Year 7 GEOGRAPHY – Energy and Sustainability

Intent

Wider Learning:
- Locational knowledge
- Climate change
- Sustainability and Eco Club

Prior learning:
A basic understanding of energy use and the different types of energy supply. A basic understanding to countries of interest around the world which will be used in the case studies.

Key vocab:
1. Combustion
2. Renewable
3. Non-renewable
4. Hydroelectric
5. Geothermal
6. Consumption
7. Production
8. GDP
9. Energy security
10. Extraction
11. Nuclear
12. Solar
13. Tidal
14. Biomass
15. Sustainable
16. Carbon footprint
17. Energy
18. LIC (Lower Income Country)
19. Sustainability
20. Turbine

The big questions
- This module's underpinning 'big question': **Can I weigh up the advantages and disadvantages of different energy sources?**

Implement

Order of learning
1. Introduce the module and the subject. What is energy and why are we using more of it? Have students mind map what they use energy for. How is electricity generated? What are the different types of energy? What is energy consumption and why is it increasing?
2. Global distribution of energy consumption and production. Revise choropleth maps. Students to produce 2 choropleth maps for energy production and consumption. Modelling will be key to success for this. Students will then compare the 2 maps and then compare this against a separate map for global GDP. Independent research questions to follow.
3. Energy security and factors that influence supply. What is the difference between being energy secure and energy insecure? Students to complete the table using the map on the board. Model the first couple of answer to help. Students to identify the human and physical factors that affect energy security. Peer mark tables. Exam style questions to finish the lesson.
4. The impacts of extracting coal. Describe the location of the case study. Describe the impacts of coal extraction on the case study location, watch a video and explain the independent research task. Debate to finish.
5. What are the impacts of energy insecurity? Guess the map starter. Watch a short clip and have students explain what some of the impacts of energy insecurity. Group work. Students to work in groups to fill in the table using the information provided. At the end of the task, clarify and ask questions to check understanding. Watch a short clip on the case study for energy insecurity then discuss the for and against arguments for building the dam.
6. How can we increase energy supply? Discuss the different types of energy to check they understand what each type does/how its produced. Independent or group work: using the information sheets students need to fill in the tables. Peer marking to follow.
7. How can we be more energy sustainable? Watch the media clips and answer questions, make notes or mind map the information (as per the slides). Design your own sustainable house and town. Plenary: What can you do in your life to reduce your carbon footprint?
8. A local hydropower micro scheme – Kenya. Using Chromebooks, you are going to research the Tungu-Kabri Micro-Hydro Project to create a leaflet or poster explaining the benefits of sustainable local micro-power schemes.
9. Revision. Mind map on the board, games and Blooket.
   Homework: Energy production and consumption
10. **Energy and Sustainability summative assessment. Feedback on homework.**
11. Feedback on assessment. EBI and WWW. WCF sheet available as required.

Differentiation

G&T/stretch:
Link to other geographical topics.
Questioning based on higher order (bloom's taxonomy of questioning).
Super stretch tasks (GCSE).

Scaffold in mind:
Modelling tasks.
Scaffolding and explanations to assist students in this bracket.
Support students with sentence starters.
Recap during starters and plenaries (link).

SEND:
Short chunks of reading with glossaries.
Sentence starters and word banks for written tasks.
Dual coding on slides.

Impact

Assessment and homework
- Formative assessment using hinge questions, starters, plenaries and questioning throughout the lessons. Adjust lessons to adapt to the groups understanding of each topic taught (as required).
- Formative assessment: teacher led/informed.
- Summative assessment will take place at the end of topic.

Feedback
Feedback strengths and areas of critical evaluation.
Peer and self-assessment.
Correct and reflect opportunities to encourage independent progression.

Where will this be revisited?

KS4 – similar topic headings
Cross curriculum with science at KS3 and KS4