Lesson Three:
The Tropical Rainforest Ecosystem

Royal Geographical Society
with IBG

Advancing geography
and geographical learning

Objectives

- To be able to interpret and analyse data from a variety of different sources

- To recognise how different parts of the tropical rainforest ecosystem are linked together

- To understand the structure of a climate graph and its key elements

Context and Rationale

This lesson introduces students to the many different characteristics that make up a tropical rainforest ecosystem. The characteristics are focussed around four main themes – climate, location, deforestation and biodiversity and it is hoped that though many students may have already studied rainforests in key stage two or key stage three, this lesson will add quantitative context to ideas they may already have about that environment as well as knowledge at a greater depth than previously held.

This lesson centres around the many ways in which data can be presented to its readers and how students can interpret the data they see to get relevant information. Some analysis of data may be possible for higher level students who may be able to manipulate the data they find in order to make it more manageable.

*This lesson is also presented as a walk-through PowerPoint presentation **'Lesson Three Walkthrough'**.*

Starter

Students who have not previously been exposed to climate graphs can be shown **'What is a Climate Graph Presentation'** and given time to understand their structure and purpose.

Students can be shown a series of climate graphs through **'Climate Graph Spot the Mistake Presentation'**, each one, though correct in real data, has a clear data presentation flaw (such as an axis not labelled, or a misuse of a key etc). For each graph shown students have to write down what they think the flaw is. At the end, students can self-mark their ideas through a reveal of the right answers.

Body

This activity combines a data race game with an image gallery on the classroom walls. Prior to the beginning of the lesson, teachers create a 'supermarket' around the room of print outs of each of the images on **'Tropical Rainforest Data Supermarket'**. Each student is given a separate question card from **'Data Shopping List Cards'**. Using the supermarket images, students have to find the data answer and record it in a full sentence **'Data Shopping Trolley Sheet'**. Once they have the right answer (see **'Data Supermarket Answers'**) confirmed by the teacher, students can collect a new card. The game continues until a student has completed the **'Data Shopping Trolley Sheet'** and the teacher is satisfied with the

quality of the sentences. Calculators should be available for those students who wish to manipulate some data independently.

Once the game is over, teachers can decide to go through each of the data sources in *'Tropical Rainforest Data Supermarket'*, explain what data presentation method has been deployed and ask students to say what data they managed to get from that source or what further data might be extracted. Due to the large variety of complexity of data that can be gleaned from any data source this is a good opportunity for every person in the class to contribute to the class discussion, regardless of ability.

Plenary

Students can help the teacher remove all the tropical rainforest supermarket images. At the front of the room the teacher folds each sheet so that it is small enough to fit into an empty box. Two students are selected from the group to come to the front of the class and blindly pick one of the sheets at random. The pair look at the two data sources and try to come up with one way that the data shown on the sheets is related to each other. For example, one data source may show information about biodiversity, while another may be about sunlight hours and together the students can make the connection to photosynthesis and adaptation levels in the tropical rainforest.

Once students have had a go at a connection (and their seated peers can help them out if they cannot think of one), the data sources are returned to the box from which a new pair of students can pick. Teachers should emphasise the term 'interdependence' again.

Homework or Extension / Enrichment Tasks

Using the two bits of data students have recorded from the main body of the lesson, students can design an infographic that shows the reader how the two bits of data are interdependent of one another. The students should attempt to present the data accordingly and not just quote the raw figures. An example is given through *'Tropical Rainforest Data Infographic Example'*.

Differentiation Possibilities

Alternative resources are available for students with SEND, EAL, and those with less confidence in the subject matter:

'Alternative Lesson Three Walkthrough'

'Alternative What is a Climate Graph Presentation'

'Alternative Climate Graph Spot the Mistake Presentation'

'Alternative Data Shopping List Cards'

'Alternative Data Shopping Trolley Sheet'

'Alternative Data Supermarket Answers'