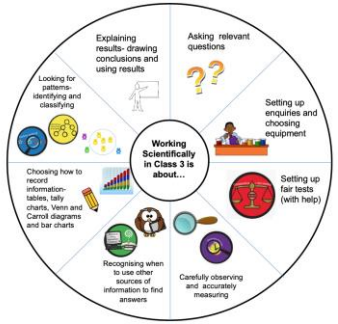
Aldbury Primary & Nursery Knowledge Organisers		
Science Unit: Living things and their habitats (classification)	**Class 3**	**Year A Spring Term**

What should they already know?
From their 'Habitat's unit in Class 2, children should be able to: • use keys to identify some animals and plants (with help) • identify and name a variety of animals and plants in their habitats • describe how animals obtain their food from plants and other animals using a simple food chain (e.g. grass – cow – human) • identify and name different sources of food • describe how different habitats provide for the basic needs of different kinds of animals and plants
Key vocabulary from Class 2: habitats, keys, habitat, food chain, eat, carnivore, herbivore, omnivore



Working Scientifically tasks that link to this unit:	
Year 4 – Living things and their habitats – troublesome animals	**How do I group an animal based on evidence?** **Why are some animals hard to classify?**

Key vocabulary	
predator	An animal that hunts and eats other animals.
prey	An animal that gets hunted and eaten by another animal.
producer	A plant that produces its own food.
vegetation	All the plants or plant life in a particular place, taken as a whole.
shelter	A place that gives protection from bad weather and/or danger.
vertebrate	Vertebrates have a backbone inside their body. They include mammals, birds, fish, amphibians and reptiles.
invertebrate	An animal without a backbone. Some have soft bodies, like worms, slugs and jellyfish. Other invertebrates, like insects, spiders and crustaceans, have a heard outer casing that protects their body.
classify	to sort/group animals and plants into groups according to their similarities
flowering plant	Flowering plants grow flowers. They make up about 90% of all species of plants.
non-flowering plant	Non-flowering plants do not grow flowers.
mammals	warm-blooded; have hair/fur on bodies; give birth to live young; often drink milk from their mothers
reptiles	cold-blooded; normally lay eggs (but some don't); have scales
amphibians	cold-blooded; moist scaleless skin; lay eggs
fish	cold-blooded; can breathe underwater, using gills; lay eggs; have fins to help them propel through the water
birds	warm-blooded; have feathers, wings and beaks; lay eggs

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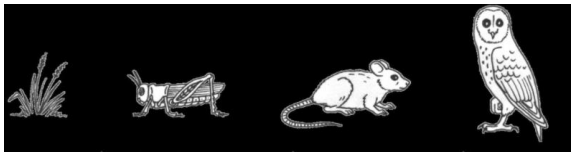
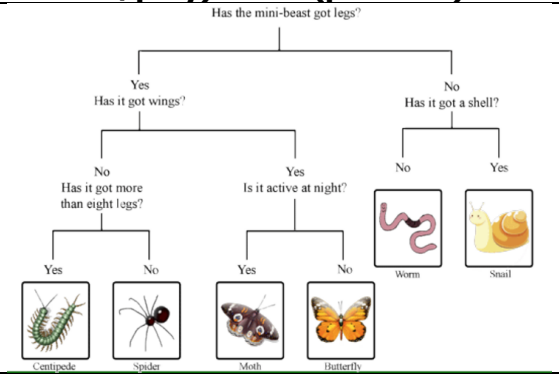
HFL ARE statements explained	
How do I construct and interpret food chains?	Children need to be able to make their own food chains. They should be able to name which animals/plants are producers, prey and predators. They should be able to verbally explain the food chain. Children must be able to recognise that a food chain must always start with a green plant (a producer). They should recognise that green plants are the ultimate source of food for all animals. The arrows show the flow of energy.  **grass (producer) – grasshopper (prey) – mouse (predator/prey) – owl (predator)**
How do I use classification keys to group, identify and name a variety of living things?	This needs to include plants and trees, not just animals. You can use classification keys to help group identify and name a variety of living things. Children are not required to make their own but might enjoy doing so. 
How can living things be grouped?	Children are required to group living things in a variety of different ways. *<u>GD statement</u> – some animals are hard to classify. Children need to be able to explain why.* • *platypus – feed milk to their young, have fur and are warm blooded (like mammals) but lay eggs (like reptiles/amphibians/fish)* • sharks – have gills/fins and are cold blooded (like fish) but most species of shark give birth to their live young (like mammals)

flowering plants	non-flowering plants	vertebrates	invertebrates	fish	mammals	amphibians	reptiles	birds
sunflower daffodil orchid	fern moss algae	frog monkey dog	worm slug jellyfish	goldfish Blue Tang megalodon	humans elephants dog dolphin	frog newt salamander	lizard turtles snakes	parrots owls penguins

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How do the features of an animal help them to survive? (examples)	**gills** – fish have gills on the side of their body (instead of lungs) to help them breathe underwater	**blubber** – a thick layer of skin under marine mammals (seals, whales, walruses) keeps animals warm and store energy	**camouflage –** used to disguise their appearance/blend in with their surroundings and protect them from predators (e.g. screech owl, Mediterranean octopus, Goldenrod crab spider, leopard, mountain hare)
How do changes in the environment pose dangers to living things?	Changes to the environment can be natural or caused by humans. Changes to an environment can have positive as well as negative effects. Children should be able to identify that humans can cause changes to environments. This could include building housing developments in fields, pollution, deforestation etc.). They should be able to name some dangers this poses for living things. Plants and animals rely on the environment to give them everything they need (to breathe, grow, eat, have babies, move, sense and go to the toilet). *Examples:* • Trees – torn down • Less producers (green plants) = less food for prey • Increased/decreased rainfall and floods/droughts can drown animals that can't swim or prevent animals from drinking water/growing plants • Temperature changes (seasons) – some animals might need to migrate or hibernate **Natural dangers:** earthquakes, storms, floods, droughts, wildfires, the seasons **Human-made dangers:** deforestation, pollution, urbanisation, the introduction of a new animal/plant species		

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Types of enquiry you could cover in this topic about classification	
	
	• How does the [animal's] habitat change throughout the year? • Are there more living things by our pond or the village pond?
	• What is similar about amphibians? Fish? Reptiles? Mammals?
	• Do all animals have the same hearing range? • Why are people cutting down the rainforests and what effect does that have?
	• Can we use classification keys to identify all the animals that we caught pond dipping? • How can these flowers be grouped? • How can these animals be grouped?

Book/writing links
BOOKS • The Hodgeheg by Dick King Smith
EXPLANATIONS • Explain how humans damage the environment from the point of view of a hedgehog.
PERSUASION • Persuade humans to take more care of the environment from the point of view of a hedgehog. • Letter to the local MP about planting more trees, saving hedges, planting more wildflowers for bees etc.