

# Preparing You For Your Education Session: Zoo Genetics and Breeding

Location: Schools' Education Centre

Duration: Approx. 50 minutes

## Syllabus links

### AS/A2 Biology

Explain how genetic drift can cause large changes in small populations.

Discuss and evaluate the methods used by zoos in the conservation of endangered species and their genetic diversity (eg. captive breeding programmes).

## Session content

This session aims to introduce population genetics and looks at why genetic diversity is essential in a healthy population. Using real-life ZSL examples, we look at how genetic drift, the founder effect and genetic bottlenecks affect genetic diversity. We will then investigate how zoos manage the genetics of captive populations and why it is so important for future reintroductions of animals to the wild.

## During the sessions students will:

- Listen, take notes and ask questions
- Work in groups
- Use interactive demonstrations to illustrate examples

## Using the Zoo to support this session

Whilst in the Zoo, students might like to:

- Look at the social groupings of animals in the zoo. Think about how zoo staff manage the breeding of animals and how and why they might prevent it. Think about how keepers identify individuals and how they recognise when animals are pregnant.
- Visit the Aquarium and think about how managing populations of fish might differ from populations of mammals. Use the signage to find out more about the 'Fishnet' project.
- Visit B.U.G.S. and locate the ants and honey bees. Find out what is special about the genetics of these populations.
- Also in B.U.G.S. and look at the breeding centre of the Critically Endangered Partula snail. Find out how ZSL is working to reintroduce this animal into the wild.
- Use Gorilla Kingdom to find out about some of the people involved in the protection and conservation of a species like the Gorilla.

## Suggested classroom activity (for before your visit)

- Ask the class to prepare a list of questions to bring to the session to ask the speaker.
- Ask students to plan a route to take around the Zoo that allows them to see the animals and exhibits that they would like to focus on.
- Find out which zoo animals are part of a breeding programme.