over a year?

How would extreme weather affect this patch?

What challenges/risks did people think of?

Why is it important to know what's present in an area?

What can humans do to support the health of this patch?



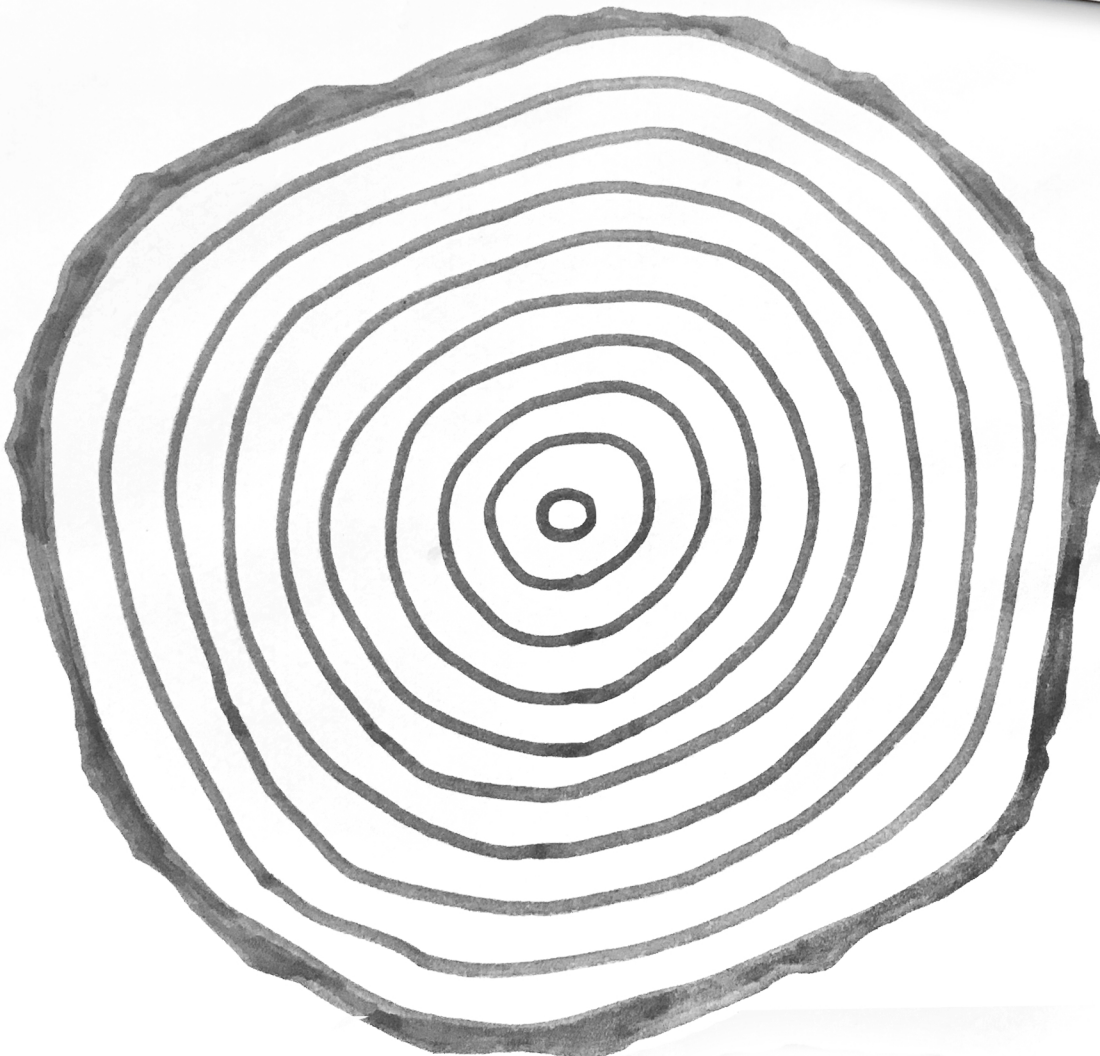


REMEMBERING RINGS

Sensory connection to nature

Do you have a place where you like to go and sit or would like to sit more often? Close your eyes and imagine yourself here. Go through the following prompts one by one, stopping between each prompt to write a few words that spring to mind in the tree rings. Before you start you might like to look at the example.

- ☐ What do you see close by?
- ☐ What do you see in the distance?
- ☐ Can you see any wildlife?
- ☐ Are there any plants around you?
- ☐ What do you hear?
- ☐ What do you smell?
- ☐ What can you feel with your fingertips?
- ☐ What do you sense around you?
- ☐ Can you taste anything?
- ☐ How do you feel?



TIPPING THE **BALANCE**

Creative writing about habitats and balance

An introductory discussion about balance might be beneficial. Think about what the word balance means and how balance is represented on a pair of scales or in the body? What is the opposite and what does that look like? Think of examples of balance and unbalance around you. What does it mean to be balanced in our own lives and in the natural world?



Write your own **CHILDREN'S BOOK** that explores a local habitat.

SET THE SCENE Choose a local habitat (eg a rockpool, marshland, river, tree, beach). Introduce this habitat to the reader- What does it look like? What words best describe it? What can you see here? What sounds can you hear? Are there any smells? What time of year is it?

INTRODUCE THE WILDLIFE CHARACTERS Who can you find here? What species are they? What characteristics do they have? What's the relationship between these characters? Is anyone in charge? Where do they live? How do they look after each other?

INTRODUCE THE HUMAN CHARACTER

Introduce someone who visits this place often. What do they do here? Do they interact with the wildlife? What do they like or dislike about being here? What is their impact?

THE UNBALANCING Something needs to happen to knock the ecosystem off balance- for example one of the wildlife characters is kidnapped or there is a flood. What happens to all the characters? How do they respond? What knock on effects does this have on everything else?

THE HERO A hero saves the day. Who is the hero? What do they do to save the day? How does everyone celebrate? What lessons have been learnt? How will they stop the disaster from happening again?



NOTICING NATURE

Visual appreciations of
nature

Think of a time when you noticed something special or unusual in nature and capture this in a circle. You might like to imagine you've got something under a magnifying glass or have spotted it through your binoculars. Cut or rip the coloured paper and arrange the pieces to make a collage that shares this moment. You might also like to write about it.

What did you see? Where were you?
How did you feel? How would you feel if this species were to become extinct?



BAT AND MOTH

A fun game that helps explore species relationships and nature connection through the senses.

Everyone stand in a circle – you are now trees, it is the job of the trees to keep everyone safe.

Choose someone to be the **BAT**, who is happy to wear a blindfold, the bat stands in the circle.

Select 3 people to play **MOTHS** – the most important rules for the moths to remember is that they must keep moving. The quieter they are the more successful they will be.

The blind bat must then try and catch a moth by touching them, when you are caught you become a **TREE**.

To help the bat find the moths they can use **ECHOLOCAATION**. Echolocation works best if you cup your hands around the back of your ears to help you hear better.

The bat has 3 echolocation attempts and uses them by calling out 'bat' and the moths must all reply 'moth'.

As bat is blindfolded, they may need help to stay in the circle, so if bat gets close to the trees, they say 'tree'.

DIVE DEEPER

BBC Bitesize on **BIODIVERSITY**

The Natural History Museum on **BIODIVERSITY**

You might also like to invite a **LOCAL CONSERVATIONIST** to talk to your class or get involved with **CITIZEN SCIENCE PROJECTS**, such as the **Westcountry Rivers Trust**, **Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS)**, the **Cornwall Wildlife Trust**, the **Sea Watch Foundation**, the **Cornwall Marine and Coastal Code Group** and the **National Biodiversity Network (NBN)**.

YOUR FEEDBACK

To help us evaluate and learn, we need and appreciate your feedback (it'll only take 2 minutes!).

Please follow the links below

Pupils

Teachers

This resource was created by **Storylines** in collaboration with the **Bude Climate Partnership**.

