

WVS EDUCATION KS2 SCIENCE LESSON PLAN

Heading Towards Extinction... How environmental changes pose dangers to animals

Phase	Key Stage 2
Subject	Science/The World Around Us
WVS goal	To take action for the welfare of animals.
Curriculum Links	<p>England KS2 Science Recognise that environments can change and that this can sometimes pose dangers to living things</p> <p>Wales KS2 Science How humans affect the local environment, e.g. litter, water pollution, noise pollution KS2 Geography Caring for places and environments and the importance of being a global citizen • How have people affected this place/ environment? How can I and other people look after this environment?</p> <p>Northern Ireland KS2 The World Around Us</p> <ul style="list-style-type: none"> • The effect of people on the natural and built environment over time • The effects of positive and negative changes globally and how we contribute to some of these changes <p>Scotland Second Sciences</p> <ul style="list-style-type: none"> • I can analyse how lifestyles can impact on the environment and Earth's resources and can make suggestions about how to live in a more sustainable way • I can report and comment on current scientific news items to develop my knowledge and understanding of topical science
Links to Sustainable Development Goals	SDG 15 – Life on Land

OVERVIEW

In this lesson, children will:

- Learn how WVS supports endangered animals
- Identify the difference between natural and human changes to an environment
- Research how changes to the rainforest environment pose a danger to sloths
- Consider how to raise awareness of other endangered animals who are facing extinction due to changes to their environments

LESSON RESOURCES

Visual glossary: This printable lists vocabulary associated with the lesson and can be provided for additional support.

Printable 1 – environmental changes sorting cards. Prepare one set per pair.

Printable 2 – sloth factsheet. Prepare one copy per pair.

Printable 3 – impact of deforestation writing frame. Prepare one copy per child.

Printable 4 – endangered species A to Z template. Create as many copies as needed for your class.

ADDITIONAL RESOURCES

- Access to books and/or the internet for children to research endangered animals

LESSON OVERVIEW

Part 1: Discover the issue

Entry ticket: Share the confidence review question with children: How sure are you that you can explain how changes to rainforests impact the animals that live there?

Children can give their answers using the scale 1 to 4 on their fingers to indicate how sure they feel.

Pictures from a vet: Introduce the three photographs showing fire, a rainforest and a sloth. Use the Project Zero Thinking Routine, developed by Harvard University, to help children analyse the photographs and make connections between them. Further information can be found here [See Wonder Connect x2_0.pdf \(harvard.edu\)](#)

Ask the children to:

1. Look closely: What do you see? What do you notice?
Make many observations.
2. What questions do you have? What do you wonder about?
3. How could this connect to something else?

Children could make connections between two of the photographs (e.g. sloths live in the rainforest; logging involves cutting down trees and trees grow in the rainforest) or you could scaffold their thinking to help them connect all three photographs with the idea that logging in the rainforest removes trees which are a habitat for sloths.

Vet report: Introduce the vet report from a WVS vet working in South America. Explain that the vet has been treating an orphaned baby sloth and that some species of sloth are critically endangered. You can use the **visual glossary** to support children who might be unfamiliar with some of the vocabulary.

Why do environments change? Changes to an environment can have serious consequences for the animals that live there. There can be lots of reasons why environments change but they usually fall into one of two categories: natural changes or human changes.

Distribute **Printable 1** environmental changes sorting cards, one set per pair. Children look at each of the 12 changes and decide whether the change is caused naturally or by humans. You may wish to discuss that some changes are indirectly the result of human actions – for example extreme weather such as floods and droughts are becoming more common due to climate change which is caused by human actions.

Answers to sorting cards:

Natural changes: flooding, hurricanes, wildfires, drought.

Human changes: building houses, farming cattle, climate change, building roads, mining, river pollution, logging, slash and burn farming.

<p>Part 2: Join the adventure</p>	<p>Question to investigate: Introduce the enquiry question: How do changes to rainforests impact the animals which live there?</p> <p>Children use the factsheet in Printable 2 and the suggested video to learn more about sloths and the rainforest environment they live in.</p> <p>Most sloths are listed as least concern on the IUCN redlist of threatened species. But threats in the form of habitat loss and fragmentation, and the illegal wildlife trade still exist. Some subpopulations, especially in Colombia and the Atlantic Forest in Brazil, are declining due to deforestation and degradation of their habitat. Sloths are tree-dwelling mammals which rely on the health of tropical rainforests for food, shelter and space.</p> <p>Once children have researched sloths, they will consider the impact that the removal of trees is having on their rainforest environment. Children should use Printable 3 to record their learning by writing the impact of deforestation on each area of the sloths' lives.</p> <p>For example, sloths' diet is mainly leaves. If the trees are removed, then sloths do not have enough food and will starve.</p>
<p>Part 3: Be the change</p>	<p>WVS and sloths: Explain that WVS are treating an increasing number of animals in our clinics who have been affected by changes to their environments. WVS care about endangered animals and will do everything we can to prevent extinction.</p> <p>Be an animal champion! Give children the challenge to raise awareness about other animal species which are heading towards extinction. You can ask them to choose a letter from the alphabet or assign them a letter, then provide resources to help them research an endangered animal beginning with that letter. A template is provided in Printable 4. Children use their research to make an A to Z of endangered animals. You could tailor this to endangered in your local area, country or part of the world you are learning about in other subjects.</p> <p>Exit ticket: Share the confidence review question with children: How sure you are that you can explain how changes to rainforests impact the animals which live there?</p> <p>Children can give their answers using the scale 1 to 4 on their fingers to indicate how sure they feel.</p> <p>There is a short video of Luke Gamble, CEO and founder of WVS, visiting a clinic in Costa Rica where he encounters an orphaned baby sloth. The sloth has not yet learned how to defecate so Luke teaches the sloth to use the rainforest floor as a toilet. https://www.youtube.com/watch?v=NW5TvloZjBA</p> <p>This is an example of the work WVS supports across the world – they are a charity at the forefront of animal welfare providing support where it is most needed around the globe.</p>

DEFORESTATION



Deforestation is the removal of trees.

Deforestation causes problems for animals.

RAINFOREST



A tropical area of plants and trees found in warm and wet places.

Rainforests contain lots of different species of animals.

ENVIRONMENT



The surroundings in which people, animals and plants live.

Environments can change in different ways.

EXTINCT



When a species of animal does not exist anymore.

The dodo is extinct.

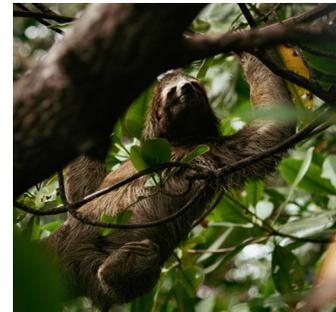
ENDANGERED



When there are very few animals left in a natural environment.

Endangered animals need to be protected to avoid extinction.

PROTECTION



Something which gives safety or shelter.

Trees provide protection for sloths.

NATURAL CHANGES



Changes to an environment which happen naturally and usually cannot be stopped.

Flooding is a natural change.

HUMAN CHANGES



Changes to an environment cause by human actions.

Logging is a human change.

ARBOREAL



An animal which lives in trees.

Sloths are arboreal animals.

PREDATOR



An animal which feeds on another animal.

A jaguar is a predator of sloths.



flooding



wildfires



building houses



drought



river pollution



logging



farming
cattle



slash
and burn
farming



building
roads



mining



climate
change



hurricanes

Natural
changes

Human
changes

Natural changes	Human changes		

SHELTER

Sloths live almost exclusively in the trees. They are arboreal animals. Trees provide shelter from the heat, rain and wind. Sloths use their long claws to help them hang from the tree branches. This is where they sleep, eat and socialise. Sloths are almost completely blind in bright daylight. Trees provide a shady habitat where sloths can move around safely.

TRANSPORT

Sloths use the network of trees as a way to move around. They crawl and hang from the tree branches as they search the rainforest for food.

About once a week, sloths will come down from the trees to use the forest floor as a toilet. However, they will then retreat back to the safety of the treetops.

SLOTH FACTSHEET



WATER

Because sloths spend most of their time in the trees, their main source of water is the fresh leaves that they eat. When a sloth does come down from the trees, it may drink water from ponds or rivers.

FOOD

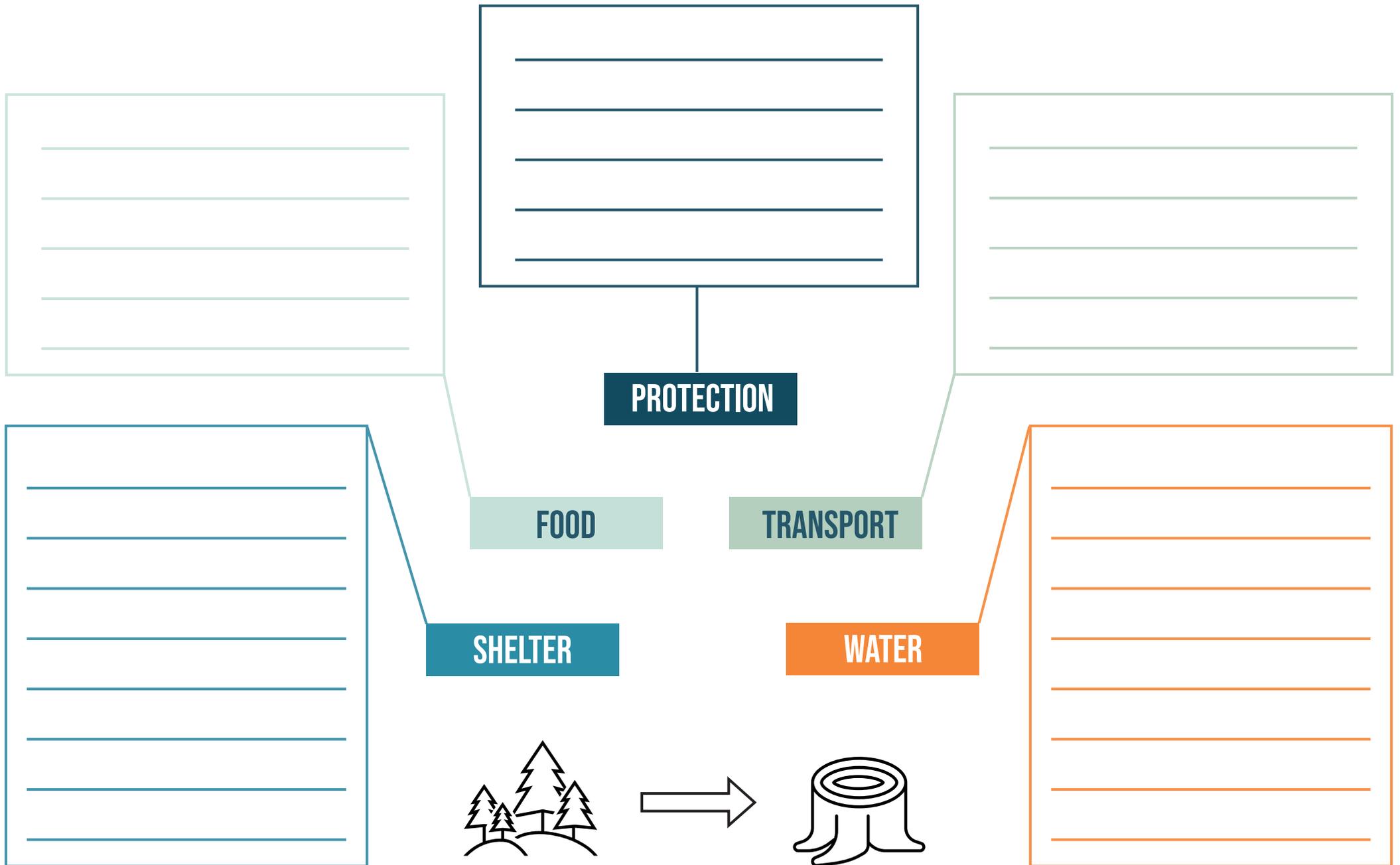
Trees are the main source of food for all species of sloths. They eat the tree leaves although this is not a very nutritious diet. It can take up to 30 days for sloths to digest just one leaf! Sloths do not gain much energy from the food they eat which is why they move slowly.

PROTECTION

The trees provide protection for the sloths. Most sloths' fur is covered in a green-coloured layer of algae. This helps to camouflage them against predators such as harpy eagles. Slow movement through the trees helps to keep the sloths hidden from predators.

The rainforest floor is where predators such as ocelots and jaguars live. Sloths spend very little time on the forest floor as it poses the most danger.

HOW DO CHANGES TO RAINFORESTS IMPACT SLOTHS?



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