

Session type: Workshop

Duration: 60 minutes

Key Stage: KS2

Session Overview

This workshop offers a fun and interactive way to introduce, understand and model the key principles of evolution. The group will play two games in a series which allows them to create their own creature through randomly selected adaptations. They will then take that same creature through several ecosystems and challenging scenarios within an ever-changing world. Natural selection will mean that only the strongest will survive this evolution game.

Learning Objectives

1. Create our own creatures in a fun game
2. See if our creatures survive in nature
3. Think about how our actions can change the environment

Learning Outcomes

1. Describe the process of evolution
 2. Theorise on the adaptations an animal might need for a particular ecosystem
 3. Explain the process of natural selection
 4. Appraise the survivability of a given animal in an ecosystem
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Pre-Visit Suggestions

- Look at some animals in different habitats and notice similarities and differences between them – what makes them separate species?
- Discuss how we have similar traits in very different species (e.g flight or eyesight)– why do you think that is?

Post-Visit Suggestions

- Take the creatures created in the session and design a whole ecosystem for them, placing the animals in habitats that suit them.
 - Make some food chains with the animals created in the session
 - Create a 3D model of your animals out of clay or plasticine
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To book, or for more information:

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English: National Curriculum Links

Science:

1. Key Stage 2: Evolution and inheritance

- a) Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago [Y6]
- b) Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents [Y6]
- c) Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution [Y6]

2. Key Stage 2: Animals, including humans

- a) Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat [Y3]
- b) Identify that humans and some other animals have skeletons and muscles for support, protection and movement [Y3]
- c) Identify the different types of teeth in humans and their simple functions [Y4]
- d) Construct and interpret a variety of food chains, identifying producers, predators and prey [Y4]

3. Key Stage 2: Living things and their habitats

- a) Recognise that living things can be grouped in a variety of ways [Y4]
- b) Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment [Y4]
- c) Recognise that environments can change and that this can sometimes pose dangers to living things [Y4]
- d) Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals [Y6]
- e) Give reasons for classifying plants and animals based on specific characteristic [Y6]

English:

4. Years 1-6: Spoken language

- a) Listen and respond appropriately to adults and their peers
- b) Articulate and justify answers, arguments and opinions
- c) Give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings
- d) Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments
- e) Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas

Welsh: National Curriculum Links

1. Skills across the Curriculum:

- a) Developing thinking
- b) Developing communication

2. Learning across the Curriculum:

- a) Personal and social education

Science: Key Stage 2

Enquiry Type: Using and applying models

3. Skills:

- a) **Developing:** Explaining
Conclusions and decisions
- b) **Reflecting:** Review success

4. Range:

- a) Interdependence of organisms
 - through fieldwork, the plants and animals found in two contrasting local environments
 - the interdependence of living organisms in environments and their representation as food chains
 - the environmental factors that affect what grows and lives in those two environments
 - how humans affect the local environment

Geography: Key Stage 2

5. Skills

- a) Locating places, environments and patterns
 - identify and describe the spatial patterns (distributions) of places and environments
- b) Investigating
 - observe and ask questions about a place, environment or a geographical issue
 - organise and analyse evidence, develop ideas to find answers and draw conclusions

6. Range

- a) Pupils develop their geographical skills, knowledge and understanding through learning about places, environments and issues
 - Living in my world: caring for places and environments and the importance of being a global citizen
- b) Ask and answer the questions

English: Key Stage 2

Strand: Oracy

7. Element: Developing and presenting information and ideas

- a) Speaking
- b) Listening
- c) Collaboration and discussion

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Ocean Literacy Principles

The Ocean Literacy Principles are international standards of education. The following Principles are achieved through this workshop:

- 1) The Earth has one big ocean with many features
- 2) The ocean and life in the ocean shape the features of Earth
- 3) The ocean is a major influence on weather and climate
- 4) The ocean makes Earth habitable
- 5) The ocean supports a great diversity of life and ecosystems
- 6) The ocean and humans inextricably interconnected
- 7) The ocean is largely unexplored

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To find out more, please visit our website: <http://www.national-aquarium.co.uk/education/lessonideas/>.

NMA Generic Learning Outcomes

The Generic Learning Outcomes are a collection of conservation guiding principles that the NMA aim to achieve in all aspects of our work. The following GLOs are achieved through this workshop:

1). Knowledge & Understanding

- a) Broaden knowledge of the marine environment and associated species.
- b) Deeper understanding of the relationship between myself and the seas.
- c) Raise awareness of the role that science plays in understanding our seas.

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2). Skills

- a) Develop observation skills.
- b) Formulate scientific questions based on observations.
- c) Develop communication (speaking and listening) and social (learning together, working together, meeting people) skills.

✓
✓
✓

3) Attitudes & Values

- a) Appreciate the value of the marine environment and develop respect and empathy for its inhabitants.
- b) Promote a positive view of science and scientists.
- c) Recognise that learning can be a positive process.

✓
✓

4) Enjoyment, Inspiration, Creativity

- a) Have fun with the National Marine Aquarium.
- b) Be surprised by the variety of marine life.
- c) Be inspired by the experience.

✓
✓

5) Activity Behaviour and Progression

- a) Motivation to go out and explore the marine environment further.
- b) Take steps to further understanding of the relationship between myself, my actions and the sea.
- c) Take action to reduce my negative impacts & increase my positive impacts on the marine environment.

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To find out more, please visit our website: <http://www.national-aquarium.co.uk/marine-conservation/>.

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