



Michell Instruments: Science and Technology Competition 2014

The Science of Water

To celebrate our 40 years of business, we'd like to inspire a new generation of scientists and engineers with a competition for year 7 and 8 pupils. The winning team will get **£1000 worth of computer, science or datalogging equipment** for their school and be invited to Michell Instruments to visit the factory and receive their certificates and individual prizes. All schools to enter the competition will receive a DVD of Dr Peter Wothers' "Just Add Water" lecture.

Water is a fascinating substance. It makes up 80% of our bodies and 70% of the world's surface is covered by it. It's made up of two highly flammable elements, yet it's usually the first thing people think of to put out a fire. Michell Instruments was formed in 1974 as a moisture sensing company, and this is still at the core of our business. The science of water and its quirks of behaviour is something we – and our customers – are dealing with every day.

Competition Outline

The competition is for years 7 and 8, working in groups of four or five. The object is to research one of the properties of water listed below and produce an A3-size poster detailing how this could be demonstrated as an exhibit at a science museum. The task should take around 3 hours to complete in class.

Choose one of these properties of water to investigate:

Water as a solid

Does water always freeze at 0°C? What can affect the freezing temperature of water?

Surface tension

Why does water seem to have a 'skin' on the surface? (Questions to look at could be how this affects the natural world or can the surface tension be reduced?)

How to remove moisture

Sometimes water is not wanted and moisture needs to be removed – eg for preserving food or protecting products. What methods are used for removing moisture and how do they work?

All year 7 and 8 students are eligible to enter in teams. The first round of judging will take place in school by the teachers who will choose the three best entries to represent the school.

The judging criteria for the posters will be:

- Demonstration of understanding of the basic scientific principles researched
- Originality of approach
- Presentation (posters may be produced by hand, using a computer, or a mixture of the two)

See overleaf for more details and how to enter!



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As well as the poster, teams can also choose to submit results from experiments they carry out. These should be on A4 paper and may be either hand-written or printed.

The activities can take place at any point during the summer term, but submissions should reach us by **9th June** and the results will be announced during the week beginning **16th June**.

The winning team will be invited to visit Michell Instruments to collect their certificates and have a tour of the factory on 10th July*. The prize will be presented to the school at the start of the following term.

Judges

The entries will be judged by our distinguished panel:

Mike Bannister, CEO, Michell Instruments
Dr Stephanie Bell, National Physical Laboratory
Dr Chris Smith, The Naked Scientists
Dr Peter Wothers, University of Cambridge

How to enter

It's easy to register your interest in the competition, simply email sarah.lawrence@michell.com, giving the following details:

- Your school
- Your contact details (email and phone number)
- The dates you intend to carry out the activities
- What your school would use the prize for, if successful

Send the three final entries for your school to the address below to arrive before the closing date of **9th June**:

Sarah Lawrence
48 Lancaster Way Business Park
Ely
Cambridgeshire
CB8 8BU

We suggest sending the entries in via registered post to ensure delivery.

Questions?

If you'd like to find out more about the competition, please either call or email Sarah Lawrence at Michell Instruments:

Direct line: 01353 658031
email: sarah.lawrence@michell.com



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* If this date is not suitable for the school, an alternative can be arranged.