
OCR GCSE Science A, laS5 'Risk' Specification statements in student-speak, and applied to 'How safe is safe?'

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.

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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.

IAS5 RISK • OCR GCSE Science A • Specification statements translated into student-speak and applied to How safe is safe? 1

LEVEL OF DIFFICULTY

Can identify examples of risks that arise from a new scientific or technological advance.	Can explain why it is impossible for anything to be completely safe.	Can interpret and discuss information on the size of risks, presented in different ways.	Can discuss a given risk, taking account of both the chance of it occurring and the consequences if it did.	Can propose an argument based on the 'precautionary principle'.
I can give examples of risks from a new scientific or technical advance, e.g. IVF, the internet, man-made fats in food.	I can explain why every activity carries some risk, even though this may be very small.	I can judge how big a risk is, using information presented in different ways.	When I discuss a risk, I take account of: <ul style="list-style-type: none"> • the chance of it happening, • how bad the effects would be if it did happen. 	I can put forward an argument that is based on the 'precautionary principle'.
I can give examples of risks associated with the use of nuclear power to generate electricity.	I can explain why nuclear power and parachute jumping are not completely safe, even though the risks may be small.	I can use information about nuclear power and about parachute jumping to judge how big the risks of these are.	When I discuss risks associated with nuclear power or parachute jumping, I take account of: <ul style="list-style-type: none"> • the chance of something happening, • how serious the effects would be if it did. 	n/a
Can suggest ways of reducing specific risks.	Can suggest benefits of activities that have a known risk.	Can discuss personal and social choices in terms of a balance of risk and benefit.	Can distinguish between actual and perceived risk when discussing personal and social choices.	Can explain what the ALARA (as low as reasonably achievable) principle means.
I can suggest ways of reducing a particular risk.	I can suggest benefits of activities that have a known risk.	I can suggest reasons for choosing whether to do something, by weighing up the risks and benefits.	I can tell the difference between perceived and actual risk.	I can explain what the ALARA (as low as reasonably achievable) principle means.
n/a	I can suggest benefits of using nuclear power, and doing a parachute jump.	I can discuss whether to use nuclear power, or do a parachute jump, by weighing up the risks and the benefits.	n/a	I can identify where a person is using the ALARA principle in discussing nuclear power or parachute jumping, and explain why I think he/she is using it.

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	Can explain reasons for people's willingness (or reluctance) to accept the risk of a given activity.	Can identify an argument based on the 'precautionary principle'.	Can suggest reasons for given examples of differences between actual and perceived risk.	Can apply the ALARA principle to a given context.
	I can suggest why someone who knows the risk of a particular activity may (or may not) go ahead with it.	I can spot when someone is using the 'precautionary principle' to decide what to do in a certain situation ("when risk is uncertain, better safe than sorry!").	I can suggest reasons why people might think the risk of something is bigger (or smaller) than it actually is.	I can use the ALARA principle in a particular situation.
	I can suggest why someone who knows that a parachute jump has some risk might still want to do one.	I can spot the person who is using the precautionary principle when discussing parachute jumping.	n/a	n/a