BBC TEACH

Biomes - 1: Rainforests and Deserts

In partnership with Geographical Association

Overview	There are three videos in the Biomes series, each comparing two different biomes. The videos cover: Rainforests, Deserts, Savannah, Tundra, Woodlands and Grasslands.	**Curriculum links**	*Suitable for age 7-11 to encourage curiosity and fascination about the world.* • Physical geography relating to climate zones, biomes and vegetation belts • Considers non-European regions • Themes of place and change • Understanding diversity and interrelationships
'EVA'	'EVA' - 'Earth's Virtual Assistant' is the computer style AI that voices these videos. In each one she launches an investigative mission and asks pupils to join her on a voyage of discovery. She will highlight key words ('Decoders') and facts ('Intel drops') throughout the videos, which you can pause on as needed. At the end of each biome she summarises the key points, and at the end of the video she debriefs the mission.		

Video	Big idea	...like a geographer	Questions to explore	Learning outcomes
1: Rainforests and Deserts https://www.bbc.co.uk/teach/class-clips-video/articles/z3yxcxs	Biomes are large scale ecosystems having a similar climate, plant and animal life	• *Think* - ask geographical questions • *Study* - what features biomes have • *Know* - different features of biomes • *Apply* - explain why biomes exist and have different features	• What is a biome? • What controls a biome's location? • What are the physical features of the rainforest and desert? • What threats do these biomes face?	• Understand that biomes are large scale ecosystems with distinctive features • Know an example of the location of different biomes • Understand what controls a biome's location • Compare the climate, plant and animal life between rainforests and deserts • Suggest the threats faced by biomes

Key geographical vocabulary

- *Biome* - large scale ecosystems.
- *Climate* - the state of the atmosphere over many years or over a large area (ie the 'average' of the weather).
- *Tropics* - the Tropic of Cancer and Tropic of Capricorn are imaginary lines at 23.5° north and south of the equator.
- *Biodiversity* - the variety of plant and animal life in a particular ecosystem
- *Ecosystem* - a community of living organisms interacting with each other and their environment.
- *Adaptation* - the process by which plants and animals change over time to survive in their environment.

Content summary for non-specialists

- Biomes have distinctive characteristics such as plant and animal life, climate, soils, etc.
- They are located around the world in patterns that follow global climate zones, which are determined largely by latitude (distance from the equator), as well as altitude, air pressure and winds.
- Human activity both relies upon and exploits the resources found in biomes. However human activity can also manage and protect biomes from harm (interdependence), eg deforestation, agricultural change, urbanisation, etc.
- Plants and animals adapt to survive the conditions, and can also be influenced by human activity.
- Climate change is a threat to all biomes, with changing temperatures and precipitation having an influence on biodiversity and sea level change threatening ecosystems.

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Watching the video	Suggested activities	Points for discussion	Take it further
Before watching, ask pupils to write down what they expect a desert and rainforest biome to be like. During the video it is worth pausing to check understanding of keywords, particularly when the 'Decoders' are on screen. After watching, check key terms (biome, climate, tropics, latitude, biodiversity, adaptation) are understood. Check for misconceptions, especially regarding deserts always being hot. Summarise the key points of the video, either in think/pair/share discussion or whole class.	• Complete a table to note down the key features of rainforests and deserts: location, climate, plants, animals, threats • Have a world physical map on the board. Ask pupils to come up and point out where they would most expect to see rainforests or deserts. • Demonstrate the five layers of the rainforest with five pupils crouching/ kneeling/ standing/ stretching up at different heights. • Draw and label a desert scene and a rainforest scene (print example images and names as prompts as needed), including animals and plants specific to each biome. • Provide pupils with a blank map of the world - see page 5 below. Label the equator and tropics. Pause the video where it shows a biome's location and ask pupils to shade their map to show rainforest and desert locations. Then use an atlas and ask pupils to find the name of a place that is within that biome. This could turn into a game. • Choose one biome and design an animal that would suit living here. Sketch it out and label it to show how it would suit the climate. Talk together about why it would suit this biome but not the other.	• What controls where a biome is found? • Why does the rainforest biome have so much plant life? • Did it surprise you that deserts can also be cold? • Can you name one animal or plant that might be found in a desert or rainforest? • How do plants and animals adapt to the rainforest biome? • How do plants and animals adapt to the desert biome? • How do these places compare to our own local UK environment? Is anything similar? • What are the layers of the rainforest? Is this like a woodland you've been to near home? • What threats do these biomes face? • How do humans influence biomes, for better or worse?	• Create a guided enquiry where pupils can research an example plant or animal for each biome in more detail using the internet, either in small groups or as a class. • For rainforest examples look at: Kapok tree buttress roots, rubber tree drip-tip leaf, monkey ladder vine, jaguar, sloth, poison dart frog, toucan, chameleons, etc. • For desert examples look at: cactus, Joshua tree, aloe vera, date palm, tumbleweed, fennec fox, camel, kangaroo rat, sidewinder rattlesnake, jerboa, scorpion, meerkat, etc. • BBC Bitesize Biomes • BBC Bitesize Weather & Climate • National Geographic Habitats

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Do you think this animal would suit the desert? Why / why not?

Describe how this animal suits the rainforest.

Name two features of this rainforest animal.

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Think like a geographer...

Why does this desert plant have a thick waxy skin?

Study like a geographer...

Write down a question that would be good to ask about desert plants.

Apply like a geographer...

Would this plant survive well in the rainforest? Why?

Know like a geographer...

Describe how the desert climate affects life.

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