

Lesson 8: Alternative sources of energy

Teachers' notes

This lesson should take 2 one-hour sessions, or a double lesson with homework. After introducing the topic via discussion based around the PowerPoint pupils are set the task of carrying out an investigation. The pupil worksheet outlines a preferred experimental design (many schools will want to adapt this to their own department's equipment/safety policies). There is a fact sheet on ethanol with a few introductory questions on alternative fuels.

The experiment is to be written up in the form of a report (similar to an Sc1 format), but it is peer marked and assessed – using the marking criteria worksheet (a sigh of relief from all teachers reading this!). It is to be concise – no more than 2 sides of A4. (unlike the Sc1 assessments).

Pupils will learn about alternative fuels – namely 'ethanol', investigate its efficiency compared to other fuels and peer assess write ups.

Safety Note:

A practical risk involves the quantity of ethanol used and its contact with a naked flame (petrol is not allowed). The teacher should carry out a risk assessment to decide how the ethanol will be distributed. Having it in a fume cupboard away from any Bunsen burners for students to access is a possible solution. Burners can be used as an alternative but well fitting wicks are important to avoid spillage.