

## Star chemistry

### Debate! Can we really do 'space chemistry' on Earth?

Here are two views about the experiment presented in **Chemical reactions in the Interstellar Medium**:



#### Angela thinks:

'The practical experiment described here is important. The conditions are the same as in the ISM. It is better to try this kind of experiment than to have only the results of calculations. The results help us understand more about how hydrogen molecules form. This is needed to help us work out how the Universe came to exist. I trust the results and understand what happens in space better because of this experiment.'



#### Richard thinks:

'We cannot trust the results of this experiment because what might be happening in outer space could be very different. The scientists have done a very small scale experiment. Space is huge. We do not know for sure if hydrogen forms like this. The results are only a theory. I do not think we really know any more about what happens in space because of this experiment.'

#### What you do

1. Use evidence from the article and your own ideas to decide who you agree with. In your discussion, think about:
  - How scientific 'facts' develop – are experiments always needed to find them out?
  - What happens in space is very far away from us – can we really imitate 'space' conditions here on Earth?
  - Hydrogen molecules will exist whether we study them or not – why do we need to?
  - How could chemistry in space be studied other than by doing this kind of experiment?
2. Discuss the views of Richard and Angela with a partner. Agree on answers to the questions above.