

URBAN NATURE CHALLENGE



Natureal Treasures

Objectives:

- Discover the scientific theories of Carl Linnaeus
- Draw your own scientific illustration
- Go on a plant identifying treasure hunt in the park

Carl Linnaeus is one of the giants of natural science. He devised the formal two-part naming system we use to classify all lifeforms. This is called taxonomy.

A well-known example of his two-part system is the dinosaur *Tyrannosaurus rex*; another is our own species *Homo sapiens*.

If you don't have access to a computer make sure you have a piece of paper and pen so you can write your answers down as you go through the worksheet.

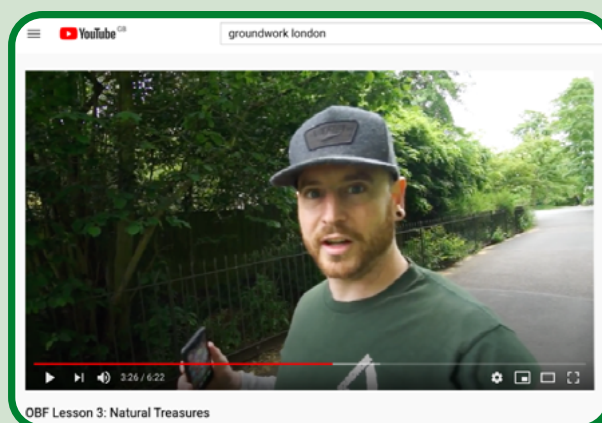
Before you start there is 1 important thing you need to do:

1. Fill out this questionnaire: <https://tinyurl.com/y8ssja8r>

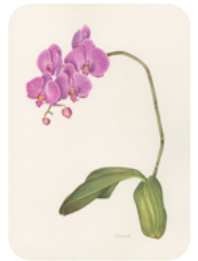
Watch me - Challenge 3

To get you inspired and thinking more about plant identification, we set our Groundwork gardener Ben a lockdown nature challenge.

Watch this video to find out what he got up to: www.youtube.com/watch?v=TecFKCbJoj8



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Task 1

Watch this video to find out more about taxonomy:

www.youtube.com/watch?v=XbFEde2Bb6k

Complete the words below to include all the categories used in taxonomy.

D

K

P

C

O

F

G

S



When Carl Von Linné went to university he decided to give himself a Latin name- his new name was "Carolus Linnaeus".

What would your Latin name be?

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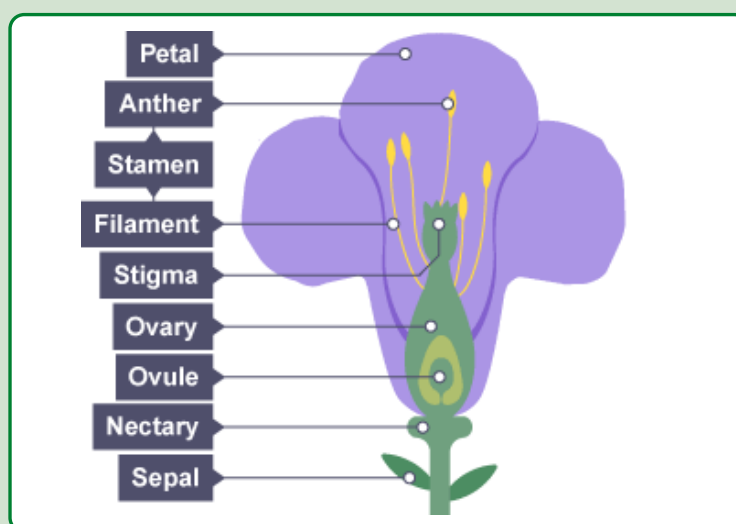


Task 2

Carl Linnaeus developed a system for classifying plants based on the flowers reproductive parts. This was a very simple way of grouping plants with similar features.

For example, if scientists were trying to discover what other animals humans were related to – and they can see that humans have a nose – they might trace back all other animals that also have a nose. They would then assume that you were all related (because you all had noses).

Here is a diagram of a plant's reproductive system.



Looking at the diagram above, fill out the word that corresponds with each of the plant's functions.

Structure

Function

Sepal

Protect the unopened flower

May be brightly coloured to attract insects

The male parts of the flower (each consists of an anther held up on a filament)

Produces male sex cells (pollen grains)

The top of the female part of the flower which collects pollen grains

Produces the female sex cells (contained in the ovules)

Produces a sugary solution called nectar, which attracts insects

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Task 3

Carl Linnaeus was only able to devise his system of taxonomy after spending many months carefully observing plants. He created many journals filled with detailed notes.

Writing observations down is an important art of the scientific process, but observations can also be recorded as detailed drawings.

The Natural History Museum holds all of the surviving botanical artwork from Captain James Cook's first Pacific voyage. Have a look at the collection here for some inspiration:

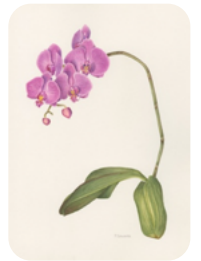
www.nhm.ac.uk/discover/endeavour

Now go outside and find a leaf – this can be from a tree or bush in your garden or just on your street.

Once you have selected a leaf, have a go at making your own detailed scientific drawing. You will need a pen or pencil and a piece of paper. Try to make your drawing as detailed as possible.



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Task 4

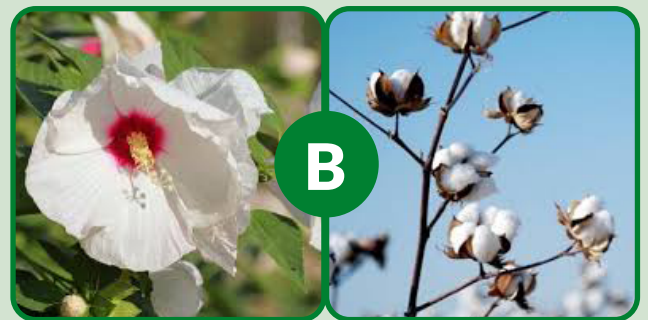
Linnaeus thought very highly of himself. He once even said:

"No one has been a greater botanist or zoologist. No one has written more books, more correctly, more methodically, from personal experience. No one has more completely changed a whole science and started a new epoch."

BUT as science has progressed and improved, we have realised that some of his ideas were actually incorrect! Grouping plants based on similar reproductive features fails to capture many biological connections.

Scientists now use DNA analysis to reveal groupings of plants that aren't visually obvious.

Looking at the images below, which one do you think shows plants that are not the same plant family?



Answer: D is the odd one out. Aubergines and cabbages are not in the same plant family.

A-Carrots and eryngium are in the celery family

B-Cotton and hibiscus are in the mallow family

C-Potatoes and petunias are in the potato family

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Task 6

Now that you've learnt the basics of taxonomy and identification it's time for you to give it a go yourself!

Competition Alert!

Take a nature photo during your time outside and send it to your teacher. All photos will be judged by a panel at Groundwork London and the best three photographs will receive a **£20 prize voucher!**

To get started, you'll need to download the "Seek" by iNaturalist app on your phone. You can do this through the app store. If you don't have a smartphone ask an adult if you can use their phone.

This is what the app looks like:

Once the app has downloaded go ahead and open it. You will be asked if you would like to make an account but click on the bottom option to continue as a guest.

Now you are ready to go!



- Use your daily exercise time to walk to a local park or green space. Check current government guidelines to make sure your daily exercise is allowed.
- Take your phone with you, and when you are on your walk use the camera function in the app to **photograph and identify five different species of plants.**
- When you're back home use the information on the app to write down the name of the five species that you identified. For a bonus mark write down the family name too!

Species

Family Name

1

2

3

4

5

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YOU RESIGHTED A SPECIES!

Painter's-palette

You first observed it on:
Apr 22, 2020

VIEW SPECIES

[Back to Camera](#)

TAXONOMY

- Kingdom Plantae
 - Plants
- Phylum Tracheophyta
 - Vascular Plants
- Class Magnoliopsida
 - Dicots
- Order Ranunculales
 - Buttercups, Poppies, And Allies
- Family Ranunculaceae
 - Buttercup Family
- Genus Ficaria
 - Ficaria
- Ficaria verna**
 - Lesser Celandine

INATURALIST OBSERVATIONS

Before you go there is 1 important thing you need to do:

1. Fill out this questionnaire:
<https://tinyurl.com/yb2r7fnb>

Now that you have finished this worksheet please SAVE it and send it back to your teacher.