



Hinchingsbrooke School Science Department

KS3 Homework Task

Energy HW1 – See-saw to light classroom

Date set:

Date Due in:

On the following page is information related to the task. You may need to do additional research to achieve the maximum level possible.

- Answer all questions, if you use PowerPoint please print off and stick in your book
- Fill in your details below

Name:	Form:
Teacher:	Science Set:

Feedback from teacher:

Student comment:

See-saw to light classroom

A 23-year-old design student from Coventry has won funding from university student enterprise schemes to develop a see-saw, which will generate electricity to light a classroom in African schools. He eventually, to design other pieces of playground that can generate enough electricity for a whole

Daniel Sheridan got the idea when he was doing work to help build a school in Kenya. He found that had lots and lots of energy, loved to play and were help with the work that was going on. They also had very few toys. Daniel thought it would be a great idea if he could invent something that the children could enjoy playing on, which would help their community at the same time.



Girl playing with an old wooden see-saw
(iStockphoto)

University award enough hopes, equipment village.

volunteering the children very keen to

After talking to experts, Daniel designed a see-saw that generates electricity as children rock up and down on it. Daniel is keeping the exact details of his design secret, but it is most likely that he uses gears or a pulley wheel and belt to turn the rocking motion of the see-saw into rotation of a small generator, similar to a large bicycle dynamo. Electricity from the see-saw can be stored in batteries so that it can be used even when children are not playing on the see-saw. Daniel has calculated that five to ten minutes of playing on the see-saw will create enough electricity to light a classroom for an evening.

QUESTIONS

- 1 Why did Daniel think that using a piece of playground equipment to generate electricity was a good idea?
- 2 Describe the energy changes that result in light to light the classroom. Is the original energy resource renewable or non-renewable?
- 3 Explain why it is a good idea to use a battery to store the electricity that has been generated. What form of energy is stored in the battery?
- 4 Daniel wants to build the see-saws using locally available materials, and local people. Suggest why this is a good idea.

Help Daniel to help others

Many charities work to raise money to help pay for schools and other facilities in African villages. If Daniel's design works, they will probably want to supply see-saws for lots of schools. Design a poster or leaflet that charities can hand out to the public to encourage them donate money to support this work.