KESTEVEN AND SLEAFORD HIGH SCHOOL

Geography Scheme of Learning

Year 9 – Term 6 /Unit 6: The Challenge of Resource Management

Intent – Rationale

The intent is to develop an interest and natural curiosity how and why the resources of food, water and energy are fundamental to human development. Students appreciate how the changing demand and provision of resources in the UK create opportunities and challenges. The focus is on energy management where there is a consideration of how energy insecurity can create conflict. To this end the students explore the issue of whether an open-cast coal mine should be built in Northumberland. The students also develop an understanding of how different sustainable strategies can be used to increase energy supply by considering the micro-hydro dam in Peru as a case study example.

Sequencing – what prior learning does this topic build upon?	**Sequencing – what subsequent learning does this topic feed into?**
• Water management (Y8) – dam building and the Belo Monte Dam • Water supply issues in Las Vegas (Y9) • Nuclear energy issues. Eg. Chernobyl (Y9)	• Sustainable urban development (GCSE Y10)
What are the links with other subjects in the curriculum?	**What are the links to SMSC, British Values and Careers?**
• Nuclear energy (Physics)	• SMSC: SP2, M3 • Careers a) communication, b) confidence g) teamwork
What are the opportunities for developing literacy skills and developing learner confidence and enjoyment in reading?	**What are the opportunities for developing mathematical skills?**
FROM THE LIBRARY *Atlas World of Issues;* N. Middleton-912 *Brazil;* D. marshall-918 *Climate, Water and Agriculture in the Tropics;* J. Jackson-551 *Earth's Resources;* B. Knapp-552 *Expanding Industry;* I Teichmann-620	• Lesson 1: Percentage increase question from interpreted graph. • Lesson 2: Pie chart drawing of imported mangoes. Lesson 2 • Lesson 7: Draw a divided bar chart to show the global use of energy. • Lesson 8: Draw proportional circles on a world map to show amount of gas produced by countries.

KESTEVEN AND SLEAFORD HIGH SCHOOL

Green Alert-Threatened Habitat; U. Sachidhanandam-574 *Geography matters in The Inca Empire;* M. Waldron-985	

Geography Scheme of Learning
Year 9 – Term 6/Unit 6: The Challenge of Resource Management

Intent – Concepts

What knowledge will students gain and what skills will they develop as a consequence of this topic?
Know • Food, water and energy are fundamental to human development • The changing demand and provision of resources in the UK • Demand for energy resources is increasing globally • Different strategies can be used to increase energy supply **Apply** • Knowledge about issues of demand and supply to justify a decision to build a reservoir in Oxfordshire • Knowledge about the environmental issues and sustainability issues of using fossil fuels in order to justify designing eco-homes • Knowledge about advantages and disadvantages of natural gas to justify the Camisea natural gas extraction project in Peru • Knowledge of sustainable bottom-up aid projects to justify the Chambamontera micro-hydro scheme in Peru **Extend** • Evaluate the impact of building an open-cast mine in Northumberland • Evaluate the impact of building a reservoir in Oxfordshire

KESTEVEN AND SLEAFORD HIGH SCHOOL

What subject specific language will be used and developed in this topic?	What opportunities are available for assessing the progress of students?
• Undernutrition • Water scarcity • Food miles • Carbon footprint • Organic produce • Agribusiness • Domestic • Water scarcity • Grey water • Water deficit • Water surplus • Irrigation • Salinisation • Aquifer • Water transfer • Water stress • Energy security • Fracking • Renewable energy • Geothermal energy • Fossil fuels • Energy exploitation • Shale gas • Energy conservation • Water deficit • Water surplus • Irrigation	Assessment will take 3 main forms: • In starters, plenaries and during the lessons – formative assessment to reinforce prior knowledge e.g. word searches, bingo, memory recall, definition matches etc. • For homeworks -tasks that require students to research new knowledge or apply existing knowledge to exam-style Qs (e.g. Qs from CGP book) • Summative assessments – past exam paper Qs in test or exam conditions, either as end-of-unit tests or in Y10 or Y11 formal exams.

KESTEVEN AND SLEAFORD HIGH SCHOOL

• Salinisation • Aquifer • Stakeholder • Sustainability • Nuclear power • Radiation • Bottom-up scheme	

Intent – Concepts

Lesson title	Learning challenge	Higher level challenge	Suggested activities and resources
1. The global distribution of resources	Can I define what a resource is and describe the global distribution of undernourishment and water scarcity?	Can I predict how energy consumption may change in the future?	AQA Oxford textbook. Pages 256-257. Answer activity questions. Maths skills question. https://www.bbc.co.uk/bitesize/guides/ztnm82p/video
2. Provision of food in the UK	Can I describe how and why the demand for food is changing in the UK?	Can I explain the impact of food insecurity in the UK?	AQA Oxford textbook. Pages 258-259 Answer activity questions and practice question. Maths skills question.
3. Provision of water in the UK (1)	Can I describe the demands for water in the UK?	Can I consider to what extent the water supply meets demand in the UK?	AQA Oxford textbook. Pages 260-261. Answer activity questions. https://www.youtube.com/watch?v=y8kipgTJDUw

KESTEVEN AND SLEAFORD HIGH SCHOOL

4. Provision of water in the UK (2)	Can I give reasons to explain why there is need for water transfer schemes in the UK?	Can I justify whether a new reservoir can be justified in Oxfordshire?	Pre-release AQA GCSE Paper 3 2018: Should a reservoir be built in Oxfordshire? Debating lesson https://www.youtube.com/watch?v=LvIGoN-LKss OS map skills analysis about reservoir site
5. Provision of energy in the UK	Can I explain how the UK's energy mix is changing?	Can I explain how the UK's energy mix is changing and the impact of this?	AQA Oxford textbook. Pages 262-263. Answer activity questions – graph interpretation. Explore fracking issue by answering the 'Stretch Yourself' question
6. Global energy supply and demand	Can I describe what factors affect energy supply?	Can I explain why energy consumption in the world is increasing?	AQA Oxford textbook. Pages 288-289. Answer activities questions and practice question A3 sheet Pumpkin video – Global Energy Security and questions
7. Impacts of energy insecurity	Can I describe the challenges of exploiting resources in difficult and sensitive environments such as Alaska?	Can I explain the negative impacts of energy insecurity of food, industry and why there is potential for conflict?	AQA Oxford textbook. Pages 290-291. Answer activity questions and the practice question Colour coding task to decide whether impacts of energy insecurity are social, economic or environmental Pumpkin video- Debating energy futures and questions Discussion of 2021 issue about whether to build a coal mine in Cumbria https://www.bbc.co.uk/news/explainers-56023895

KESTEVEN AND SLEAFORD HIGH SCHOOL

8. Strategies to increase energy supply	Can I describe how renewable energy resources can be used for increasing energy supply?	Can I explain why the non-renewable energy sources of fossil fuels and nuclear power are unsustainable?	AQA Oxford textbook. Pages 292-293. Answer the activity questions and practice question. Students could research a type of renewable energy; location, advantages, disadvantages and viability in the long-term https://www.bbc.com/bitesize/guides/zxc2sg8/revision/1
9. Gas – a non-renewable resource	Can I describe the advantages and disadvantages of natural gas?	Can I evaluate the decision to extract natural gas from the Camisea region of the Amazon rainforest in Peru?	Watch Camisea, Amazon clip and answer an exam style question http://www.bbc.co.uk/newsround/17744487 https://www.youtube.com/watch?v=6YfErPK-SCw https://www.youtube.com/watch?v=rzo5pOYhklY
10. Sustainable energy use	Can I describe some sustainable energy strategies?	Can I explain how technology can increase the efficiency of fossil fuels?	Watch Malmo clips of sustainable urban planning. Design an ecohome https://www.youtube.com/watch?v=6yZYXSsWnsg https://www.bbc.co.uk/programmes/p011kt4z
11. The Chambamontera micro-hydro scheme	Can I describe the micro-hydro scheme in Chambamontera, Peru?	Can I evaluate the Chambomontera micro-hydro scheme and explain how it benefited the local community?	Watch clip about Chambamontera micro-hydro scheme. Complete A3 sheet and answer the exam question. https://www.youtube.com/watch?v=vKQ6t0000Kc

KESTEVEN AND SLEAFORD HIGH SCHOOL

12. Building an open cast coal mine in Northumberland	Can I explain why the open-cast mining is needed?	Can I discuss advantages and disadvantages of building an open-cast mine?	Powerpoint – see SL Watch clips about Druridge Bay and make notes https://www.youtube.com/watch?v=zQkv8dAS4Tc https://www.youtube.com/watch?time_continue=360&v=fLIuqcWbvs8
13. Building an open cast coal mine in Northumberland	Can I discuss the social, economic and environmental impacts of the open-cast mine?	Can I justify my decision about whether to build an open-cast mine at open—cast mine at Druridge Bay?	Use the sample paper 3 issue evaluation resource booklet to answer the question 'Should a coal mine be built at Druridge Bay, Northumberland?'
14. End of topic test			