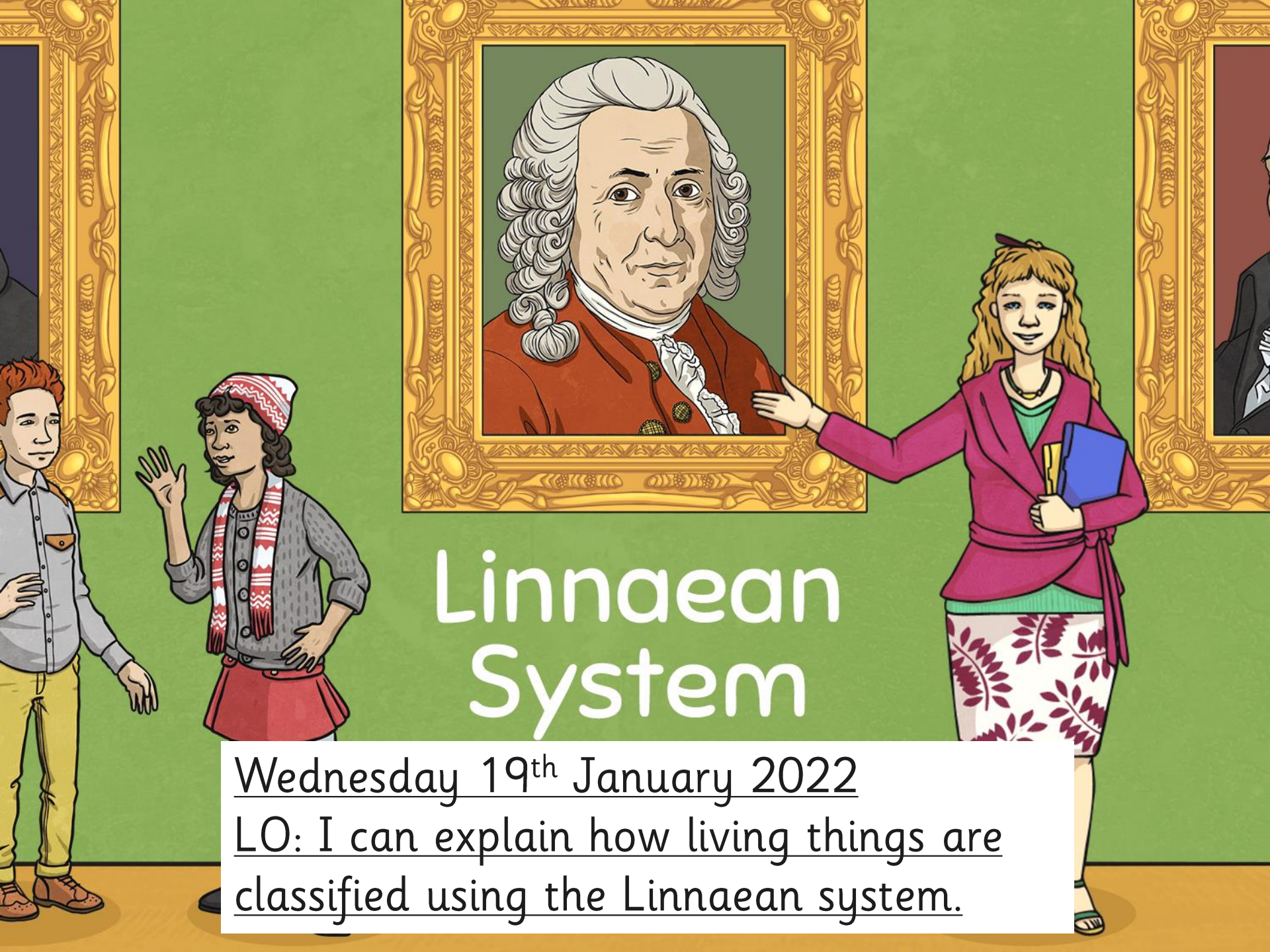


Linnaean System

Wednesday 19th January 2022

LO: I can explain how living things are classified using the Linnaean system.

A Standard System

In the previous lesson you classified animals by sorting and grouping them based on their similarities and differences. Did everyone in the class sort and group the animals in the same way?

Talk to your partner about how you sorted the animals.

A standard system is useful because it allows scientists to accurately identify, group and properly name animals.

Without a standard system, living things could be classified differently by different scientists.

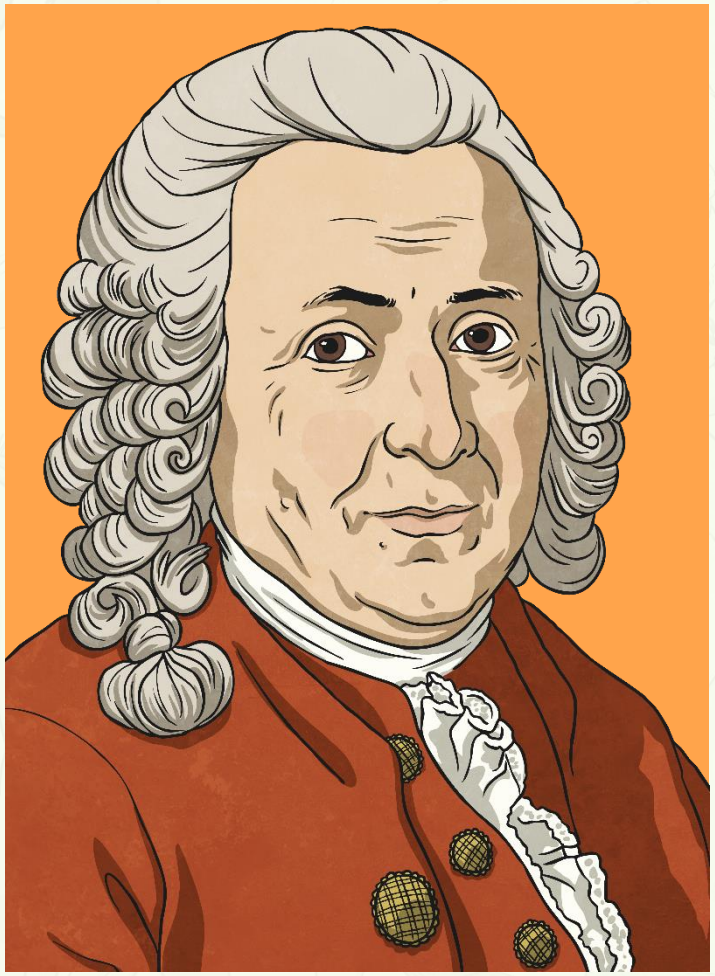
Talk to your partner about why this would be important.

Who Was Carl Linnaeus?

Carl Linnaeus was a Swedish scientist who believed it was very important to have a standard system of classification. At the time he was alive, in the 1700s, there was no agreed standard method.

Linnaeus collected and examined over 40,000 specimens of plants, animals and shells. In 1735, he published his first edition of 'Systema Naturae', which described his system for classifying living things.

Over the next several years, Linnaeus continued to publish new editions of 'Systema Naturae' that included more species of living things. His tenth edition was published in 1758 and is considered to be the most important edition.



The Linnaean System

Linnaeus' original system of classification classified everything in nature into a hierarchy.

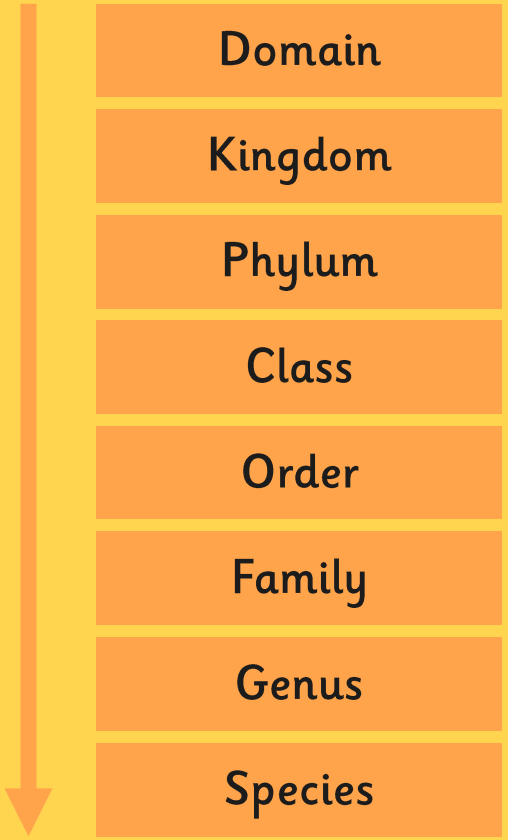
He proposed that there were three large groups, called kingdoms, into which the whole of nature could fit. These kingdoms were plants, animals and minerals. He then split each kingdom into smaller and smaller groups, or levels.

Today, the Linnaean system is only used to classify living things, so it does not include minerals. Furthermore, as new living things have been discovered, scientists have had to add additional levels in the hierarchy. A new level above kingdom, called domain, has also been introduced.

The Linnaean System

This diagram shows the levels of classification in the Linnaean system.

Living things can be classified by following the levels in this system. The number of living things in each group gets smaller and smaller, until there will just be one type of animal in the species group.



The Linnaean System

There are 3 domains: Archaea, Bacteria and Eukarya. Plants and animals are all eukaryotes.

There are 6 kingdoms, including animals, plants, fungi and bacteria.

The 6 kingdoms are then split into phyla. There are more than 30 phyla in the animal kingdom. Phylum chordata includes all vertebrates.

Each phyla is divided into classes. The chordata phylum includes amphibians, birds, mammals, reptiles and fish.

The order and the family divide into further groups.

The genus includes species that are very closely related and share unique body structures.

A species is defined as a group of animals that can reproduce to produce fertile offspring.

Classifying Species

Here you can see how a species can be classified at each level of the standard system.

Domain: Eukarya	jackal, clownfish, cat, dog, ladybird, daisy, rabbit, fox, human
Kingdom: Animals	jackal, clownfish, cat, dog, ladybird, rabbit, fox, human
Phylum: Chordata	jackal, clownfish, cat, dog, rabbit, fox, human
Class: Mammals	jackal, cat, dog, rabbit, fox, human
Order: Carnivora	jackal, cat, dog, fox
Family: Canidae	jackal, dog, fox
Genus: *Canis*	jackal, dog
Species: *Lupus*	dog

Classifying Species

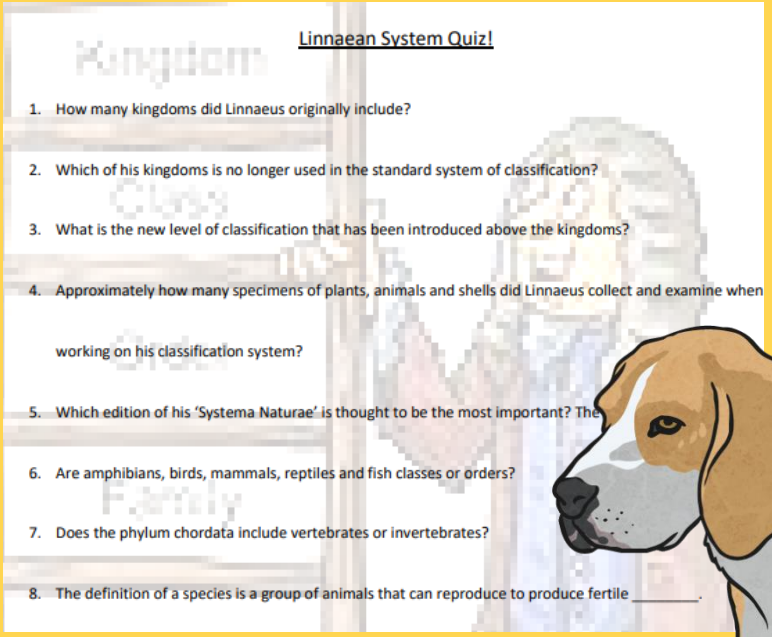
Genus: *Canis*	jackal, dog
Species: *Lupus*	dog

The genus and species are always written in italics. The names of the genus and species are used to give the scientific name (recognised Latin name) of each living thing.

So the scientific name for a dog is Canis lupus.

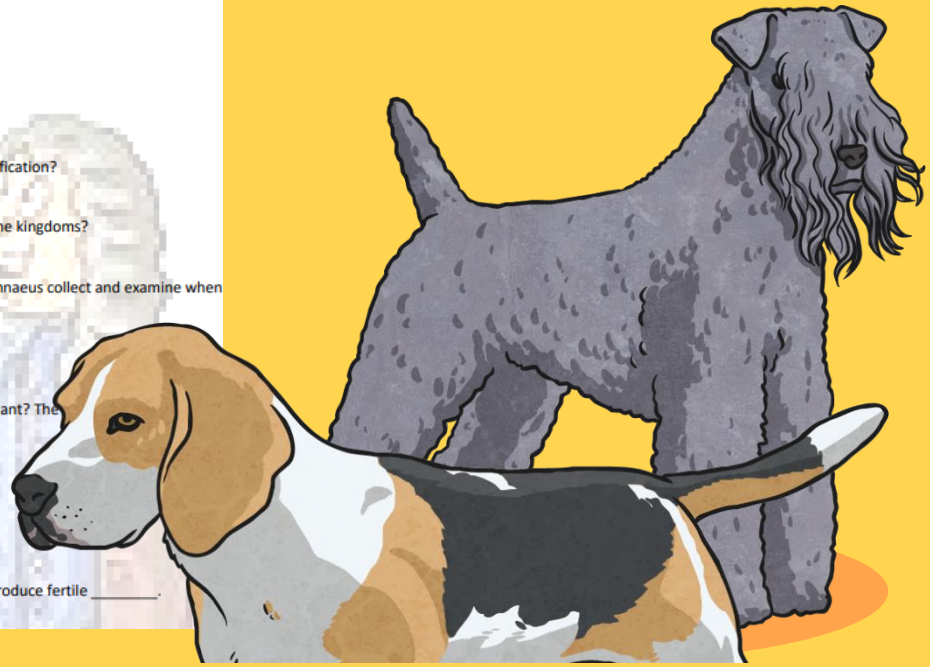
Quiz Time!

How much have you retained? Complete the quiz with you partner.



Linnaean System Quiz!

1. How many kingdoms did Linnaeus originally include?
2. Which of his kingdoms is no longer used in the standard system of classification?
3. What is the new level of classification that has been introduced above the kingdoms?
4. Approximately how many specimens of plants, animals and shells did Linnaeus collect and examine when working on his classification system?
5. Which edition of his 'Systema Naturae' is thought to be the most important? The
6. Are amphibians, birds, mammals, reptiles and fish classes or orders?
7. Does the phylum chordata include vertebrates or invertebrates?
8. The definition of a species is a group of animals that can reproduce to produce fertile _____.



Quiz Time! Answers

1. How many kingdoms did Linnaeus originally include? **Three**

2. Which of his kingdoms is no longer used in the standard system of classification? **Minerals**

3. What is the new level of classification that has been introduced above the kingdoms? **Domain**

4. Approximately how many specimens of plants, animals and shells did Linnaeus collect and examine when working on his classification system? **40,000**

5. Which edition of his 'Systema Naturae' is thought to be the most important? **The tenth edition**

6. Are amphibians, birds, mammals, reptiles and fish classes or orders? **Classes**

7. Does the phylum chordata include vertebrates or invertebrates? **Vertebrates**

8. The definition of a species is a group of animals that can reproduce to produce fertile _____. **Offspring**

Classifying Species Activity Worksheet

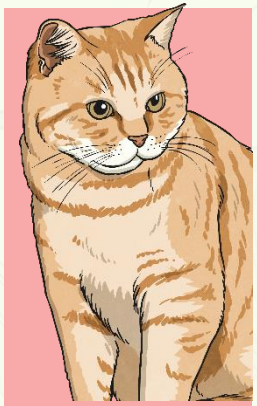
Choose another living thing from the list and follow the levels of the classification system to classify it. Complete your Classifying Species Activity Sheet to show how it fits into each level of the standard system.

Use the genus and the species to give the scientific name of the species.

You will need to use books or the Internet to research the animal and find the information you need.

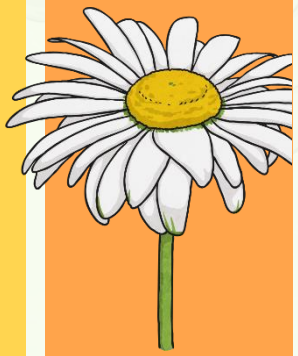
jackal

clownfish



cat

ladybird



daisy

rabbit

fox

human

Invent a Mnemonic

The levels of the classification system can be tricky to remember. Work with your partner to invent a mnemonic to help you!

The letters you need to use are:

D	K	P	C	O	F	G	S
Domain	Kingdom	Phylum	Class	Order	Family	Genus	Species

An example mnemonic could be:

Does Keep Precious Creatures Organised For Grumpy Scientists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