Animal Movement

Investigating the amazing adaptations different animals have to allow them to move in different ways to survive

Lower Key Stage 2
Science

Teacher’s Guide

This Teacher’s Guide complements the Animal Movement Student Workbook, designed to help students to observe and investigate a range of adaptations and strategies for movement in different animal groups.

This self-guided trail is suitable for independent use during your visit, however it can be used to complement the ‘Bones and Movement’ education session available at ZSL London Zoo. For more information on this session and other education sessions available, please see the ZSL school visits pages here: http://www.zsl.org/zsl-london-zoo/schools/education-sessions/bones-and-movement

A copy of the workbook answers is included below as well as additional information to help guide your students learning.

2014 National Curriculum Links
KS2 Science

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<tr>
<th>Year 3 Programme of study</th>
<th>Notes and guidance (non-statutory)</th>
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<tr>
<td><strong>Animals, including humans</strong> Pupils should be taught to:</td>
<td>Pupils might work scientifically by: identifying and grouping animals with and without skeletons and observing and comparing their movement; exploring ideas about what would happen if humans did not have skeletons.</td>
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<tr>
<td>• Identify that humans and some other animals have skeletons and muscles for support, protection and movement</td>
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TEACHER’S GUIDE NOTES and ANSWERS are included throughout this answer book in red
Animal Movement student workbook

ANSWERS

This workbook focuses on the following areas at ZSL London Zoo:

In addition, as you see different animals in the zoo, try to encourage students to draw similarities or observe differences.
This page can be completed prior to the visit. It provides a brief introduction to skeletons and muscles for movement in animals.

**Animal Movement**

It's a simple fact, living things can move! Some animals (including humans) have an internal skeleton which helps them to move. These animals are called VERTEBRATES. Animals without an internal skeleton are called INVERTEBRATES.

Let's start with you! You are a vertebrate, how are YOU going to get around the zoo today?

Label the human skeleton using the words on the left:

- Pelvis
- Skull
- Femur
- Ribs
- Pelvis
- Femur

Answer: walking

How does your backbone help you to move in this way? Supports upright position

How do your ankle joints help you to move in this way? Adapted for walking in upright position

All vertebrate animals (mammals, birds, reptiles, fish and amphibians) have internal skeletons. Lots of the other animals in the zoo have the same type of bones in their body even if they look very different to us!

What type of animals do you think these skeletons belong to? Can you spot any of the skeleton parts you labelled above in some of the other animals?

1. fish
2. mammal (zebra)
3. reptile (lizard)
4. frog (amphibian)
5. bird
The movement trail should start at London Zoo’s brand new (for 2015) enclosure ‘In with the Lemurs’. Ring-tailed lemurs are free to roam this enclosure, making this a very exciting opportunity to observe their movements and behaviour. It is important that visitors do not attempt to touch or feed the animals. Encourage the pupils to observe quietly, in order to be able to see as many natural behaviours as possible. If necessary, remind the pupils that lemurs are VERTEBRATE animals (primates) just like humans. Pupils should use descriptive words when observing the lemurs movements, and a comparison should be made between how a lemur and a human would move.
Penguin Beach is the next stop of the trail. Pupils will be able to see two species of penguin demonstrating a range of behaviours. Encourage the pupils to use as many descriptive words when observing different animals move as possible, and at this point a comparison can be made to how lemurs movements are different to penguins. If necessary, remind pupils that penguins are VERTEBRATE animals (birds).

Other areas to find bird species are:
- Blackburn Pavillion
- Snowdon Aviary
- African Bird Safari

Pupils can use the information signs around the enclosure to find the answer to this.
Page 4  Spiders

The B.U.G.S. exhibit contains a range of invertebrate and vertebrate animals to demonstrate biodiversity. This is an opportunity to compare how invertebrate and vertebrate animals move. If necessary, remind pupils that spiders are INVERTEBRATE animals and can move around even without an internal skeleton- they use their muscles. Pupils can pick any spider to draw- a good example to draw (including web) is the black widow spider. At the bottom of the page there are spaces for words that describe how 3 different vertebrates (all found in B.U.G.S building) move- these can be used for comparison with invertebrates.

Some spiders, like orb spiders, can make webs. Draw a spider and its web in this box:

Write words that describe how spiders move here:
Scuttling, crawling, running, climbing, jumping, hanging

Visit the new enclosure in B.U.G.S. ‘In with the spiders’ (new in 2015) where pupils can walk through the spider enclosure, observe a variety of different species and draw one in the space provided!

Other areas to find snakes, frogs and fish are:
- Reptile House
- Aquarium
In Tiger Territory, pupils will have the opportunity to observe how big cats move. There should be a focus on slow, controlled movements, looking particularly at how the shoulders move up and down when walking.
**Gorilla Kingdom** provides an opportunity to observe different types of primates (and also birds within the walk-through aviary at the entrance of the exhibit) and compare their movements. Knuckle walking is the focus and pupils should highlight the adaptations that gorillas have to be able to move in such a way.

Pupils can use the information signs around the enclosure to find the answer to this.

Other areas to find primate species are:
- Rainforest Life
- Meet the Monkeys

Have a look at the other primate enclosures within Gorilla Kingdom and try to spot some colobus monkeys and some macaques moving around in the trees!
Page 7- Kangaroos

The Outback enclosure showcases the kangaroos and wallabies hopping and provides an opportunity for pupils to find out information about the adaptations that allow them to do so effectively.

Pupils can use the information signs around the enclosure to find the answer to this.