

## 2.4 Producing bioethanol

### Lesson outcomes

At the end of this activity students will be able to:

- describe the production of bioethanol and some of its properties.

### What ideas might your students already have?

- Students should be familiar with the term bioethanol and have an overview of its production from completing **Activity 2.3 Alternative fuels**.

### Equipment list

Each **GROUP** will require:

- 25 g white sugar (pre-weighed)
- 2.5 g powdered yeast (pre-weighed)
- 250 mL conical flask
- 500 mL beaker (to sit conical flask in)
- 100 mL measuring cylinder
- thermometer
- glass stirring rod
- delivery tube inserted in one-holed rubber stopper
- small dropper bottle of universal indicator solution and matching pH colour chart
- test tube and test tube rack

Each **STUDENT** will require:

- *Student Guide*
- **Notebook**

### Things to consider

- The time you have available and the experience and dynamics of your class will influence how you go about this investigation. For this reason the *Student Guide* makes no promises about what the students will do. If you are short on time you might like to do only one of the activities or demonstrate them.

### Teacher content information

Use two of the activities developed by Australian Academy of Technological Sciences and Engineering (ATSE) Science and Technology Education Leveraging Relevance (STELR) project to investigate some of the properties of bioethanol.

Producing Bioethanol <http://www.scootle.edu.au/ec/viewing/R12291/index.html>

Distilling an Ethanol Mixture <http://www.scootle.edu.au/ec/viewing/R12274/index.html>

These documents include teacher suggestions, background information, equipment lists, instructions and student activity sheets. You will need to register on *Scootle* (<https://www.scootle.edu.au/ec/p/home>) in order to access these resources.