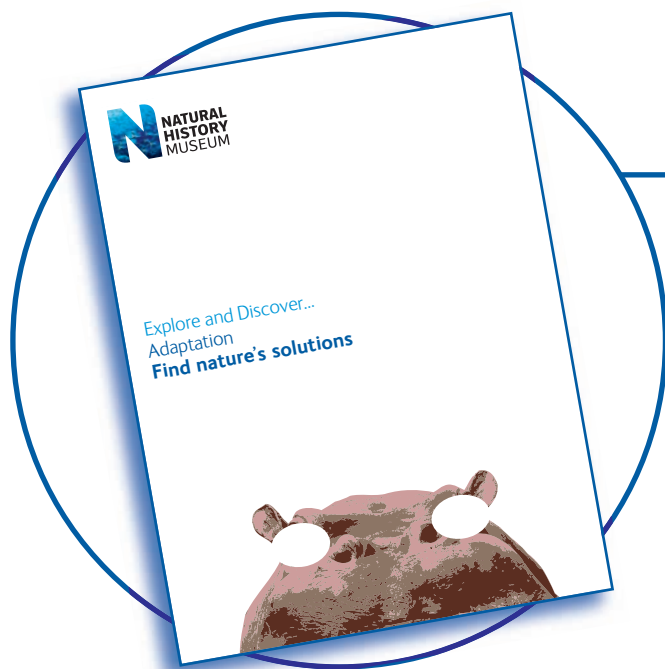




Look at a range of different birds and other animals to see how their bodies are adapted to suit their way of life.

|                                                           |                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Galleries visited</b><br>(please see accompanying map) |  Birds  Mammals (blue whale)                                                                                                                                                      |
| <b>Suitable for</b>                                       |  Key Stage 2 (ages seven to 11)                                                                                                                                                                                                                                      |
| <b>Curriculum links</b>                                   | QCA Science Unit 4B: Habitats (Section 3)<br>QCA Science Unit 6A Interdependence & Adaptation<br>NC Science: Life Processes & Living Things 5b                                                                                                                                                                                                          |
| <b>Example page</b>                                       | <a href="http://www.nhm.ac.uk/adaptation-ks2">www.nhm.ac.uk/adaptation-ks2</a>                                                                                                                                                                                                                                                                          |
| <b>Pre-visit preparation</b>                              | <ul style="list-style-type: none"> <li>• Vocabulary: adaptation, adapted, camouflage.</li> <li>• An understanding of why animals need to be adapted in order to survive. This may be a body part adapted to a certain way of feeding, for example beak or claws or sharp teeth, or it could be through a certain colouration for camouflage.</li> </ul> |

# Explore and Discover...

## Adaptation

### Find nature's solutions

#### Activities within the guide

The children will be asked to complete six challenges:

|                                                                                     | Challenge                        | Location                                                                            | Description                                                      |
|-------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------|
|    | 1. Beak challenge                |    | Using a bird's beak to give clues about diet                     |
|    | 2. Body bits challenge           |    | How a bird's body can tell us about their way of life            |
|    | 3. Star challenge: mix 'n' match |    | Create a bird adapted to a certain way of life                   |
|  | 4. Hippo challenge               |  | Explore how a hippo is adapted to its way of life                |
|  | 5. TV programme challenge        |  | Find a range of adaptations to be featured on a new TV programme |
|  | 6. Wonderful whales challenge    |  | Discover how whales are adapted to their life in the sea         |

These can be done in any order within the two galleries. Depending on how many challenges the children complete, they can reach these levels:

- researcher (two challenges completed)
- scientist (four challenges completed)
- professor (six challenges completed)

#### Certificates

On return to school, certificates (available at the end of this document) can be printed out and awarded, depending on the number of challenges completed.

# Explore and Discover...

## Adaptation

### Find nature's solutions

#### Techniques

There are a range of techniques used within the guide. To complete the challenge, children will be required to:

- make choices based on observation
- write short answers
- choose appropriate descriptive vocabulary
- make decisions about an animal's diet based on physical features
- make sketches
- discuss answers with a partner
- extract information from exhibits and their information boards
- use the galleries to find examples of certain adaptations

#### Follow-up activities

- **Award ceremony**

Print out certificates and have an award ceremony.

- **Literacy: Speaking & Listening**

Discuss the experiences had at the Museum and the challenges that were undertaken.

- **Literacy**

Write an advert, aimed at a particular animal, that lists the adaptations they would need to live and survive in a certain environment.

**Example: advert for frog**

Amphibian companion required for lonely newt. Must be able to swim long distances. Webbed feet an advantage. No sharp talons or teeth needed as diet is soft and easily caught.

- **ICT/Literacy**

Look at the information gathered for the hippo challenge. Create your own poster for an animal of your choice, showing how well it is adapted to its way of life.

# Explore and Discover...

## Adaptation

### Find nature's solutions

#### Suggested answers for challenges



##### Beak challenge

**Question 2:** Possible answers for the first beak include any vulture or eagle. Falcon is also an acceptable answer. The second beak is from a hummingbird.

**Question 3:** Answers will vary depending on what beak the child has chosen.

**Question 4:** The beak on the left is from a dodo (this is special as it is extinct). The beak on the right belongs to a common spoonbill.



##### Body bits challenge

**Question 2:** Various answers are possible, but may include:

- harpy feet – adapted for grasping tree branches, grabbing prey, clawing prey
- harpy beak – adapted for grasping prey, tearing prey or meat, grabbing
- penguin beak – adapted for grabbing fish, holding fish, catching fish
- feathers – (described as) short, fluffy, fuzzy, thick



##### Star challenge: mix 'n' match

Drawings will vary, depending on what birds the child has selected, but the drawings should include a body, beak, feet and tail.



##### Hippo challenge

**Question 2:** A hippo's large lungs allow it to dive and stay underwater for up to four minutes.

A hippo's eyes stick up above the water so it can see while most of its body is submerged.

Special valves on the hippo's ears and nose allow it to prevent water from entering the inner areas of the nose and ears. Hippo skin is protected by waterproof secretions (a sticky red fluid). Hippo feet are large and splayed-out, with webbed toes.

# Explore and Discover...

## Adaptation

### Find nature's solutions



#### TV programme challenge

**Question 2:** Students may choose various animals, but possible answers might include something along the following lines:

- Coat good for camouflage (disguise).

Deer (or spotted deer), or any animal with a spotted or striped coat, such as a fallow deer, bongo or bushbuck. The pattern on its coat helps it blend into the background.

- Feet well adapted to way of life.

Klipspringer – hoofs are tiny and have rubbery grips that help it balance on small rocks. Mountain goats have multi-purpose hoofs (with rubbery grips, can grasp and can act as shock absorbers or brakes) help it climb on jagged, steep or slippery slopes.

- Coat for warmth.

Caribou/reindeer, Dall's sheep, musk ox. All have insulating fur coats. Their coats have two layers to help them keep warm.

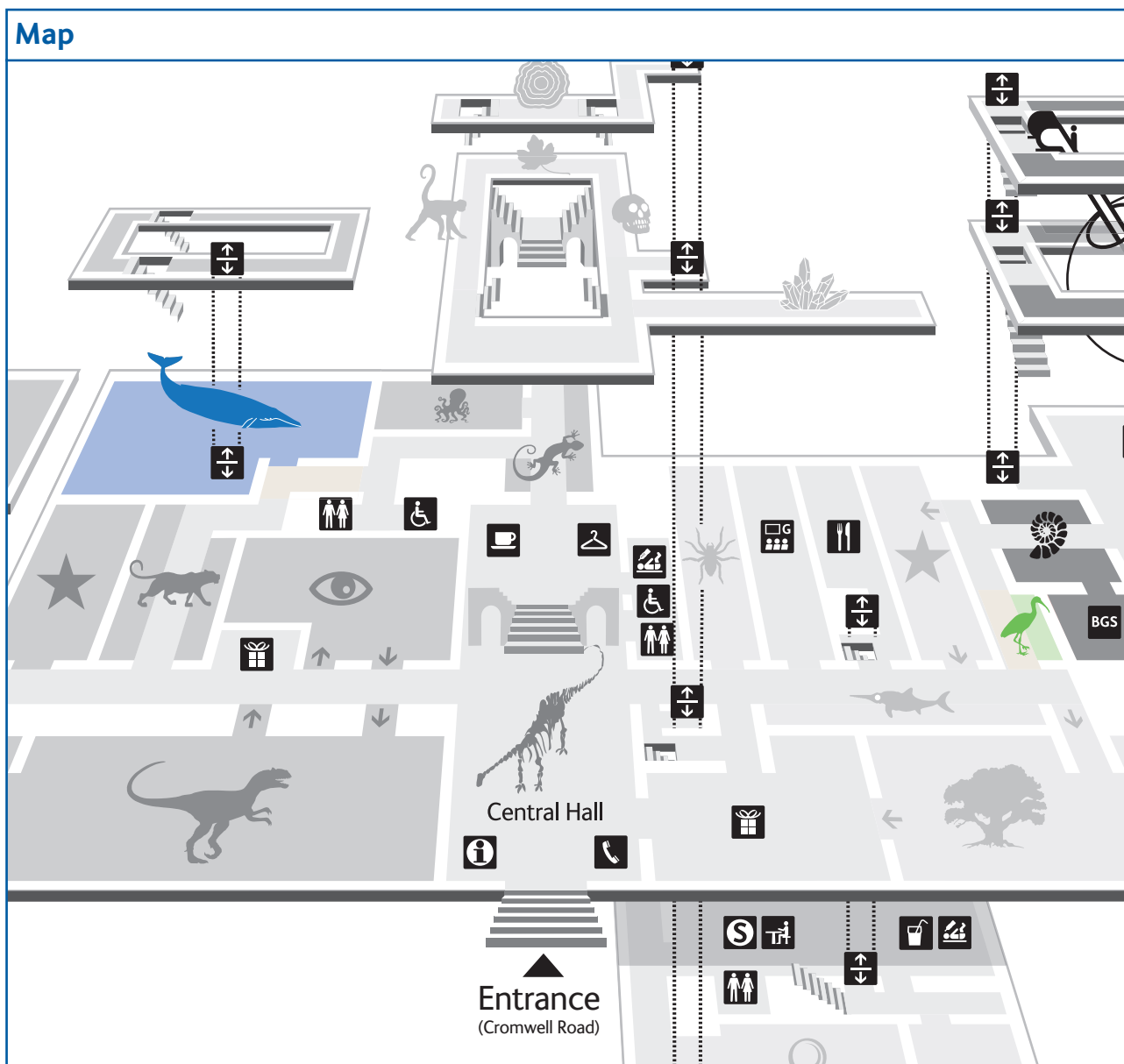


#### Wonderful whales challenge

**Question 2:** Whales are not fish. They are **mammals**. The largest species of whale is the **blue whale**. Whales feed in two different ways. They are either **sievers** or **graspers**. Dolphins and toothed whales hunt their prey by emitting pulses of sound and listening for their echoes reflected from objects in the water. They sieve food out of the water using a **baleen** plate. Many of the largest whales eat tiny creatures called **krill**. A fish swims by moving its tail from side to side. A whale moves its tail **up** and **down**. Whales move smoothly through the water because their bodies are **streamlined**.

The words in bold can be found in the wordsearch.

## Find nature's solutions



A larger, full-colour version of this map showing the whole Museum is available at reception when you arrive.

# Certificate

This is to certify that

---

became a

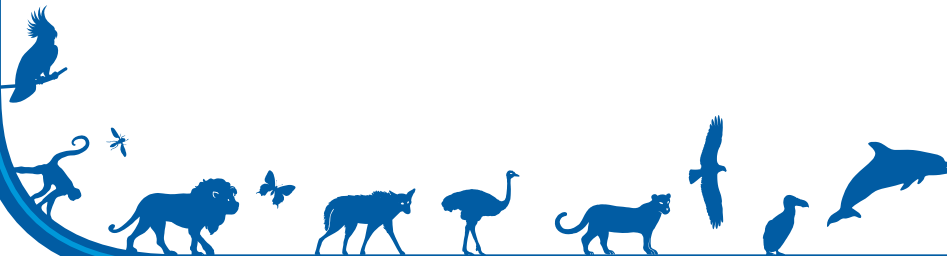
# researcher

in the Explore and Discover... Adaptation challenge

---

Teacher's name

Date



# Certificate

This is to certify that

---

became a

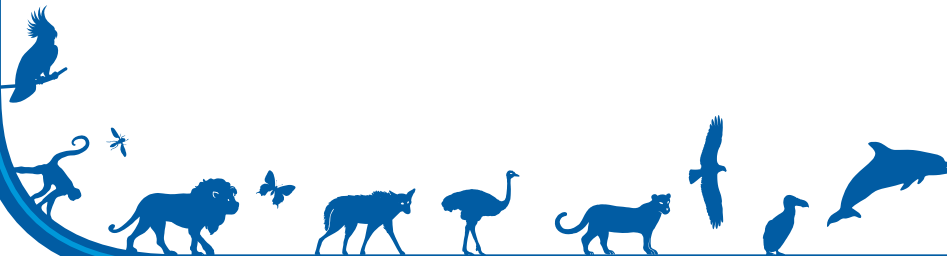
# scientist

in the Explore and Discover... Adaptation challenge

---

Teacher's name

Date



# Certificate

This is to certify that

---

became a

# professor

in the Explore and Discover... Adaptation challenge

---

Teacher's name

Date

