



Accredited



CAMBRIDGE NATIONALS

R071, R072 AND R073

RESOURCES LINK FOR PRACTICAL ACTION

FEBRUARY 2015

PRACTICAL ACTION
Technology challenging poverty



OCR
Oxford Cambridge and RSA

WELCOME

Resources Link is an e-resource, provided by OCR, for teachers of OCR qualifications. It provides descriptions of, and links to, a variety of independent teaching and learning resources that you may find helpful.

In Resources Link you will find details of independent resources, many of which are free: where this is the case this has been indicated.

If you know of other resources you would like to see included here, or discover broken links, please let us know. We would also like to hear from you if have any feedback about your use of these, or other, OCR resources. Please contact us at resources.feedback@ocr.org.uk.

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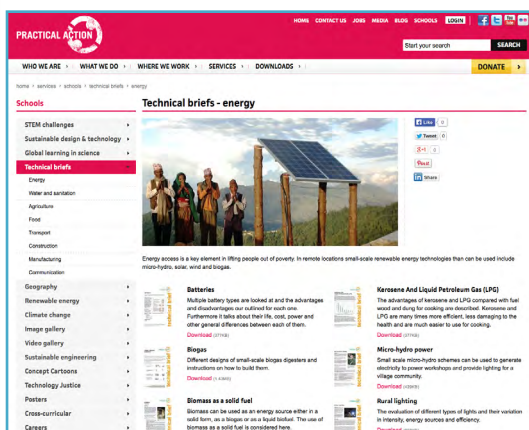
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Technical briefs - energy



Technical briefs on energy produced for people in the developing world to support them in making choices on energy access. They can be used as secondary sources for raw data and case studies.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R071, LO1 Be able to analyse personal and social choices related to energy supply

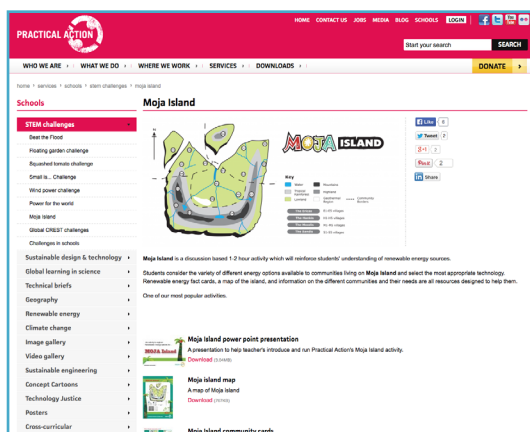
Cost: Free

Format: Website

<http://practicalaction.org/technical-briefs-schools-energy>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at resources.feedback@ocr.org.uk

Moja island



STEM challenge where learners consider different renewable energy solutions dependant upon their location and community on Moja Island.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R071, LO1 Be able to analyse personal and social choices related to energy supply

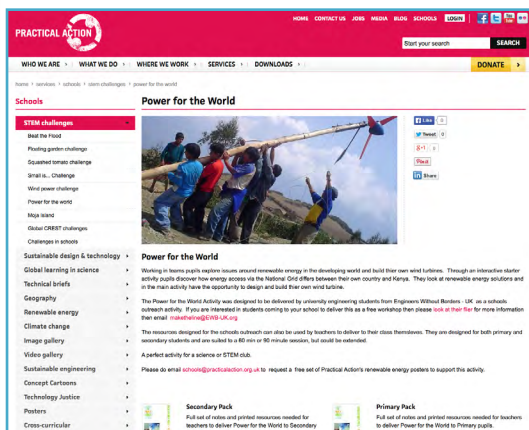
Cost: Free

Format: Website

<http://practicalaction.org/moja-island-1>

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Power for the World



STEM challenge around renewable energy where learners consider difference renewable energy solutions then design and build their own wind turbine.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R071, LO1 Be able to analyse personal and social choices related to energy supply

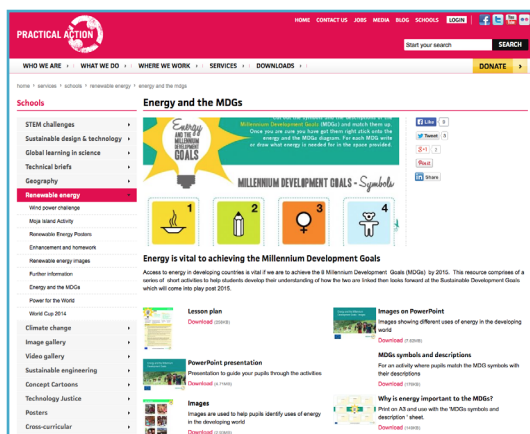
Cost: Free

Format: Website

<http://practicalaction.org/power-for-the-world-1>

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Energy and the Millennium Development Goals (MDGs)



Resource looking at how energy is made and why it is important to have technology enabling energy access in place to achieve the MDGs and the new sustainable energy development goals.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R071, LO1 Be able to analyse personal and social choices related to energy supply

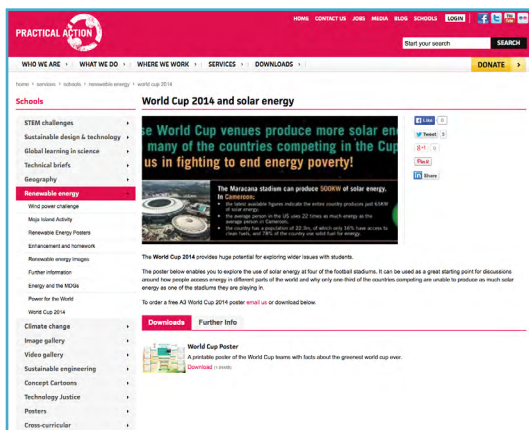
Cost: Free

Format: Website

<http://practicalaction.org/energyandthemdgs>

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World Cup 2014 and solar energy



World cup poster comparing energy used in the greenest stadium ever with energy usage in the developing world.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R071, LO1 Be able to analyse personal and social choices related to energy supply

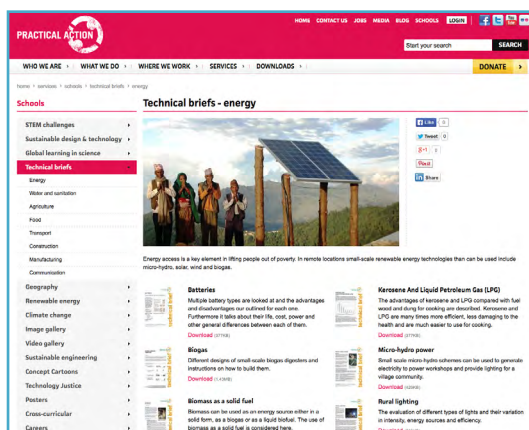
Cost: Free

Format: Website

<http://practicalaction.org/world-cup-2014>

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Technical briefs - energy



Technical briefs containing raw data on the efficiency of renewable energy.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R071, LO3 Be able to measure energy transfers and calculate efficiencies

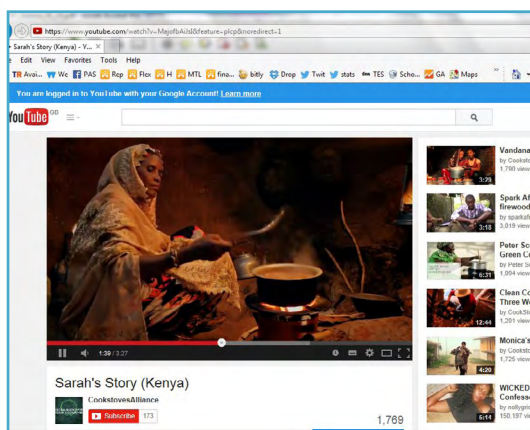
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Sarah's story - Kenya



Powerful video showing how an improved cooking stove can save lives.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R071, LO4 Understand how human health can be improved

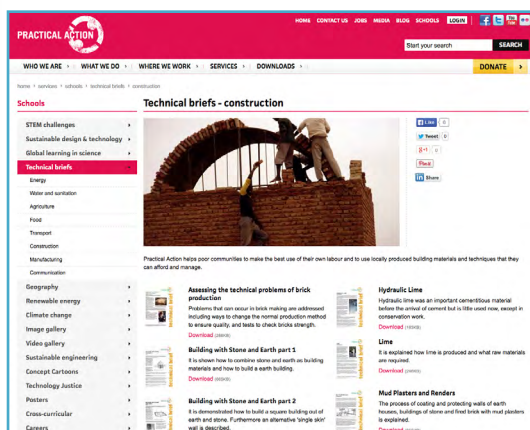
Cost: Free

Format: Website

<http://bit.ly/Sarahs-story-kenya>

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Technical briefs - construction



Technical briefs provide technical information for people in the developing world. They contain secondary sources of information including raw data on construction materials.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R071, LO7 Understand how materials we use are made from natural resources

Cost: Free

Format: Website

<http://practicalaction.org/technical-briefs-schools-construction>

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Beat the Flood challenge



A STEM challenge where learners use material cards to help them in their design of a model flood-proof house. Includes a cost analysis.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R071, LO7 Understand how materials we use are made from natural resources

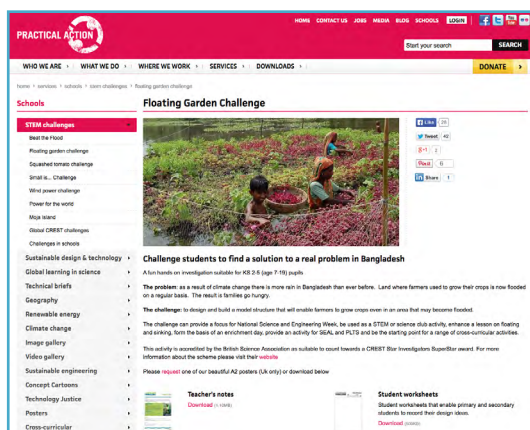
Cost: Free

Format: Website

<http://practicalaction.org/beattheflood>

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Floating Garden Challenge



STEM challenge where learners use modelling material to build a floating garden and look at locally sources materials used in the real floating gardens in Bangladesh.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R071, LO7 Understand how materials we use are made from natural resources

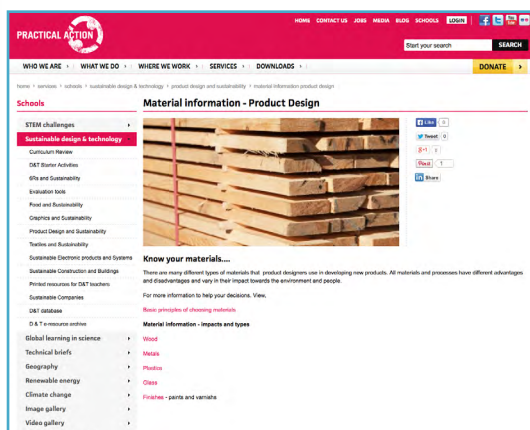
Cost: Free

Format: Website

<http://practicalaction.org/floatinggardenchallenge>

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Material information - Product Design



Information on a range of materials including their general properties and sustainable features.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R071, LO7 Understand how materials we use are made from natural resources

Cost: Free

Format: Website

<http://practicalaction.org/material-information-product-design>

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Beat the Flood challenge



A STEM challenge where learners measure the properties of materials for absorbency and strength to select which ones to use to build their flood-proof house.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R071, LO9 Be able to measure the properties of materials to recommend appropriate uses

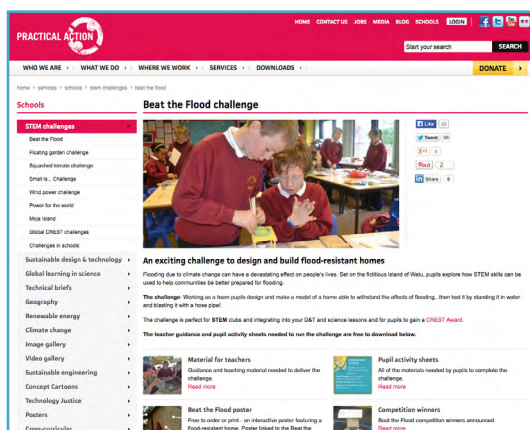
Cost: Free

Format: Website

<http://practicalaction.org/beattheflood>

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Beat the Flood challenge



A STEM challenge where learners look at variables in context of testing for absorbance and strength, then evaluate the information to design and build a model of a flood-proof house.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R072, LO3 Be able to evaluate scientific information

Cost: Free

Format: Website

<http://practicalaction.org/beattheflood>

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Beat the Flood challenge



STEM challenge where learners report back on tests they carried out on materials, and how the results influenced choices they made when designing a model flood-proof house. Including why certain materials have been selected.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R072, LO4 Be able to communicate scientific information

Cost: Free

Format: Website

<http://practicalaction.org/beattheflood>

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Global CREST challenges



STEM challenges where learners plan investigations into problems faced by people in the developing world around food, energy, transport, shelter and water.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R073, LO1 Be able to plan a scientific investigation

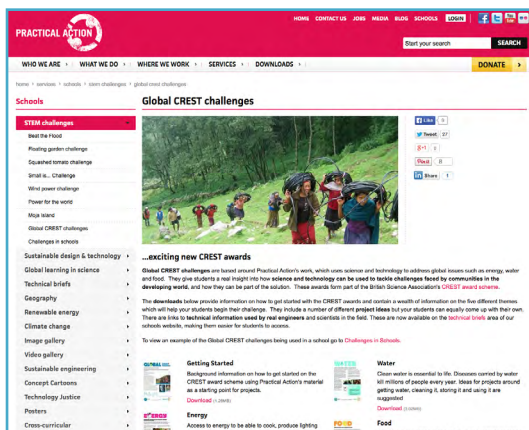
Cost: Free

Format: Website

<http://practicalaction.org/crest>

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Global CREST challenges



STEM challenges where data is collected from a variety of sources eg technical briefs, case studies, learners own experiments and videos.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R073, LO2 Be able to collect scientific data

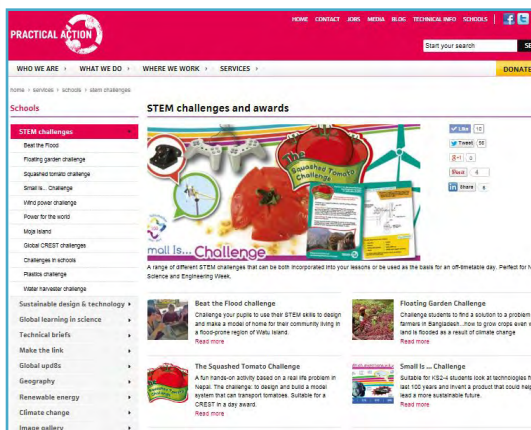
Cost: Free

Format: Website

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STEM challenges



STEM challenges where both qualitative and quantitative results are combined to inform the design of a model or system.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R073, LO3 Be able to analyse scientific information

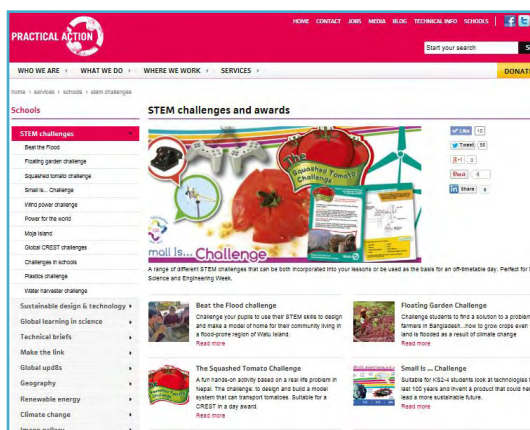
Cost: Free

Format: Website

www.practicalaction.org/stem

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STEM challenges



A range of different STEM challenges set in a global context where learners test, evaluate their work then suggest how it could be improved.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R073, LO4 Be able to evaluate scientific information

Cost: Free

Format: Website

www.practicalaction.org/stem

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Beat the Flood challenge



STEM challenge where learners are required to feedback on their work highlighting how their scientific testing has led to design decisions.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R073, LO5 Be able to communicate scientific information

Cost: Free

Format: Website

<http://practicalaction.org/beattheflood>

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Global CREST challenge



Designed for the CREST award scheme these challenges require learners to present the science behind their project to an external audience.

Supports: Level 1/2 Cambridge National Certificate in Science J815
Unit R073, LO5 Be able to communicate scientific information

Cost: Free

Format: Website

<http://practicalaction.org/crest>

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click on a resource to go to the appropriate page.

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Unit R071 - Learning Outcome 3

- Be able to measure energy transfers and calculate efficiencies

Unit R071 - Learning Outcome 4

- Understand how human health can be improved

Unit R071 - Learning Outcome 7

- Understand how materials we use are made from natural resources

Unit R071 - Learning Outcome 9

- Be able to measure the properties of materials to recommend appropriate uses

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- Understand the process of science: the scientific method

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- Be able to evaluate scientific information

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We're always delighted to answer questions and give advice.

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