MYP2 Science Unit 1: Ecology

Core questions

Why do organisms eat each other?	To get energy and nutrients
What is a food chain?	A representation of how energy flows from producers to consumers
What is a food web?	A representation of all of the food chains in an ecosystem and how they interact
What name is given to organisms that make their own food?	Producer
Where do producers get their energy from?	The Sun
In a food chain or web, what name is given to an organism that eats another organism?	A consumer
In a food chain or web, what name is given to the organism that eats the producer?	Primary consumer
In a food chain or web, what name is given to the organism that eats the secondary consumer?	Tertiary consumer
What name is given to organisms that eat animals?	Predators
What name is given to animals that are eaten by other organisms?	Prey
What is a herbivore?	An animal that only eats plants
What is a carnivore?	An animal that eats other animals
What is a carnivore?	An animal that eats other animals
In a food chain or web, why are the arrows drawn from the organism	To show the flow of energy

being eaten to the organism eating it?	
What is the “population” of an organism?	The number of that organism in a particular area
What is interdependence?	How organisms depend on each other for survival
What is bioaccumulation?	How toxic materials can build up in a food chain
What is the theory of interdependence?	Where organisms in a food web depend on each other for food
What does the theory of interdependence explain?	How the populations of organisms in a food web can change
What is decay?	The breakdown of dead organisms
What name is given to organisms that cause decay?	Decomposer
What are the two main types of decomposer?	Detritivores and microbes
Give an example of a detritivore	Maggots, woodlice
Give an example of a microbe decomposer	Bacteria, fungi
Why is decay important?	It releases waste products that plants can use
What conditions are best for decay?	Lots of oxygen, warm temperatures, moisture
What is an adaptation?	A way in which an organism suits its environment
Name two types of adaptation	Physical and behavioural
Give an example of a physical adaptation	Sharp teeth, camouflage, foot surface area, spikes

Give an example of a behavioural adaptation	Making nests to shelter offspring (children), huddling for warmth, rolling into a ball, courtship displays
What is competition?	Where organisms have to struggle against each other for resources
What resources do organisms often compete over?	Food, water, space, light, mates
What is a species?	A group of organisms that can breed and produce fertile offspring
What is a mutation?	A change to an organism's DNA
What can mutations result in?	Slight changes to an organism's adaptations
What is natural selection?	How organisms with the most useful adaptations are more likely to survive and reproduce
What are the four main stages in evolution by natural selection?	An organism is born with a mutation The mutation helps it survive longer It has more offspring It passes the mutation on to its offspring
What is a scientific theory?	An idea used to explain events
How are theories proved or disproved?	By collecting evidence
What is evidence?	Information that can be used to prove or disprove a theory
Give two sources of evidence for evolution	The fossil record, DNA sequencing
How is DNA sequencing used to show evolution?	More closely related organisms have more similar DNA sequences
What is extinction?	When an entire species dies out

Name two things that can cause extinction	New predators, new diseases, changes to habitat, more successful competitors, catastrophic events (like volcanoes or asteroid impacts)
What word is used when scientists put organisms into groups?	Classification
What are the seven classification levels?	Kingdom, phylum, class, order, family, genus, species
What are the five vertebrate groups?	Mammals, fish, birds, reptiles, amphibians
What word is used to describe the variety of species in an area?	Biodiversity
Give two reasons why biodiversity is important.	Moral reasons, species may be useful to us, protects food supply, limits large changes to food chain and webs
Name two ways in which scientists try to maintain biodiversity	Seed banks, protection of habitats, breeding programmes
How can scientists estimate population size?	Using quadrats (sampling from a larger area)
What is discrete data?	Data with numbers, but only certain numbers are allowed
How is discrete data generated?	By counting
Why is the number of animals in a certain area discrete data?	Because it will be a number but only whole numbers are allowed (you cannot have half an animal)