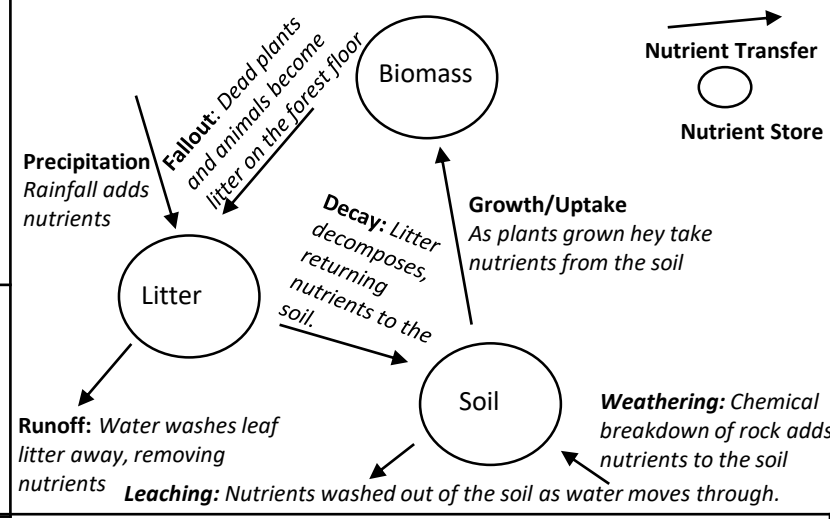
Topic 7: People and the Biosphere

Keywords	Definition
Ecosystem	A small scale biome made up of living things and their non-living environment e.g. a pond or forest
Biosphere	The living layer of the earth between the lithosphere and the atmosphere.
Biome	A large scale ecosystem e.g. tropical rainforest or Boreal/Taiga forest.
There are 9 biomes. Each has its own climate, plant and animal species. Sunlight, temperature and precipitation is important factors in influencing the biome.	
Latitude	How far north or south of the equator a location is.
Latitude of a place influences which biome is there as latitude directly affects the amount of sunlight a location receives. Closer the equator receive more sunlight and have longer growing seasons. Places towards the poles receive less sunlight and have a shorter growing season.	
Precipitation	Rainfall.
This is also influenced by latitude as earth can be divided into high and low pressure zones. Areas of low pressure receive high precipitation. Areas of high pressure receive low precipitation.	
Altitudinal Zonation	The change in the ecosystem at different altitudes due to changes in local factors such as precipitation, sunlight, temperature and soil type.
Biotic	Living parts of the ecosystem e.g. plants and animals.
Abiotic	Non-living parts of the ecosystem e.g. rocks and soil.
Goods	Physical materials such as timber from trees or fish caught in lakes. These can be locally important.
Services	All the ways humans benefit from the ecosystem e.g. How forests prevent flooding/soil erosion or trees add oxygen to the atmosphere. These can be globally important.
Slash-and-burn farming	Occurs in the rainforest. Farmers clear small areas of forest by burning it. The ash adds nutrients to the soil and it is farmed for 5-6 years.

Keywords	Definition
Carbon Sink	Natural storage of carbon dioxide. Biomes are important carbon sinks. It is stored in the biomass (leaves, trunks, branches etc.) and soil of biomes.
Carbon Sequestration	The removal of carbon dioxide and locking it up in biotic material.
Nutrient Cycle	The continuous cycle of nutrients between stores such as biomass, the soil and litter. This keeps plants and soils healthy.
Flows and stores of nutrients are interrupted through deforestation, removing the biomass store, heavy rains which leach away nutrients and soil erosion which erodes away another store.	
Natural resources	Materials found in the environment that are used by humans including land, water, fossil fuels, rocks and minerals and biological resources like timber and fish.
Demand for natural resources has increased to rising population and rising global income meaning people use more resources (energy, water) and consume more products.	



Pessimistic	A view that population will eventually grow so large that the planet will run out of food, water and energy, leading to a crisis. Thomas Malthus held this (Malthusian) view in 1798.
Population would have to fall by positive checks (war, starvation, famine) and preventative checks (marrying later and having fewer children.	
Optimistic	As population grows, humans invent new technologies to allow more food to be grown so a crisis is never reached. This (Boserupian) view was held by Ester Boserup in 1965.
Examples of new farming technologies include fertilizers, farm machinery, irrigation (man-made watering) etc.	