Date:

L.O: I can complete an investigation to further my knowledge of the theory of evolution.

Recap

Can you remember what these words mean?
Explain what they mean to your partner.

Adaptation

Natural selection

Evolution

2

Recap

Can you remember what these words mean?

Explain what they mean to your partner.

Adaptation

When a plant or animal has changed in some way, usually over a long period of time, to be better suited to the environment in which they live.

Natural selection

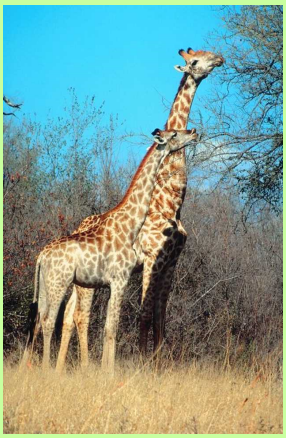
When the fittest, most adapted organisms survive and multiply whilst the least adapted die out.

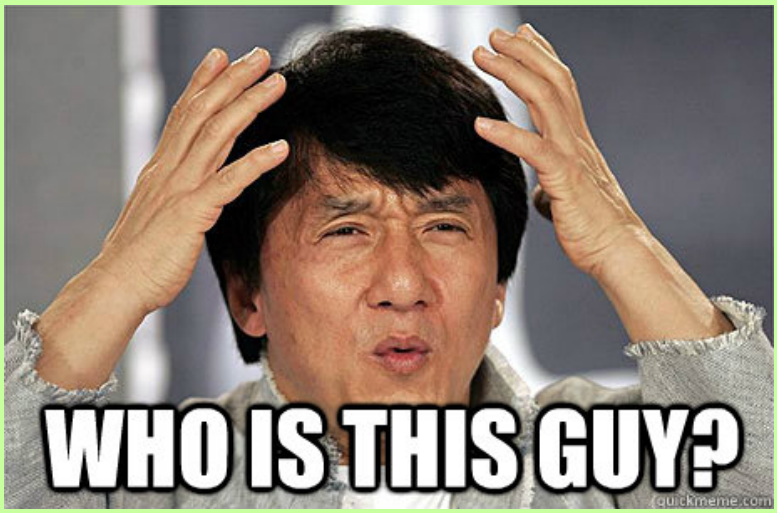
Evolution

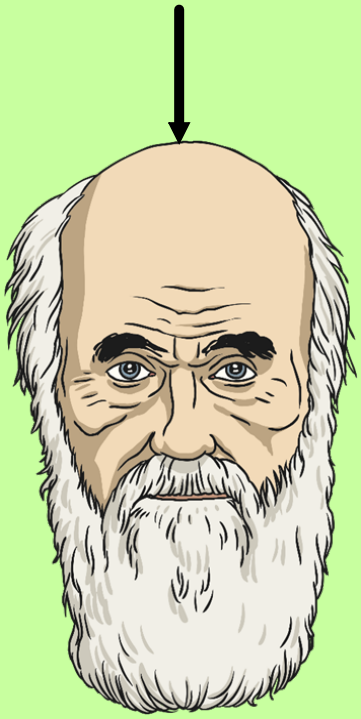
The theory that all the kinds of living things that exist today developed from earlier types.

In our last lesson we looked at the theory of evolution and how the most well-adapted animal/plants survive and the rest die out.

Discuss with your partner how this applies to the giraffe, moths and flowers below, and then feedback.




WHO IS THIS GUY?
quickmeme.com



Charles Darwin

When Darwin was younger, he went on a research voyage to the Galapagos Islands. When he was there, he studied a particular type of bird called a finch. It is believed by scientists that some finches were blown over from the mainland to the islands many years ago. The distance between the islands was too far for the birds to travel so they lived and multiplied on different islands.

Each island had different seeds available for the finches to eat. Darwin observed that the finches were identical to each other and to those on the mainland except that they had adapted their beaks to be able to eat the food available on their island. This adaptation happened over many years. Darwin believed the finches had evolved.

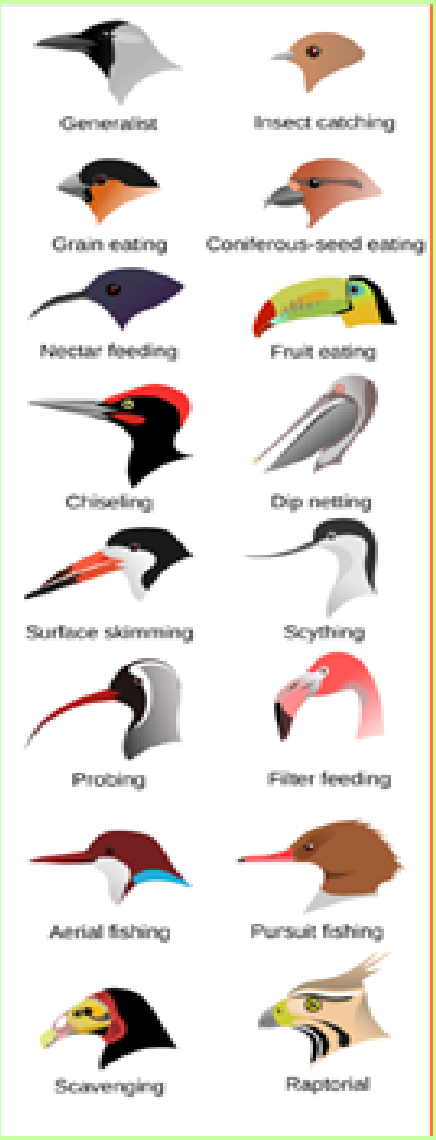
BATTLE OF THE BEAKS

In any habitat, food is limited and the types of foods available can vary. Animals with variations allowing them to take advantage of available foods will be more likely to survive. We call beneficial inherited variations *adaptations*. Animals with the most helpful adaptations will be the most likely to live long enough to pass their genes on to the next generation.

In this activity you will simulate bird feeding by using a beak to collect food and place it into a stomach. There are four different beak shapes and a range of different food types to choose from.

This activity will allow you to explore the wide variety of beak types that can be seen within the bird population, as well as developing an understanding of the way in which beak shape is related to the available food sources within an environment.

BATTLE OF THE BEAKS



You should select one of either a spoon, tweezers, clothes peg or scissors plus a plastic cup, then sit quietly in a large circle. You are now birds. Your chosen implement is your beak, and the plastic cup is your stomach. The beak must be held in one hand and the stomach should be placed on the floor. The stomach must remain upright at all times, and you can only put food into it using your beak.

Some food items (paperclips, rubber bands, marbles, etc.) will be placed in the feeding area, and spread out evenly among the birds. When the teacher says 'go' you are to use your beak to collect as much food as you can, and place it in your stomach. You will be given 1–2 minutes to feed. You have until the teacher says 'stop'. At this point you should stop feeding and count the items in your stomach, then return the items to the teacher and record the total on the next sheet.

Battle of the Beaks (write into your books.)

Planning

Aim (what are you trying to find out?)

I am going to investigate...

Equipment

I will be using these items in my experiment:

-

Variable(s) **to change** – Independent Variable	Variable(s) **to measure** – Dependent Variable	Variable(s) **to keep the same** – Control Variable

Fair test

To make sure my investigation is a fair test, we will make sure...

Individual results:

Write your beak type in the box. During the experiment, fill in the quantity of each food item that you were able to collect.

Food type

Beak type	Paper clips	Rubber bands	Toothpicks	Macaroni	Marbles	Mini-marshmallows

Class results:

Calculate the average number of each food item collected by each beak type during your experiment, and fill in the table below. Use your data to create a graph showing the results of your experiment.

Food type

Beak type	Paper clips	Rubber bands	Toothpicks	Macaroni	Marbles	Mini-marshmallows
Scissors						
Spoons						
Tweezers						
Binder clips						