S2

Renewable Energy

Lesson Plan

Aim

To help young people to learn about different forms of renewable energy, design their own wind turbine and find out about different careers in the energy sector.

Mapping

CES 'I Can' Statements	CMS Themes
★ I can discuss the relevance of skills to the wider world and make connections between skills and the world of work ★ I can demonstrate and apply the skills I have learnt across the curriculum in relation to the world of work	★ Horizons

Learning Outcomes

Young people will be able to recognise:

- understand renewable energy and where it comes from
- be able to explain wind turbines and how they make energy
- know about careers in the energy sector and the skills needed for them

Development of Activity

Introduction

The young person should know that renewable energy is made from resources that nature can replace, like wind, water and sunshine. It is also called 'clean energy' or 'green power'. This is because it doesn't pollute the air or water.

Activity on next page…

Instructions

Before you start

★ Use these websites to learn more about energy sources:

https://www.alliantenergykids.com/RenewableEnergy/RenewableEnergyHome

https://www.bbc.co.uk/bitesize/guides/zggk87h/revision/1

They will tell you which sources of energy are renewable, and which are non-renewable.

★ Print the 'Renewable energy' worksheet or ask someone to print it for you

★ If you can't print it, take a sheet of paper and draw a line down the middle. Write renewable energy on one side and non-renewable energy on the other side.

Follow-up

The activity looks at the Energy Engineer role. There are lots of related job profiles on My World of Work that the young person could find out more about:

Offshore Service Technician (1) Aerospace engineer (2) Structural engineer (3) Materials engineer (4)

They can find about related apprenticeships on apprenticeships.scot(5)

Foundation Apprenticeships – Engineering (6)

Modern Apprenticeships – Wind Turbine Operation and Maintenance (7), Engineering (8)

Graduate Apprenticeships – Engineering: Design and Manufacture (9), Engineering: Instrumentation, Measurement and Control (10)

Reference Links

1. Offshore Service Technician https://www.myworldofwork.co.uk/my-career-options/job-profiles/offshore-service-technician
2. Aerospace engineer https://www.myworldofwork.co.uk/my-career-options/job-profiles/aerospace-engineer
3. Structural engineer https://www.myworldofwork.co.uk/my-career-options/job-profiles/structural-engineer
4. Materials engineer https://www.myworldofwork.co.uk/my-career-options/job-profiles/materials-engineer
5. Apprenticeships.scot https://www.apprenticeships.scot/
6. Engineering Foundation Apprenticeship https://www.apprenticeships.scot/become-an-apprentice/foundation-apprenticeships/engineering/
7. Wind Turbine Operation and Maintenance Modern Apprenticeship https://www.myworldofwork.co.uk/modern-apprenticeships/wind-turbine-operation-and-maintenance
8. Engineering Modern Apprenticeship https://www.myworldofwork.co.uk/modern-apprenticeships/engineering
9. Engineering: Design and Manufacture Graduate Apprenticeship https://www.apprenticeships.scot/become-an-apprentice/graduate-apprenticeships/engineering-design-and-manufacture/
10. Engineering: Instrumentation, Measurement and Design Graduate Apprenticeship https://www.apprenticeships.scot/become-an-apprentice/graduate-apprenticeships/engineering-instrumentation-measurement-and-control/