Key Stage 3 – Dam Dilemma

Notes for teachers

At a glance

Technological development in low income countries such as Uganda is important for improving the economy and providing a better quality of life for its population. However, quite often these developments carry a risk of negatively affecting the environment and the lives of local people.

The work of researchers at The University of Oxford's Interdisciplinary Centre for Conservation Science (ICCS) aims to ensure that new developments not only ‘do no harm’, but actively bring benefit to both biodiversity and local communities.

In this activity students look at the positive and negative impacts of building more hydroelectric dams on Ugandan rivers. They use this information to write a balanced argument.

Learning Outcomes

- Students learn what conservation is and how it can protect biodiversity loss
- Students learn to write a balanced argument, considering environmental, economic and social issues

Each group of students will need

- Copy of student worksheet
- Access to the internet or print out of webpage

https://www.oxfordsparks.ox.ac.uk/content/conserving-nature
Possible Lesson Activities

1. Starter activity
   - Write the word 'conservation' on the board. Ask students to work in pairs to write down as much as they can about what they know about conservation. They can include what it means, why it is important and examples of conservation in action.
   - Ask pairs to feedback their ideas. Their ideas about conservation are probably focused on helping endangered animals such as rhinos and giant pandas. Inform them that this is only one part of conservation and show them the animation 'Conserving nature' to explain more.

2. Main activity: A new dam in Uganda
   - Give each pair a copy of page 1 of the student worksheet and ask them to read the information about Uganda.
   - Discuss as a class what biodiversity is, how conservation can help preserve it and why this is important.
   - Set them their task: to write a balanced argument about the building of a new hydroelectric dam.
   - Remind them that a balanced argument needs to contain arguments for and against the building of the dam. They should include environmental, economic and social arguments. Give each pair a copy of page 2 of the student worksheet. This contains guidance on how to write a balanced argument. Make sure students understand what environmental, social and economical arguments mean: environmental is about the natural world - impacts on ecosystems; economic is about money; social is about the impacts on people’s lives and well-being.
   - Ask pairs to access the internet to carry out research. Alternatively, print off the webpage 'Ecotourism or hydroelectricity in Uganda?’ for them before the lesson and play the video from 'Arguments against a dam in Uganda’ to the class (weblinks are below). Ask them to use the information to fill in the table on the student worksheet.
   - Gather ideas from the class and use it to create a class version of the table which can be displayed on the whiteboard.
   - Ask students to work individually and use this information to write their balanced argument, using guidance from the pupil worksheet.

3. Plenary
   - Initiate a discussion with the class. Based on their research, what is their personal opinion? Should Uganda build more hydroelectric dams? What is their impact on biodiversity in the country? You could take a vote as a class and invite some students to explain their opinions with their reasoning.
   - If students are interested in finding out more about the work of conservation scientists at The University of Oxford they can watch the Facebook LIVE video in the weblink below.
Weblinks

Conserving Nature animation

https://www.oxfordsparks.ox.ac.uk/content/conserving-nature

Research webpage: Ecotourism or hydroelectricity in Uganda?


Research video: Arguments against a dam in Uganda

www.isimbadam.com

Biodiversity offsets of the Bujagali dam in Uganda

http://www.bujagali-energy.com/bujagali_environmentalResponsibility1.htm

Facebook LIVE interview with two researchers from the ICSS

https://www.oxfordsparks.ox.ac.uk/content/facebook-live-conserving-nature