



Planet Earth: Understanding and Protecting our Environment

Scheme of Work

	Lesson 1 – The hydrosphere	Lesson 2 – Managing the biosphere	Lesson 3 – Managing the hydrosphere
Length	Approx. 1 hour	Approx. 1 hour	Approx. 1 hour
Objectives	To define the term hydrosphere and be able to list elements that are included. To explain how different elements of the hydrosphere are being affected by human activity and what effects this may have.	To discuss the importance of forests. To explore the impacts of human behaviour on forests. To reflect on how decision-making, and the decision makers, influence the future of forests.	Describe different approaches to managing flooding. Explain how different approaches can be implemented and what they can achieve.

Lesson plans for each session can be found on the following pages.

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Lesson 1 plan – The hydrosphere

Starter activity	Learning objectives
<p>As a class, discuss the following and collect answers on the board:</p> <ul style="list-style-type: none"> • What is included in the hydrosphere? • What could scientists' study about it? 	<ul style="list-style-type: none"> • To define the term hydrosphere and be able to list elements that are included. • To explain how different elements of the hydrosphere are being affected by human activity and what effects this may have.
Main activities	Resources required
<p>The class watch the video from Step 1.2, 'How are humans changing the hydrosphere?' and talk through the rest of the introductory information on that step.</p> <p>The students are then divided into small groups, and then within each group, into two (individuals or pairs).</p> <p>Each individual/pair then reviews the information provided on one of the following two pages (1.3, 'Ice and the cryosphere', and 1.4, 'Water quality').</p>	<ol style="list-style-type: none"> 1. Steps 1.2 -1.6 in the course (including the video from 1.2 to show to the class). 1. Devices to review the following pages.
	Assessment for Learning
	<p>Group work, discussion contribution and individual reflections.</p>
	Differentiation
	<p>SEND: Teacher-led support. Low ability: Peer-learning. Gifted and Talented: Peer-teaching.</p>
Plenary	

<p>They write a short individual summary, as preparation for explaining the content in their area to the others in their group.</p> <p>They then discuss it (and the content from the first part of the lesson about how the wider hydrosphere is being changed) as a larger group and make notes of the key points from each other's areas as part of a spider diagram, focussing on the questions:</p> <ul style="list-style-type: none">• Why are these area/aspects important?• How are they being changed?• What effects could this have?	<p>Lead a brief discussion on the changing hydrosphere in your location. Ask students to reflect on:</p> <ul style="list-style-type: none">• How are changes in the hydrosphere affecting your location? (Can be directly local, or how the global impacts affect your regions specifically).• Consider current and future changes. <p>(The teacher can use information from Step 1.6, 'What is happening in your region', to lead this discussion.)</p>
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Lesson 2 plan – Managing the biosphere

Starter activity	Learning objectives			
<p>As a class, discuss the following and collect answers on the board:</p> <ul style="list-style-type: none"> • Why are forests important? <p>Prompt to consider both tropical forests and local woodlands.</p> <p>(Information for the teacher can be found in Steps 1.8, 1.9 and 1.10)</p>	<ul style="list-style-type: none"> • To discuss the importance of forests. • To explore the impacts of human behaviour on forests. • To reflect on how decision-making, and the decision makers, influence the future of forests. 			
Main activities	Resources required			
<p>As a class, talk through the content from Step 1.9 ‘Tropical forests as ecosystems (not the video) about why rainforests are important to the ecosystems and planet.</p> <p>In pairs, the students work through the exploratory exercise on Step 1.10 ‘Tackling deforestation’. The exercise is fairly short and allows them to make different choices in a forest management scenario and re-start their ideas to get different outcomes. At each choice point, they should consider (and note down) who would approve each choice and why and justify which they picked. Emphasise that they do not necessarily have to pick the answer options that ‘look right’ – they can also consider the impact of less optimal choices that feel more likely to happen. They can explore the exercise a number of times.</p> <p>Once they have finished, they write a short reflection covering:</p> <ul style="list-style-type: none"> • How different motivations might affect choices about forests. • What they have learned from the exercise. 	<p>1. Step 1.9 and 1.10. 1. Devices to explore the exercise.</p> <th>Assessment for Learning</th> <p>Discussion contributions</p> <th>Differentiation</th> <p>SEND: Teacher-led support. Low ability: Peer-learning. Gifted and Talented: Peer-teaching.</p> <th>Plenary</th> <p>Discuss the learning from the exercise:</p> <ul style="list-style-type: none"> • Do they feel that the right people are likely to be making decisions about forest and woodland? Why/why not? • What are the most important things that should be considered in these decisions? 	Assessment for Learning	Differentiation	Plenary

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Lesson 3 plan – Managing the hydrosphere

Starter activity	Learning objectives
<p>Go to Step 2.3 and click 'Select to enlarge the image' halfway down to open the diagram of flood prevention measures full screen and put this on the board.</p> <p>Ask students to reflect silently for a few minutes on how they think any of the measures shown might manage flooding and why. (They don't need to do all of them).</p> <p>Share responses as a class and discuss (answers don't have to be definitive at this stage of the lesson).</p>	<ul style="list-style-type: none"> • Describe different approaches to managing flooding. • Explain how different approaches can be implemented and what they can achieve.
Main activities	Resources required
<p>As a class, watch the video on Step 2.2 'Managing flood risk' and read through the text on that step and Step 2.3 exploring why flooding is an issue and how it can be managed.</p> <p>Divide the students into small groups. Share the link to the Yorkshire Integrated Catchment Solutions Programme (iCASP) home page (available below/in the See also section at the end of Step 2.2) and select the link to see their projects (https://icasp.org.uk/projects-2-2/).</p> <p>Each group is assigned a category of projects (e.g. land management), and then develops an informative poster presentation about that category of approaches, explaining:</p> <ul style="list-style-type: none"> • What the general approach of that category is. • What it aims to achieve. • Brief overview of some of the projects. 	<ol style="list-style-type: none"> 1. Device to watch video. 1. Steps 2.2 and 2.3. 1. iCASP homepage. 1. Flipchart paper and materials for collecting group responses. <p>Assessment for Learning Group work answers, individual reflections.</p> <p>Differentiation SEND: Videos have subtitles. Low ability: Peer-learning. Gifted and Talented: Peer-teaching.</p> <p>Plenary Students write a short individual reflection on three key things they have learned from the lessons on human impact on the hydro and biospheres.</p>