Beckfoot

Subject: Geography	Topic: The Living World	Year Group: 10

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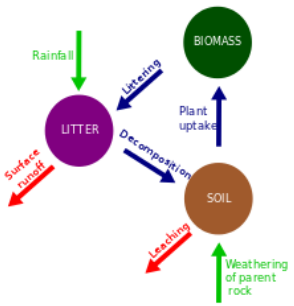
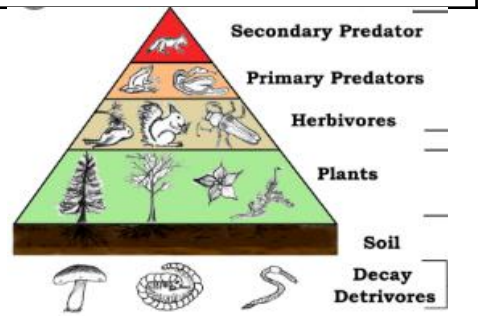
A. Ecosystems exist at a range of scales and involve the interaction between biotic and abiotic components.

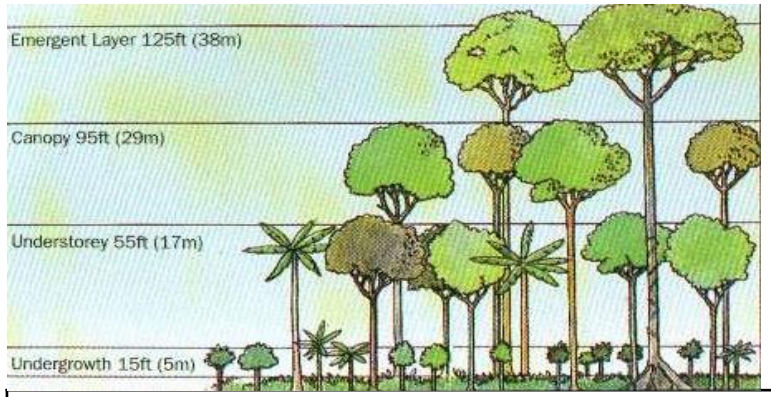
1	**Biotic and Abiotic. Food chains and webs.**	The balance between components. The impact on the ecosystem of changing one component.
2	**Global ecosystems and Biomes**	Distribution and characteristics of large scale natural global ecosystems.
3	**Epping forest**	An example of a small scale UK ecosystem to illustrate the concept of interrelationships within a natural system, an understanding of producers, consumers, decomposers, food chain, food web and nutrient cycling.





B. Tropical rainforest ecosystems have a range of distinctive characteristics.

1	**Rainfall, temperature, structure of a tropical rainforest**	The physical characteristics of a tropical rainforest.
2	**Relationships between biotic and abiotic components of the rainforest**	The interdependence of climate, water, soils, plants, animals and people.
3	**Adaptations**	How plants and animals adapt to the physical conditions.



C. Deforestation has economic and environmental impacts.

1	**Tropical Rainforest- named example**	The Amazon rainforest, Brazil
2	**Cause of deforestation**	economic development, soil erosion, contribution to climate change.
3	**Impacts of deforestation**	economic development, soil erosion, contribution to climate change.

D. Tropical rainforests need to be managed to be sustainable.

1	**Value of tropical rainforests to people and the environment.**	Climate regulator, medicine, wood, cultural heritage, habitat, research, precious minerals.
2	**Strategies to manage tropical rainforests**	Selective logging and replanting, conservation and education, ecotourism and international agreements about the use of tropical hardwoods, debt reduction.

E. Cold environments (polar and tundra) have a range of distinctive characteristics.

1	**Polar and tundra environments**	The physical characteristics of a cold environment.
2	**Relationships in a cold environment ecosystem**	The interdependence of climate, permafrost, soils, plants, animals and people.
3	**Adaptation in cold environments**	How plants and animals adapt to the physical conditions.

F. Development of cold environments creates opportunities and challenges.

1	**Named example**	Alaska USA
2	**Opportunities in Alaska**	Mineral extraction, energy, fishing and tourism
3	**Challenges in Alaska**	Extreme temperature, inaccessibility, provision of buildings and infrastructure.

G. Cold environments are at risk from economic development.

1	**Wilderness areas**	The value of cold environments as wilderness areas and why these fragile environments should be protected.
2	**Management of cold environments**	Balancing the needs of economic development and conservation in cold environments – use of technology, role of governments, international agreements and conservation groups

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1) Consumer	Creature that eats animals and/or plant matter.
2) Decomposer	An organism such as a bacterium or fungus, that breaks down dead tissue, which is then recycled to the environment.
3) Ecosystem	A community of plants and animals that interact with each other and their physical environment.
4) Food chain	The connections between different organisms (plants and animals) that rely on one another as their source of food.
5) Food web	A complex hierarchy of plants and animals relying on each other for food.
6) Nutrient cycling	A set of processes whereby organisms extract minerals necessary for growth from soil or water, before passing them on through the food chain - and ultimately back to the soil and water.
7) Global ecosystem	Very large ecological areas on the earth's surface (or biomes), with fauna and flora (animals and plants) adapting to their environment. Examples include tropical rainforest and hot desert.
8) Producer	An organism or plant that is able to absorb energy from the sun through photosynthesis.

9) Biodiversity	The variety of life in the world or a particular habitat
10) Commercial farming	Farming to sell produce for a profit to retailers or food processing companies.
11) Debt reduction	Countries are relieved of some of their debt in return for protecting their rainforests.
12) Deforestation	The chopping down and removal of trees to clear an area of forest.
13) Ecotourism	Responsible travel to natural areas that conserves the environment, sustains the wellbeing of the local people, and may involve education. It is usually carried out in small groups and has minimal impact on the local ecosystem.
14) Logging	The business of cutting down trees and transporting the logs to sawmills.
15) Mineral extraction	The removal of solid mineral resources from the earth. These resources include ores, which contain commercially valuable amounts of metals, such as iron and aluminum; precious stones, such as diamonds; building stones, such as granite; and solid fuels, such as coal and oil shale.
16) Selective logging	The cutting out of trees which are mature or inferior, to encourage the growth of the remaining trees in a forest or wood.

17) Soil erosion	Removal of topsoil faster than it can be replaced, due to natural (water and wind action), animal, and human activity. Topsoil is the top layer of soil and is the most fertile because it contains the most organic, nutrient-rich materials.
18) Subsistence farming	A type of agriculture producing food and materials for the benefit only of the farmer and his family.
19) Sustainability	Actions and forms of progress that meet the needs of the present without reducing the ability of future generations to meet their needs.
20) Appropriate technology	(Also called Intermediate technology) Technology that is suited to the needs, skills, knowledge and wealth of local people in the environment in which they live. It usually combines simple ideas with cheap and readily available materials, especially for use in poorer countries, and is environmentally friendly.
21) Biodiversity	The variety of life in the world or a particular habitat
22) Fragile environment	An environment that is both easily disturbed and difficult to restore if disturbed. Plant communities in fragile areas have evolved in highly specialized ways to deal with challenging conditions. As a result, they cannot tolerate environmental changes.
23) Polar	The regions of Earth surrounding the North and South Poles. These regions are dominated by Earth's polar ice caps, the northern resting on the Arctic Ocean and the southern on the continent of Antarctica.
24) Tundra	The flat, treeless Arctic regions of Europe, Asia and North America, where the ground is permanently frozen. Lichen, moss, grasses and dwarf shrubs can grow here.
25) Wilderness area	The flat, treeless Arctic regions of Europe, Asia and North America, where the ground is permanently frozen. Lichen, moss, grasses and dwarf shrubs can grow here.