

Forest Layers

Outdoor Learning Plan

Session Leader:		No. of children: 15-30		Age range: KS2-4	
Location: E.g. School Grounds, Park, Woodland, Beach		Resources: Game instructions or story Your own definitions of Photosynthesis and Ecosystem suitable for your age group. Coloured wool Box or bag with animal and plant picture cards		Success criteria: Everyone will act out the 4 layers of the rainforest Everyone will take part in creating ecosystem diagrams	
Subject: Layers of the Forest		Learning Objective (Rationale): Develop understanding of the Rainforest and local ecosystems, their similarities and the ways in which people impact on and benefit from natural environments.		Keywords: Ecosystem 4 layers of the Rainforest: Forest Floor, Understory, Canopy, Emergent. Photosynthesis, Oxygen, Carbon Dioxide, Deforestation	
Time: 90 mins at least					
5 mins	Circle	Boundaries &	Describe the immediate environment – point out hazards & define rules.		

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		safety briefing.	
5 mins		Warm up game	Places please – choose 4 places e.g. the fence, a big oak tree, benches, the hill. All start in the middle. One child to stand to the side with back to group and call ‘places please’. Everyone chooses one of the 4 places to go to. Then the child says where s/he thinks most people are. e.g. ‘the benches’ and turns round to check how many s/he was in tune with.
10 mins	Circle	Discuss Learning Objective and pool knowledge	Define ecosystem. Look around at the trees, plants etc. Draw out some of the elements of the ecosystem you are in. E.g. woodland / beach / grassland / parkland. What life is supported there? Where might we find signs of life?
15 mins	Pairs / groups	Activity to develop / consolidate knowledge, e.g. finding hidden items, collecting or spotting something in area	KS1-2: Quick bug-spotting exercise. Decide together how you will do this without disturbing the creatures too much. Discuss creatures and their habitat as we find them. OR KS2-4: Having previously distributed around ask the pupils to find 5 different coloured strands of wool / or objects – 5 colours to represent 5 things all life needs. Take an animal or plant card from the box and talk through the 5 things with your partner / group as it relates to that animal or plant. E.g. a frog needs more water than a

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			cactus. A person needs oxygen. A tree needs CO ₂ etc.
10 mins	Circle	Share findings briefly Introduce creative activity	<p>What can you tell me about the Rainforest Ecosystem? What kind of place is it? What are the trees and plants like? What kind of animals.</p> <p>Tell the story of snake, a creature in the rainforest who wants to go up... describe the 4 layers – build it up from the forest floor, children can join in with actions and sounds as you go up through the layers.</p> <p>Older children might find this physical theatre style challenging, but it is a good way to understand the way the forest changes through the layers.</p> <p>You can add in as much detail as you want to, including the names of plants and animals, how conditions differ in the different layers, humidity, temperature, light etc.</p> <p>Try BBC Bitesize for some background https://www.bbc.com/bitesize/clips/zkdnvcw or https://rainforests.mongabay.com/0401.htm</p> <p>Or see simple explanation of the layers attached for extra guidance.</p>
20 mins	Groups	Creative activity	Using bits and bobs you find around

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			you – build up a picture of the rainforest ecosystem . You need to include at least 4 layers, some plants and some animals. Remember to include the 5 things we all need too.
10 mins	As 1 or 2 groups	Feedback from Creative activity - presentation by children	View some of the ecosystem designs. Add scenarios – what would happen if all the trees were cut down – deforestation, or there was a flood. A series of floods. A rise in water level. A species becomes extinct because of poaching etc
10 mins	As 1 group	Game - to suit the mood / group	<p>Animal families In small groups,ask children to act as if they are a family of animals having their photo taken. They make a frozen picture which you 'photograph' with your hands / fake camera. You call out animal types for them to try and act, or they choose and you guess. The more like the animals they are, the funnier it is, for example monkey mum might be checking other monkeys for fleas, crocodile might be about to bite the photographer OR</p> <p>The shy Elephant game (see Animal gallery activity) OR</p> <p>I went to the Rainforest and I saw... an anteater, a banana tree, a capybara... alphabetical round circle, remembering and adding each time.</p>
10 mins	Circle	Review learning,	Everyone think of something they will remember about ecosystems – tell

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		reflect on experience	the person next to them first – then tell group round circle – lets try to think of 30 different things!
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Definitions:

Ecosystem - a community of living organisms in conjunction with the nonliving components of their environment, interacting as a system. An ecosystem is made up of plants, animals, micro-organisms, soil, rocks, minerals, water sources and the local atmosphere interacting with one another.

Photosynthesis - the process by which green plants and certain other organisms transform light energy into chemical energy. During photosynthesis in green plants, light energy is captured and used to convert water, carbon dioxide, and minerals into oxygen and energy-rich organic compounds. Phytoplankton, such as algae, are the plants that make photosynthesis happen in the ocean. These tiny plants live on the surface of the water where they collect their energy from the sun and use it along with nutrients in the water to grow and feed ocean life

Tropical rainforests have four layers

Emergent Layer - These giant trees thrust above the dense canopy layer and have huge mushroom-shaped crowns. These trees enjoy the greatest amount of sunlight but also must endure high temperatures, low humidity, and strong winds.

Canopy Layer - The broad, irregular crowns of these trees form a tight, continuous canopy 60 to 90 feet above the ground. The branches are often densely covered with other plants (epiphytes) and tied together with vines (lianas). The canopy is home to 90% of the organisms found in the rainforest; many seeking the brighter light in the treetops.

Understory - Receiving only 2-15% of the sunlight that falls on the canopy, the

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understory is a dark place. It is relatively open and contains young trees and leafy herbaceous plants that tolerate low light.

Forest Floor - The forest floor receives less than 2% of the sunlight and consequently, little grows here except plants adapted to very low light. On the floor is a thin layer of fallen leaves, seeds, fruits, and branches that very quickly decomposes. Only a thin layer of decaying organic matter is found, unlike in temperate deciduous forests.