

Geography: How can we investigate a local ecosystem?

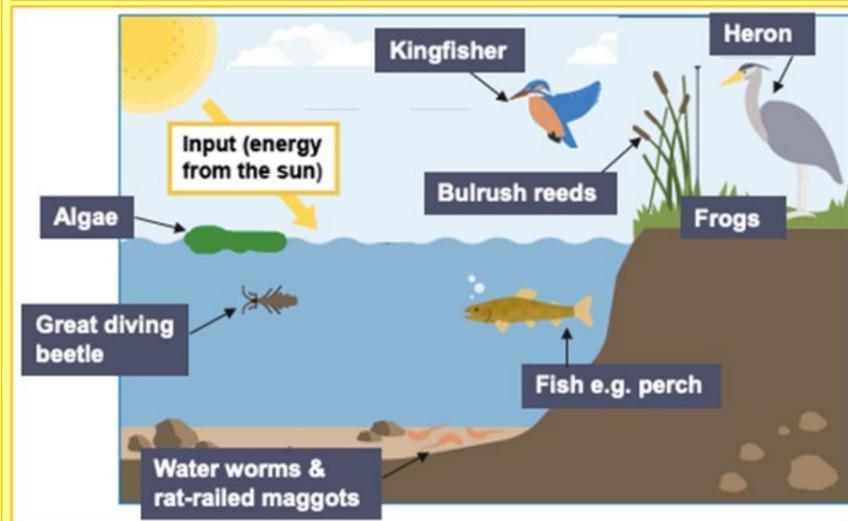
Year 9

Term 4

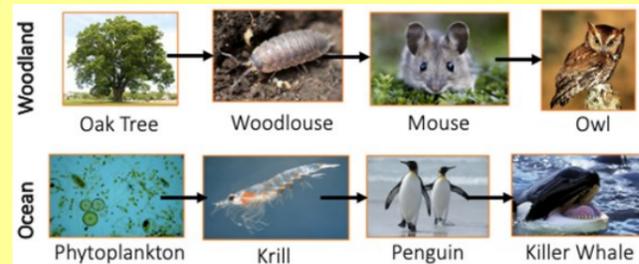


What components are found in UK ponds?

Component	Examples
Abiotic (non-living)	Water, rocks, soil, climate, sunlight
Biotic (living)	Bulrush reeds, algae, fish, heron etc.
Producer	Bulrush reeds, algae
Consumer	Perch, great diving beetle, kingfisher, frogs
Decomposers	Water worms, rat-tailed maggots



What are food chains?



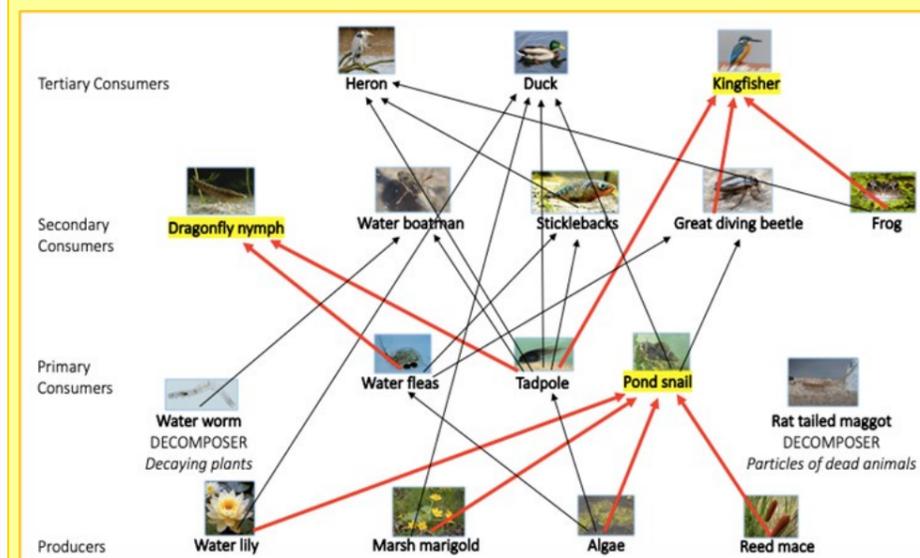
What changes affect ecosystems?

Human	Physical	Example
<ul style="list-style-type: none"> Farmers removing hedgerows to increase field size Deforestation Tarmacking driveways Overfishing Damming rivers Pollution Mining Climate change? 	<ul style="list-style-type: none"> Droughts Storms Volcanoes Wildfires Earthquakes Diseases Migration 	<p>The wolves at Yellowstone National Park had to be reintroduced after hunting until they were gone from the park meant that the whole ecosystem was forced out of its natural equilibrium. This even caused the river to change its course!</p>

Keywords

Abiotic	Non-living things in an ecosystem e.g. the climate, rocks, soil and water.
Biotic	Living things in an ecosystem e.g. fauna (animals) and flora (plants).
Consumer	Creatures that eat animals and/or plant matter.
Decomposer	An organism such as bacterium or fungus, that breaks down dead tissue, which is then recycled to the environment.
Ecosystem	A community of plants and animals that interact with each other and their physical environment.
Food chain	The connections between different organisms (plants and animals) that rely on one another as their source of food.
Food web	A complex hierarchy of plants and animals relying on each other for food.
Nutrient cycling	A set of processes whereby organisms extract minerals necessary for growth from soil or water, before passing them on through the chain – and ultimately back to the soil and water.
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.
Producer	An organism or plant that is able to absorb energy from the sun through photosynthesis.

What are food webs?



How do Geographers carry out fieldwork?

Stage	What do Geographers do?
Hypothesis	This is a question or a statement which we will test e.g. 'How healthy is the pond ecosystem at TAH?'
Data collection methods	This is where we plan what data to collect, how we will collect it and the equipment we need. We then go outside to collect the data.
Data presentation	Once we have collected our data, we decide how to present it using a variety of appropriate graphs.
Results	We study our presented data and identify trends and anomalies.
Conclusion	This is where we use the evidence we have collected and conclude whether or not our hypothesis was correct.
Evaluation	This final state is arguably the most important. Here we judge whether or not our conclusion is reliable and how we might improve our techniques to get a more reliable conclusion in the future.

What is sampling?

It is impossible to measure everything on one fieldtrip! Therefore we must choose appropriate sampling techniques to ensure we collect enough data to get a reliable conclusion. Here are three sampling techniques we can choose from:

