

Suggestions for the teaching of energy

During the workshops, teachers made suggestions for ways to teach energy. The table below shows some of those ideas. Please note that a full risk assessment should be done before attempting any of the suggested activities.

Title	Description	Age
Energy cards	<p>Have students research a range of renewable and non-renewable energy sources. For each produce a list of points for and against.</p> <p>Using the information they have gathered the students produce three sets of cards. One set describes each of the energy sources. A second shows the points for each of the sources. A third shows the points against each source.</p> <p>Use the cards in a card-sort activity to reinforce the learning and also as an engaging revision activity.</p>	11-16
Energy survey	<p>Split students into small groups and give each group a particular room or area of the school to survey.</p> <p>The students survey each room to look at its energy use and also energy conservation.</p> <p>The activity can include a discussion on what should be included in the survey so that all rooms are treated consistently.</p> <p>Energy use could include the number of electrical or heating appliances and whether they were in use or not. Energy conservation would look at things like whether doors and windows were opened or closed and if the windows were single or double glazed.</p> <p>Conclude by writing a report on the school's current energy use and recommendations for improvements.</p>	7 - 16
Investigating turbines	<p>Have students produce and mount small-scale blades for wind turbines using thin card. Ask them to find the most efficient shape for the blade. Factors to consider include how to measure efficiency, how to make a controlled and reliable test and how to compare designs from different groups.</p>	11-19

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How much does it use?	<p>Show images of different electrical appliances and ask the students to rank them according to their electricity usage.</p> <p>Reveal the correct order and use this to start a discussion about how much electricity they use.</p> <p>Ask students to take meter readings for their house over a period of about 1 week and then calculate the cost of electricity their house has used.</p> <p>Discuss how electricity consumption could be reduced.</p>	11-16
Energy snakes and ladders	<p>Have students make their own board game of snakes and ladders.</p> <p>The bottom of ladders will contain positive ideas about energy and energy conservation. For example, fitting insulation would send you up a ladder.</p> <p>Snakes would be negative. For example, leaving a window open in the cold weather.</p> <p>The activity allows students to think about the positives and negatives around energy conservation and also provides an opportunity for creative expression in the production of the board game.</p>	7-11
Carbon footprint	<p>Have students draw a footprint onto a large piece of card or paper.</p> <p>Students then list inside the footprint, all of the activities that contribute to their own carbon footprint.</p> <p>Can use the footprints to make collage or display.</p>	7 - 11
Design an eco-house	<p>Competition for students to design an eco-friendly house.</p> <p>Bring in ideas about energy conservation and use as well as sustainability.</p>	7 - 16

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Energy dragons' den	<p>The lesson is set up as a 'Dragon's Den' type of activity. It allows students to consider the different forms of energy and sort them according to preference.</p> <p>Students are split into groups and given a particular energy source that they need to 'pitch' in favour of. Suggested energy sources are: coal, oil, gas, wind, solar, nuclear and tidal.</p> <p>Each group researches their energy source and prepares a two minute presentation to 'sell' their energy source.</p> <p>Each member of the class is given a nominal amount to invest (suggest £1,000). After hearing all of the presentations, each members of the class decides which energy source/s they are going to invest in and also how much of their money they will invest. Groups cannot invest in themselves.</p> <p>Total up the amount of money that is invested into each energy source and the 'winner' is the one with the most money.</p>	11 - 19
Careers card sort	<p>Produce three sets of cards based on careers in the energy institute.</p> <p>One set lists each job. The second set has salaries and the third the qualifications required.</p> <p>Students match the job with the salary and the qualifications. Then discuss their preconceptions with the realities.</p>	11 - 19