

# Curriculum for excellence Rich Task planning sheet

## 1. Statement of task – ‘The Challenge’

Make a feasibility study of alternative renewable energy production and present findings to an audience.

## 2. For age / stage / level?

All second year pupils with delivery over three weeks and presentation arranged for a later date.

## 3. Involving these curricular areas (tick)

Expressive arts	Religious and moral education
Health and wellbeing	Science *
Languages	Social studies *
Mathematics *	Technologies *

## 4. Enactment – what we are going to do within each department (What we are learning today)

Science	CDT	Maths	Geography	English and PSE
Generation of electricity	Modelling	Statistics	Weather systems	Presentation skills
Power sources	Materials	Collection of data	Weather patterns	Language
Electrical considerations	Resources	Analysing data	Wind generation	Structure
How it works?	Power producing devices	Presenting data	Force,direction,variation	Talking
Why use this?	Design	Energy calculations	Solar energy	Other?
Variety of experiments	Manufacture	Costings	Sunshine levels,variation	
Wind driven	Testing	Other?	How this happens	
Solar driven	Modification		Why?	
Others?	Finish and display		Other?	

## 6. The Outcome – How the pupils’ will demonstrate their learning and description of acceptable performance - - (What I’m looking for)

**Two teams of four pupils – one on wind energy  
one on solar energy**

- 1.Delivery of required learning by departments in classes, consideration given to the order of delivery.
2. Research by groups using cooperative learning methodology, assigned roles etc.
- 3.Access given to internet and class materials to facilitate this – information available from teacher when not found elsewhere.
- 4.Experiments as required indoors and outdoors with data collected to meet needs of groups.
- 5.Design and manufacture of models.
- 6.support as required on use of PowerPoint

### Presentation

Groups to present their learning to a chosen audience using PowerPoint, model(s), display, etc. as desired on

- Source of energy and considerations necessary
- Principles of power generation
- Investigation and experiments completed
- Conclusions

### Report

A report with photographs of the presentations and pupils at work on the task to be produced for the newsletter and the education website.

## 5. This will contribute to these capacities (tick)

### Successful learners

use literacy, communication and numeracy skills \*  
use technology for learning \*  
think creatively and independently \*  
learn independently and as part of a group \*  
make reasoned evaluations \*  
link and apply different kinds of learning in new situations \*

### Responsible citizens

develop knowledge and understanding of the world and Scotland’s place in it.  
understand different beliefs and cultures  
make informed choices and decisions \*  
evaluate environmental, scientific and technological issues \*  
develop informed, ethical views of complex issues \*

### Confident individuals

relate to others and manage themselves \*  
pursue a healthy and active lifestyle  
be self aware \*  
develop and communicate their own beliefs and view of the world  
live as independently as they can  
assess risk and take informed decisions  
achieve success in different areas of activity \*

### Effective contributors

communicate in different ways and in different settings \*  
work in partnership and in teams \*  
take the initiative and lead \*  
apply critical thinking in new contexts \*  
create and develop \*  
solve problems \*

## 7. Assessment–

At the presentation have a team of assessors to consider the following aspects

1. Quality of the presentation
2. Quality of the PowerPoint and ICT skills used
3. Quality of the model(s)
4. Depth and relevance of the background information given and use of this information
5. Justification given and maturity of conclusions

Assessors can the ask questions of the groups to enlighten their decision on which is the winning group.  
Two prizes to be awarded – winning group and runner up.