

DISCOVERING GALAPAGOS

with



ZSL LONDON ZOO

Key Stage 3 Curriculum Links

Lesson 1. Tortoise trackers at ZSL



Science

Working Scientifically:

Experimental skills and investigations

- ask questions and develop a line of enquiry based on observations of the real world, alongside prior knowledge and experience
- make predictions using scientific knowledge and understanding
- make and record observations and measurements using a range of methods for different investigations; and evaluate the reliability of methods and suggest possible improvement

Analysis and evaluation

- apply mathematical concepts and calculate results
- present observations and data using appropriate methods, including tables and graphs
- interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions



Maths

Working Mathematically:

Develop fluency

- move freely between different numerical, algebraic, graphical and diagrammatic representations [for example, equivalent fractions, fractions and decimals, and equations and graphs]

Lesson 2. Tortoise shapes and sizes



Science

Interactions and interdependencies:

Relationships in an ecosystem

- how organisms affect, and are affected by, their environment, including the accumulation of toxic materials.

Genetics and evolution:

Inheritance, chromosomes, DNA and genes

- the variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection
- changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction

Lesson 3. Introduction to Galapagos giant tortoises



Science

Interactions and interdependencies:

Relationships in an ecosystem

- the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops
- how organisms affect, and are affected by, their environment, including the accumulation of toxic materials.

Genetics and evolution:

Inheritance, chromosomes, DNA and genes

- differences between species
- the importance of maintaining biodiversity and the use of gene banks to preserve hereditary material.



Geography

Location Knowledge:

- extend their locational knowledge and deepen their spatial awareness of the world's countries using maps of the world to focus on Africa, Russia, Asia (including China and India), and the Middle East, focusing on their environmental regions, including polar and hot deserts, key physical and human characteristics, countries and major cities.

Human and physical geography:

- understand, through the use of detailed place-based exemplars at a variety of scales, the key processes in:
 - physical geography relating to: geological timescales and plate tectonics; rocks, weathering and soils; weather and climate, including the change in climate from the Ice Age to the present; and glaciation, hydrology and coasts.
 - human geography relating to: population and urbanisation; international development; economic activity in the primary, secondary, tertiary and quaternary sectors; and the use of natural resources.
- understand how human and physical processes interact to influence, and change landscapes, environments and the climate; and how human activity relies on effective functioning of natural systems

Lesson 4. Science in the field



Science

Working scientifically:

Scientific attitudes

- pay attention to objectivity and concern for accuracy, precision, repeatability and reproducibility.
- understand that scientific methods and theories develop as earlier explanations are modified to take account of new evidence and ideas, together with the importance of publishing results and peer review.

Genetics and evolution:

Inheritance, chromosomes, DNA and genes

- the variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection.
- changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction.

Lesson 5. A day in the life of a biologist



Science

Working scientifically:

Experimental skills and investigations

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Analysis and evaluation

- apply mathematical concepts and calculate results.
- present observations and data using appropriate methods, including tables and graphs.
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Interactions and interdependencies:

Relationships in an ecosystem

- how organisms affect, and are affected by, their environment, including the accumulation of toxic materials.



Geography

Geographical skills and fieldwork:

- build on their knowledge of globes, maps and atlases and apply and develop this knowledge routinely in the classroom and in the field
- interpret Ordnance Survey maps in the classroom and the field, including using grid references and scale, topographical and other thematic mapping, and aerial and satellite photographs
- use Geographical Information Systems (GIS) to view, analyse and interpret places and data
- use fieldwork in contrasting locations to collect, analyse and draw conclusions from geographical data, using multiple sources of increasingly complex information.



English

Writing:

Write accurately, fluently, effectively and at length for pleasure and information through:

- writing for a wide range of purposes and audiences, including:
 - a range of other narrative and non-narrative texts, including arguments, and personal and formal letters.
- summarising and organising material, and supporting ideas and arguments with any necessary factual detail

