LEARNING with LONGLEAT

Safari Tour
Adaptation

BIRD BEAKS

Curriculum links:

This resource can be used to either introduce or to cover adaptation at either **KS3** or **KS4**.
It may be useful to introduce this topic/scheme of work prior to your visit and that students are familiar with the term adaptation. You may use this resource in the park to expose your students to adaptations, prior to teaching the topic, with follow up in the classroom after your visit.

This resource can be used during the safari and the focus is on the birds that you will encounter during your tour. While we hope you and your students will be able to see all six safari birds, the worksheet includes small photos. Larger images are also included for display in the classroom/incorporation in power point presentations.

In order to maximise this activity it may be beneficial for students to select which bird's beak they are planning on replicating and research this beak/bird further in advance of being given the challenge.

During the safari

During the safari your coach will stop at several large aviaries. Your student should complete the questions/table based on their observations (using images if required). On your journey around the drive-through safari, you will come across several different types of bird. Each species will have differences including their beak. Based on observations students should complete the table/questions during your safari with as much information as possible (this information can be used upon return to school).

Following your visit

It may be advisable to ask your students to complete the final column/last questions after the safari. These questions are more in-depth and students may benefit from some additional thinking time, prior to completing these questions. Alternatively you may wish to set this as a homework or starter activity for the next lesson.

Activity 1A – Safari table

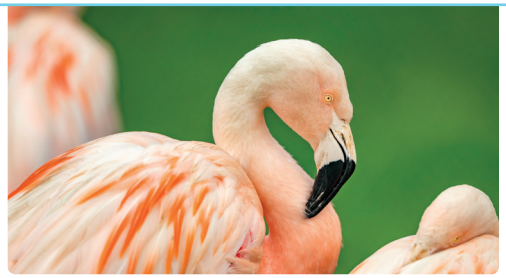
Name

Description / drawing of beak

Suggest why you think this beak may be useful?

What food do you think these birds eat?

Where do they source their food?



Name

Description / drawing of beak

Suggest why you think this beak may be useful?

What food do you think these birds eat?

Where do they source their food?

Name

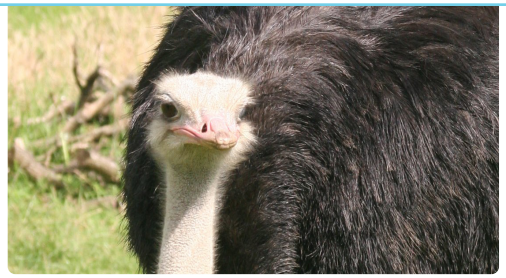
Description / drawing of beak

Suggest why you think this beak may be useful?

What food do you think these birds eat?

Where do they source their food?

Activity 1A – Safari table



Name

Description / drawing of beak

Suggest why you think this beak may be useful?

What food do you think these birds eat?

Where do they source their food?

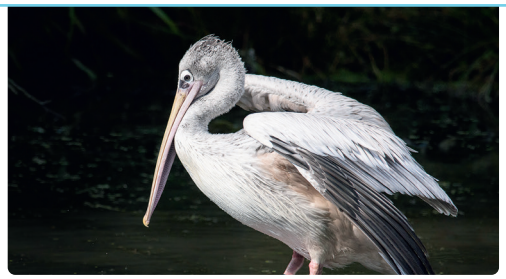
Name

Description / drawing of beak

Suggest why you think this beak may be useful?

What food do you think these birds eat?

Where do they source their food?



Name

Description / drawing of beak

Suggest why you think this beak may be useful?

What food do you think these birds eat?

Where do they source their food?

Activity 1B – Safari worksheet

Name:

Description / drawing of beak

Suggest why you think this beak may be useful?

What food do you think these birds eat?

Where do you think these birds will source (find) their food?

Name:

Description / drawing of beak

Suggest why you think this beak may be useful?

What food do you think these birds eat?

Where do you think these birds will source (find) their food?

Activity 1B – Safari worksheet

Name:

Description / drawing of beak

Suggest why you think this beak may be useful?

What food do you think these birds eat?

Where do you think these birds will source (find) their food?

Name:

Description / drawing of beak

Suggest why you think this beak may be useful?

What food do you think these birds eat?

Where do you think these birds will source (find) their food?

Activity 1B – Safari worksheet

Name:

Description / drawing of beak

Suggest why you think this beak may be useful?

What food do you think these birds eat?

Where do you think these birds will source (find) their food?

Name:

Description / drawing of beak

Suggest why you think this beak may be useful?

What food do you think these birds eat?

Where do you think these birds will source (find) their food?

BEAK CHALLENGE

Student challenge

To replicate the beak of one of the birds; you can choose any of the four birds and will have a set time to choose, design and make your replica beak using equipment provided. You will then test your beak to find out which is the best equipped to allow the bird to feed in different environments.

Learning objectives

- To know that bird beaks are adapted to suit different feeding environments.

Teachers' notes

Students will use the information they collected during the visit to replicate one of the birds beaks. Students could select which beak they are going to replicate or model, alternatively this could be allocated to ensure a more even spread of beak types. It may be beneficial for pupils to work in pairs to complete this activity. The beaks created can then be tested by recreating different feeding environments in the classroom, allowing pupils to decide which beak is best suited to feeding in that environment. These could be set up around the room and pupils given four minutes at each feeding environment to collect as much food as possible, before recording the data and moving to the next feeding environment. It may be advisable to display an example table for the students to use as a guide.

If it is not possible to recreate feeding environments, stations could be set up around the classroom to represent the different feeding environments. Students could navigate around the feeding environments and decide which beak would be best for feeding in that location.

Following your visit

Starter

Revisiting worksheet/table if pupils have not completed extended answer questions.

Main

1. Creating models of beaks/choosing equipment to replicate each beak type.
2. Beak feeding environment activity. If feeding environments are not being modelled main activity will be deciding on which beak type would be most suitable for each feeding location.
3. Summary – which most effective and why, sample group to ascertain who picked up the most food, whole class to suggest why that beak was the most effective.
4. Ext – how have variations in birds beaks developed?

Activity 2 – Beak challenge *(continued)*

Plenary

Why do birds beaks vary? Could be an extended levelled question or past paper question if applicable, dependent on ability or level of the group/time allocated.

Suggested equipment for recreating beaks:

- Splits/lolly sticks, plastic bags, mesh/muslin, craft wire, plastic spoons, straws

Alternatively beaks could be modelled using the following:

- Pelican: small sieve/funnel with filter paper
- Vultures: needle nose tweezers
- Ibis: plastic/long tweezers
- Spoonbill: Two spoons stacked with blue tack in-between to act as a pivot.
- Flamingo: sieve or something similar to replicate filter feeding (ideally smaller than pelican)
- Ostrich: small flat tongs/test tube holder

Suggested feeding environments:

Note: These are suggestions and you may think of more appropriate ways to recreate feeding environments. It is important to stress to pupils with these are recreated environments and may not represent the food that the birds would normally consume.

1. Large open water, food source mainly fish. This can be recreated using a tank/trough filled with water containing objects to replicate fish.
2. Shallow water, small invertebrates/crustacean/fish. This could be recreated using a shallow tray with smaller objects (rice, seeds – some may sink and others may float) and a few larger objects to represent small fish.
3. Foraging – tray containing various sized seeds/nuts. Items could be placed under foliage.
4. Soil – tray containing sand/soil with buried seeds/nuts/strawberry shoelaces to represent worms.
5. Mud/silt mixed with water (replicate separation ability of flamingos) again containing various small seed to represent shrimp/plankton/algae.
6. Cotton wool stuck to card – replicate tearing meat.
7. Straw/turf.

KS4

- How would changes in habitat/food source impact on birds?
- Would this cause changes in bird population over time?
- How would any changes come about?
- Evolution link, mention Darwin and finches.

Activity – Bird beaks

Activity – Bird beaks

Activity – Bird beaks


LONGLEAT