Knowledge Organiser

Subject: Science Unit: Living things and their habitats – part 2

Overview:

During this sequence of learning, pupils will be looking at how living things are classified into broad groups according to their characteristics and give reasons for classifying plants and animals.

What should I already know?

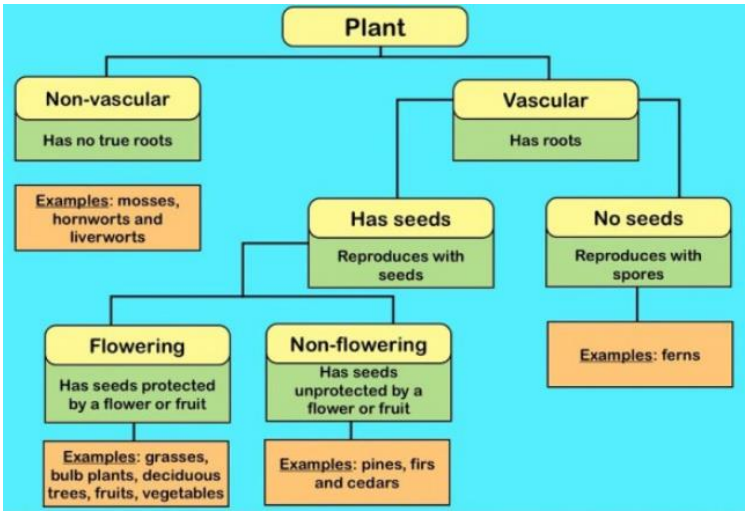
Animal classification

- Animals can be grouped based on their physical characteristics (e.g. vertebrates and invertebrates) and based on their behaviour (e.g. herbivores, carnivores and omnivores).
- Living things are divided into kingdoms: the animal kingdom, plants, fungi, bacteria, and single-celled organisms.
- A species is a group of living things that have many similarities and can reproduce together to produce offspring.
- A classification key uses questions to sort and identify different living things (see example below).
- How to use a classification key to identify living things.
- How to create a classification key to sort plants on the school premises.

What will I know by the end of the unit?

Classification

- Living things are classified into groups which include micro-organisms, plants on animals.
- The groups are based on similar characteristics.
- Classification keys can be used to group different plants together e.g.



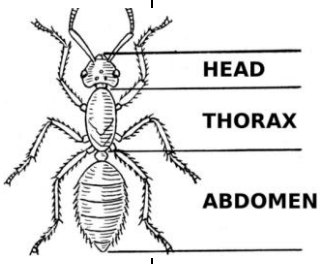
- Scientists believe that there are as many as 10million species on Earth. Scientists sort and group them depending on their characteristics. Carolus Linnaeus is a scientist that is still remembered today, due to his system of classification for living things.

Arthoropods

- An arthoropod is an invertebrate with a hard, external skeleton and jointed limbs.

Vocabulary:

micro-organism	A microscopic organism that can only been seen with a microscope e.g. bacteria or virus.
virus	A type of germ that is extremely small and can make you ill if they get inside your body.
thorax	The middle of the three main sections of an insect.
arthropod	An invertebrate with a hard, external skeleton and jointed legs.
abdomen	The lowest part of the sections of an insect.

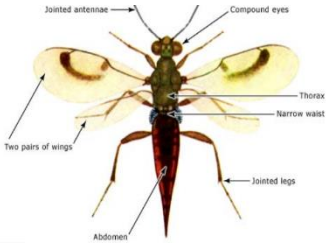


arachnid	An animal that has eight legs and a body formed of two parts.
antenna	The long, thin sensory body parts on the head of insects and other animals. These are used to feel and smell.
jointed limbs	A jointed limb has one or more points along it where the limb is able to flex or bend.

- Insects are a type of arthropod; their bodies consist of six legs, a head, a thorax and an abdomen; most insects also have a pair of antennae and a pair of wings.
- An arachnid (e.g. spider) is a type of arthropod with eight legs and no antennae or wings.
- A crustacean is a type of arthropod with two pairs of antennae (e.g. woodlouse).
- A myriapod is an arthropod with a flat and long or cylindrical body and many legs (e.g. centipede)

Micro-organisms

- There are three types of micro-organism: viruses, fungi and bacteria.
- Of these three, viruses are often not really considered to be alive by many scientists mainly because they don't have the 'machinery' to reproduce inside them.



- Micro-organisms are invisible to the naked eye meaning you need a microscope to be able to see them. They are all around us everywhere and are mostly useful, although some are harmful.
- Germs are disease-causing bacteria.

Plants

- All plants are included within one kingdom which is then broken down into smaller divisions based on several characteristics.