Hydropower

Name:

Date:

Class:

OSNEY LOCK HYDRO

Starter:

Explore the importance of water in human settlement. Ask children to make a list of 5 reasons why they think we choose riverside locations.

Main activity:

PP presentation— Hydropower. Using slides, key questions, activities and video clips to elicit plenty of discussion, introduce various ways in which human beings have and do harness the power of water.

Plenaries and assessment:

Use worksheet activities and review as a class on the board/screen (slides 9, 16, 21 & 25) to consolidate learning.

Assessment for Learning:

Use questions in presentation for formative assessment. Worksheet activities reinforce this and provide a tool to assess understanding and provide a record of AFL.

Success criteria:

Children will have a good basic understanding of hydropower and hydroelectricity generation. They will be able to identify some differences in how a storage scheme works and how a run of river scheme works.

Differentiation:

Involve all children in discussion using differentiated questioning - colour coded in delivery guide **All** Most **Some**. Where possible use visual aids to aid understanding. Video clips can also help with this.

Further information about self-guided and guided tours of Osney Lock Hydro is available at www.osneylockhydro.org.uk

Programme of study:

Energy, electricity, renewable energy and sustainability. This may be linked to a trip to Osney Lock Hydro.

Key learning objectives, students should:

- Understand what Hydro power is
- Be able to explain how hydroelectricity is generated
- Be familiar with different hydropower schemes
- Be able to identify and explain the function of an Archimedean screw turbine

Cross curricular links:

Geography – rivers, reservoirs, dams, social sustainability, climate change

Science – energy, electricity, biodiversity, river ecosystems

Maths – Archimedes screw, mechanical construction

English - vocabulary, discussion and debate

Design and Technology – mechanical energy, turbines, material manipulation, designing, planning and making

History – agriculture in ancient civilisation, mechanisation

SEAL/PHSE – healthcare (access to clean water), access to renewable energy

Key vocabulary:

Sustainability, renewable energy, H_2O, kinetic energy, potential energy, hydropower, drought, hydroelectric, Dam, reservoir, storage, run of river, turbine, generator, sluice, weir, lock, rotation, Archimedes screw

Resources:

PPT presentation

Embedded video clips

Detailed delivery guide

Worksheet and answers

Further suggestions for resources that may aid learning and understanding can be found in the detailed Delivery Guide

HERITAGE FUND