Science Knowledge Organisers

| Science Focus	Living Things & Their Habitats	Year 6	Summer 1

Key Knowledge

How can animals be grouped?	Animals can be grouped into one of two categories: vertebrates and invertebrates
How can vertebrates be grouped?	There are 5 ways vertebrates can be grouped: Fish, Amphibians, Reptiles, Birds & Mammals
What are the key characteristics of a fish?	Fish breathe with gills; lay eggs in water; has fins and scales; body temperature changes.
What are the key characteristics of an Amphibian?	Amphibians are born with gills but then develops lungs; lays eggs in water; has damp skin; body temperature changes.
What are the key characteristics of a Reptile?	Reptiles breathe with lungs; lay eggs on land; has dry scaly skin; body temperature changes.
What are the key characteristics of a Bird?	Birds breathe with lungs; lays eggs with hard shells; has feathers; has a steady body temperature.
What are the key characteristics of a Mammal?	Mammals breathe with lungs; gives birth to live babies; has body hair or fur; has a steady body temperature; feeds babies milk.
How can invertebrates be grouped?	There are 3 ways to group invertebrates: Insects: 3 body sections and 6 legs; Arachnids: 2 body sections and 8 legs; and Molluscs: slimy foot and often have a shell.
What are the key features to distinguish between animals?	• Invertebrate or Vertebrate • Mammal/ Reptile/ Fish/ Amphibian/ Bird • Colour • Length • Number of legs • Number of body segments • Distinguishing features • Habitat
What are the key features to distinguish between plants?	• Flowering or non-flowering • Grass/ Cereal/ garden shrub/ deciduous/ algae/ coniferous/ fern • Colour • Height • Number of flowers • Fruit bearing or not • Distinguishing features • Usual location
Who is Carl Linnaeus?	Carl Linnaeus is a key scientist in the field of taxonomy and classification. He was born in Sweden on 23rd May 1707. Linnaeus is famous for developing the first system to classify animals effectively.

Possible Experiences

¤ Locate a range of habitats on the school site.
¤ Compare with animals from different habitats locally,
in other areas in the UK and abroad.
¤ What is the rarest animal on the school site?
¤ Design charts and lead another year group on a bug hunt using these charts to classify.

Key Vocabulary

Classification	Grouping something using its features
Taxonomy	The field of science focused on classification
Distinguish	Recognise a difference.
vertebrate	Any animal with a backbone.
Invertebrate	Any animal without a backbone.
Micro-organism	A microscopic organism, especially a bacterium, virus or fungus.
Kingdoms	The highest classification into which living organisms are grouped.
Annelids	Have no limbs and their body is divided into segments e.g. worm.
echinoderms	Cold blooded marine creatures with arms or spines. The central body contains their organs and mouth e.g. starfish.
Exoskeleton	An external skeleton
Endoskeleton	An internal skeleton
Interdependent	Organisms that are dependent on one another. So, when a habitat changes, the plants and animals are all affected up the food chain. For example, when there is little rain, pond weeds die and the fish that rely on them for food find it hard to survive. This in turn affects the birds that feed on the fish, etc.
gamete	A mature haploid male or female germ cell which is able to unite with another of the opposite sex.
Sexual reproduction	Where genetic material from two individuals of opposite sexes mixes to create offspring. It involves the fusion of male and female gametes in a process called fertilisation.
Asexual reproduction	Produces individuals that are genetically identical to the parent. This does not involve the fusion of gametes or change in the number of chromosomes

Diagrams and Symbols

Pond Invertebrate Key
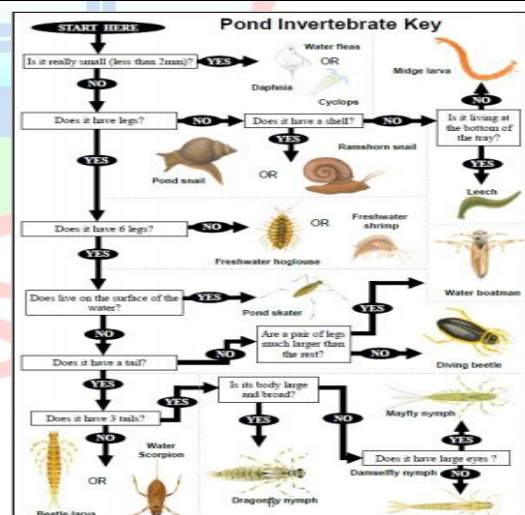
Greater Depth Thinking

Can I create my own classification grid to group some of the Earth's most obscure creatures?

Explain how living things can be interdependent on other living things and how removing a living thing from a habitat impacts on life in that habitat.