



WORKSHOP SUMMARY

Going to Extremes

Who's smarter - plants or people? Students investigate adaptations to life in the tropics by drawing comparisons with how humans cope in extreme climates. Following our exploration of Eden's Rainforest Biome we review the importance of photosynthesis and look into the implications of a changing climate for the future of plants and people.

How long? Two hours

Who? Year 7-9. Science

Where? The Core workshop room and Rainforest Biome

Students will:

- Use ideas about how humans cope with extreme climates to predict plant adaptations.
- Collect examples of plant adaptations to Humid Tropics climates.
- Review understanding of photosynthesis and conditions of plant growth.
- Begin to consider some of the implications of climate change on plants.

Curriculum Links

KS 3 Science

Key concepts	Key processes	Range and content	Curriculum opportunities
1.4	2.1, a, c	3.3,d. 3.4,c	c, d, e, f, g, k

PLTS - This workshop covers a range of PLTS (Personal, Learning and Thinking Skills) objectives including independent enquirers, team workers and creative thinkers.

What Happens?

The challenge is for students to figure out which is better adapted to surviving in extreme climates; humans or plants. Starting in the Core students are introduced to the idea of adaptation through a quiz, use of video and by handling props. In the Rainforest Biome students sketch and note good examples of plant adaptations to the rainforest climate and hypothesise as to how these adaptations help the plant to survive.

On our return to the Core we delve a little into that most amazing feature of plants - their ability to photosynthesise - and explore the importance of this process for humans. Finally students reflect back on their initial challenge, and consider some possible impacts of climate change.

Practicalities



Please ensure your group is divided into workshop teams, each with an adult helper.

Our Education Team will lead your workshop session, but the participation of your staff is essential to the success of our programmes. We provide all the equipment for the workshop.

Our programmes are focussed learning experiences; they do not provide a general introduction to Eden Project, so please allow sufficient unstructured exploration time for your students during your day.

Additional information is on our website
www.edenproject.com

Going to Extremes – Ideas to support your visit

Before you come

Preparatory work could include the following:

- Exploration of conditions in humid tropic and warm temperate climates. Identification of relevant regions on maps, globes and atlases. Discussion of relevant adaptations by plants to these climates.
- Revision of photosynthesis and conditions affecting plant growth.
- This website from the University of Bath provides interesting background information on biomimicry or biomimetics - <http://www.bath.ac.uk/mech-eng/biomimetics/index.html>

Design a plant

The challenge to design a plant adapted to cope with a particular climate is an activity tried and tested at Eden. Students research predictions on a future changed climate in the UK, and then use their knowledge of adaptations to climate to design a plant to cope with the predicted future conditions. This leads on to a discussion of whether such quick-fix plant designing is either possible or desirable.

A final step could explore realistic approaches to tackling climate change.

References

Plant adaptation

www.desertmuseum.org/programs/succulents_adaptation.html. A very informative page on how plants cope with a desert climate.

www.rainforest-australia.com/. Check out the adaptations topic in Rainforest Research Information sheets.

Climate Change

www.tiempocyberclimate.org/portal/index.htm. Access to carefully selected documents, websites and other resources concerned with climate and sustainable development.

www.climatewire.org/. International news service specifically focussing on the issue of climate change.

www.realclimate.org/. A commentary site on climate science by working climate scientists for the interested public and journalists.

www.worldchanging.com/. Works from the premise that the tools, models and ideas for building a better future lie all around us and aims to bring links to and analysis of them to all those working for positive change.

www.realcoolfutures.com. Introduces students to the work opportunities opening up to them as we adapt to climate change.