BBC TEACH

Biomes - 3: Woodlands and Grasslands

In partnership with Geographical Association

Overview	There are three videos in the Biomes series, each comparing two different biomes. The videos cover: Rainforests, Deserts, Savannahs, Tundras, 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
3: Temperate woodlands and Temperate grasslands https://www.bbc.co.uk/teach/class-clips-video/articles/zyyxcxs	Biomes are large scale ecosystems having a similar climate, plant and animal life.	• *Think* - ask geographical questions. • *Study* - what features temperate woodlands and temperate grasslands have. • *Know* - different features of these biomes. • *Apply* - explain why biomes exist and have different features.	• What is a biome? • What controls the location of temperate woodlands and grasslands biomes? • What are the physical features of the temperate woodlands and grasslands? • 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 temperate woodlands and grasslands. • 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).
- *Temperate* - areas with a mild climate, not too hot and not too cold, not too dry and not too wet.
- *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, 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, 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 students if they've heard of the temperate woodland or grasslands and what they expect them to be like. During the video: it is worth pausing at times to check understanding of keywords and for retrieval of over-arching themes (such as latitude, temperate). After watching: check key terms (biome, climate, latitude, temperate, biodiversity, woodland, grassland) are understood. Ask if they expected to be in the woodland biome. Summarise the key points of the video, either as a whole class or through think/pair/share discussion.	• Make a flip-book to show how seasons affect trees in the temperate woodland biome, changing from spring > summer > autumn > winter. • Demonstrate how trees absorb water through their roots and transport to their leaves. Use a cut celery stalk with leaves or white carnations. Place a cutting in a clear jar filled halfway with water. Add food colouring, leave overnight and observe the colour changes to the flower/leaves. • Maps from memory: divide students into groups of 4 and give them each a number. Taking it in turns, show one pupil from each group (eg number 1s) a copy of the zonal map of the two biomes - keep it secret from others. Pupils have 30 seconds to remember what they can from the map then return to their group and describe where to colour in. Keep repeating until they've all had a turn, then see how good the maps are. • Provide pupils with a blank map of the world. Label the equator and tropics, also 60°N and S. Shade their map to temperate woodlands and grasslands location. Then use an atlas and ask them to find the name of a place that is within that biome. This could turn into a game.	• Where is the temperate woodlands biome located? • What does temperate mean? • Did pupils know they lived in the temperate woodland biome? Were they surprised? Does it feel right? • What is your local woodland like? What plants and animals are there locally? • Where are the temperate grasslands located? • How are grasslands used by people and animals? • What threats does the grasslands face? • How might climate change affect the grasslands?	• Create a grassland model. Use two shallow trays. Tray 1 contains loose dry soil and no plants to represent bare ground with no grass cover. Tray 2 is filled with soil and add planted grass or small plants with roots to represent a healthy grassland. Let the ecosystems evolve over time if you can, watering when you wish. Then simulate heavy rain with a watering can poured slowly over both trays - Tray 1 the soil will be washed away while Tray 2 the soil is held together by plants. Use a hairdryer to simulate winds over both trays, showing soil blows away in Tray 1 but not Tray 2. Explain how deep-rooted grasses in the grassland bind soils together to prevent erosion, and that overgrazing is a threat and will lead to desertification. • BBC Bitesize Biomes • BBC Teach Weather and Climate • National Geographic Habitats

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

Describe how this animal suits both the summer and winter seasons of the grasslands.

Name one way the Saiga Antelope has adapted.

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Think like a geographer...

How does the woodland change in autumn and winter?

Study like a geographer...

Write down a question that would help you find out more about the threats to the woodland.

Apply like a geographer...

Are the layers of the temperate woodland similar or different to the tropical rainforest?

Know like a geographer...

Name some examples of plants and animals you would find in the temperate woodland.

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