

BBC LEARNING PRESENTS

Terrific Scientific Feet - Live Lesson

Taking feet as a starting point to explore the concepts of adaptation and evolution.

Date: Thursday, 14th December 2017

Time: 2:00pm

Duration: 30 minutes (approx.) + 25 minutes follow up Live Lessons EXTRA programme (this will be published on the website within the week)

Location: bbc.co.uk/livelessons

(Note: if you can't watch the webcast live, you will be able to watch the recording on the Live Lessons website)

Curriculum links include:

England (Key Stage 2)

Classification - Living things and their Habitats:

- Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.
- Through direct observations where possible, they should classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals). They should discuss reasons why living things are placed in one group and not another.

Evidence From Fossils - Evolution and Inheritance:

- Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago

Adaptation/ Evolution - Evolution and Inheritance:

- Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Variation (Offspring) - Evolution and Inheritance:

- Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parent

Wales (Key Stage 2)

Interdependence - Interdependence of Organisms:

- Pupils should use and develop their skills, knowledge and understanding by investigating how animals and plants are independent yet rely on each other for survival.

Scotland - 2nd Level (P5 - P7)

Interdependence - Planet Earth, Biodiversity and Interdependence:

- Learners develop their understanding of how species depend on one another and on the environment for survival.

Adaptation/Evolution - Planet Earth, Biodiversity and Interdependence:

- Learners can relate physical and behavioural characteristics to survival or extinction.

Variation (Offspring) - Biological Systems, Inheritance:

- By exploring the characteristics offspring inherit when living things reproduce, I can distinguish between inherited and non-inherited characteristics.

Northern Ireland (Key Stage 2)

Interdependence - The World Around Us, Interdependence:

- How living things rely on each other within the natural world.

Adaptation/ Evolution - The World Around Us, Place:

- Ways in which people, plants and animals depend on the features and materials in places and how they adapt to their environment.

Adaptation/ Evolution - The World Around Us, Change Over Time:

- How change is a feature of the human and natural world and may have consequences for our lives and the world around us.
- Ways in which change occurs over both short and long periods of time in the physical and natural world.
- How animal or plant behaviour is influenced by seasonal change.

Setup

How much space and equipment is needed?

The lesson can be screened in a classroom with a large screen linked to a reliable broadband connection. Good audio equipment is not essential but will make the event more enjoyable.

Some of the activities involve writing so sitting at their tables in a classroom would be helpful or something to lean on to write.

Your students will also require copies of the following activity sheets for the live programme:

- **Live Lesson: Activity Sheet 1 – Human Footwear Adaptation**
- **Live Lesson: Activity Sheet 2 – Animal Adaptation**
- **Live Lesson: Activity Sheet 3 – Spot the Snake**
- **Live Lesson: Activity Sheet 4 – Animal Ancestors**

How many students can participate?

It's completely up to you how many students you have participating in the session. We want to get as many students as possible engaged in the Live Lesson. Space might be a consideration if you have a very large group.

How to prepare for the Live Lesson

Before the lesson

This Live Lesson is part of BBC Terrific Scientific – a new primary science campaign from the BBC. The lesson is themed around [BBC Terrific Scientific Feet Investigation](#). To register to take part and access the free teaching resources, visit the BBC Terrific Scientific website at bbc.co.uk/terrificscientific.

Send in any photos of your class doing the feet investigation, or pics of your pupils' feet to live.lessons@bbc.co.uk, and they could be featured on the live programme.

Please note: If you are sending in any images or videos that feature children, please ensure that you have parental permission, as they may be shown during the Live Lesson and on our website. In the email, please confirm your official relationship to the child/children featured, e.g. teacher, Brownie group leader, sports coach etc. and confirm that you have sought prior parental consent. Please also ensure the material is not sensitive or controversial. Read our [Terms and Conditions](#) for more information.

How flexible are my feet?

Using feet as a starting point to explore the concepts of adaptation and evolution

The first activity asks children to think about why humans wear different footwear in different environments.

You can find this activity on **Live Lesson: Activity Sheet 1 – Human Footwear Adaptation**, on our website. They will be given a short time to do this in, so it might benefit them to have the activity sheets on hand and ready to go, or to carry out the activity before the lesson.

Our expert guest will reveal the answers during the Live Lesson.

Introduction to Adaptation

In this section of the Live Lesson we'll be exploring how animals are adapted to survive in their environment.

Students will be asked to think about the features that help a camel live in a hot, dry sandy desert using the **Live Lesson: Activity Sheet 2 – Animal Adaptation**

You can also email your students' answers to live.lessons@bbc.co.uk or use the hashtag **#bbclivelessons**, and they could be featured on the Live Lesson.

Introduction to Individual Variation

In this section we will look at how individuals vary within species. You will need **Live Lesson: Activity Sheet 3 – Spot the Snake**

Introduction to Evolution

We will introduce the theory of evolution using the previously explained concepts of adaptation and individual variation. For this section you will need **Live Lesson: Activity Sheet 4 – Animal Ancestors**

Live Q&A session

The Live Lesson will end with a live question and answer session with our expert guests.

If your students would like to pose any questions about forces to the experts, you can send them in to live.lessons@bbc.co.uk or use the hashtag **#bbclivelessons** before and during the live programme.

We will try and answer as many as we can during the show.

Contact us

You can email any questions or comments before and during the Live Lesson to live.lessons@bbc.co.uk, or by using the hashtag **#bbclivelessons**. We'll aim to answer as many of your questions as possible.

We'd also love to see examples of your students' work. If your classes have created any work or carried out any activities using the resources on our website, please do send it in to live.lessons@bbc.co.uk, and they could be showcased on the programme and on our website.

If you let us know if your school is planning to tune in on the day, your school name could also be featured on the programme.

Thank you for your interest in our Live Lesson, and we hope you'll join us on 14th December.

Live Lessons EXTRA

This will not be broadcast live but will be published on our website bbc.co.uk/livelessons a day or two after the live broadcast, and will build on the outcomes of the live programme.

How do scientists know so much about the process of evolution? We discover how fossils have changed the way we think about the history of life on Earth. There will also be a return visit from special guest Albert the Indian Rock Python!