
OCR GCSE Science A, laS4 'The scientific community' Specification statements **in student-speak, and applied to 'The Barringer crater'**

Caution

The laS 'student speak' statements here have been rigorously checked, yet they still cannot replace the OCR statements when preparing students for OCR assessment units.

Writing student-speak versions of the laS statements is perilous.

There are several difficulties to overcome, in particular the following.

- Over-simplification of a statement may result in its meaning being lost or distorted.
- For some statements it is tempting to provide too much detail in the student-speak version, that is to begin teaching the meaning rather than simply restating it in a way you hope students will find more accessible.
- Technical language, which students need in order to correctly express ideas about science, may be inadvertently removed from the statements.

Acknowledgements

This chart with 'student speak' statements was developed as part of a project initiated by a group of Twenty First Century Science teachers, meeting first in October 2006 to discuss how Assessment for Learning (AfL) approaches could be applied to the teaching and learning of Ideas about Science. The group was convened by Peter Robinson, SNS consultant for Bury LA, and Jenifer Burden, Co-director for Twenty First Century Science at the University of York Science Education Group.

Editors: Peter Campbell, Robin Millar and Carol Tear • **Downloaded** from www.21stcenturyscience.org

Ranking in order of difficulty

The laS statements are shown in a rank order, indicating those which students might find straightforward, and those which might be more challenging. Higher Tier statements are shown in bold.

However, the difficulty of laS outcomes may vary depending on the context in which they are being applied, as well as between students themselves.

The ranking is therefore only intended as a starting-point for science departments, to assist with the development of success ladders for students.

IAS4 THE SCIENTIFIC COMMUNITY • OCR GCSE Science A • Specification statements translated into student-speak and applied to the Barringer crater

LEVEL OF DIFFICULTY

Can identify absence of replication for questioning a scientific claim.	Can recognise that new scientific claims which have not yet been evaluated by the scientific community are less reliable than well-established ones.	Can describe in broad outline the peer review process, in which new scientific claims are evaluated by other scientists.	Can suggest plausible reasons why scientists involved in a scientific event or issue disagree(d).	Can suggest reasons for scientists' reluctance to give up an accepted explanation when new data appear to conflict with it.
I can say why doing a test or experiment only once is not as good as repeating it. I know that a scientific claim is stronger if other scientists can get similar data.	I can see why results that have been checked by other scientists can be trusted more than those that haven't.	I can describe how scientists check each others' work by a process called 'peer review'.	I can give reasons why scientists may disagree about some data or explain the same data differently.	I can give reasons why scientists might not want to change their ideas, even if new data don't support these ideas.
n/a	I can see why claims about the Barringer crater that other scientists have been presented to other scientists can be trusted more than new ideas that have not yet been checked in this way.	I can describe how the work of some scientists studying the Barringer crater was checked by peer review.	I can suggest reasons why Gilbert and Barringer did not agree on the best explanation for the Barringer crater, and why they had different explanations for the same data.	I can suggest reasons why some scientists studying the Barringer crater did not immediately change their ideas, even when new data did not support these ideas.
			Can explain why scientists regard it as important that a scientific claim can be replicated by other scientists.	
			I can explain why a scientific claim is more likely to be accepted if several scientists have done similar investigations and got results that agree.	
			I can explain why claims about the Barringer crater that are supported by results from several scientists	