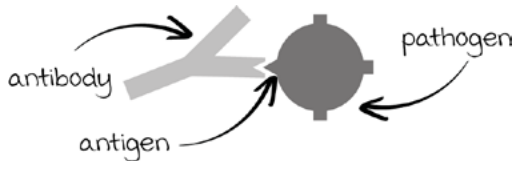
GCSE (9–1) SCIENCE

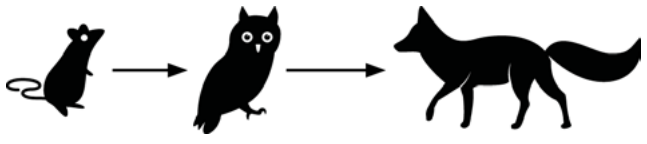
OCR
Oxford Cambridge and RSA

2019 Summer Highlights

Biology



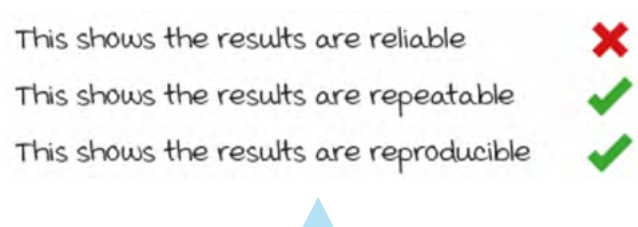
Antibodies made by our immune system recognise and bind to the antigens found on the outside of foreign organisms.



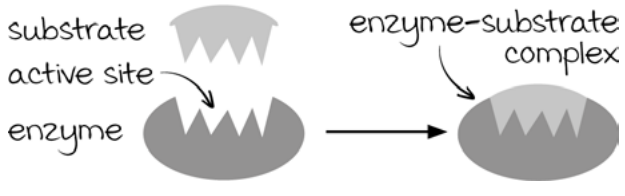
Food chains show the direction energy moves between organisms. Pyramids of biomass show total energy in each level.

	A	a
A	AA	Aa
a	Aa	aa

Make sure that your capital letters in a Punnett square are much bigger than the lower-case letters.



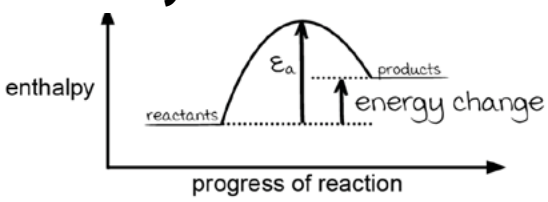
Use of the term 'reliability' is not encouraged. 'Repeatability', 'confidence' and 'reproducibility' are more appropriate.



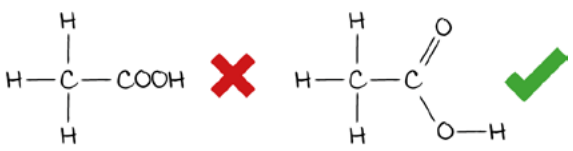
The substrate acts as a key and the enzyme as a lock. The active site is the specific part of the lock the key fits into.

Remember living things are biotic, non-living things are abiotic.

Chemistry

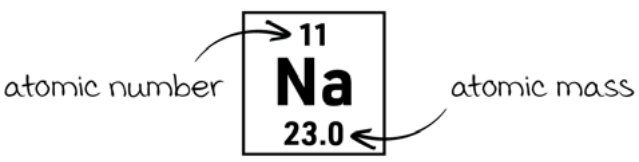


Energy profile diagram arrows are single headed, show direction of energy change and extend to the limits of the change.

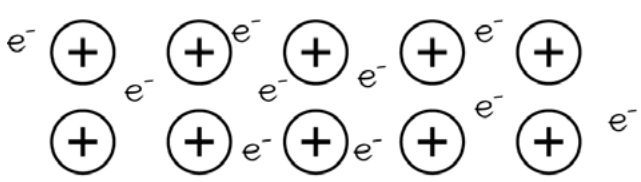


When drawing display formulae show all the bonds in the compound.

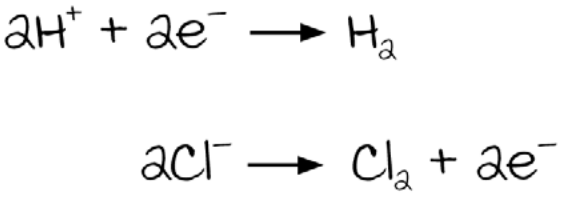
Use capital letters where appropriate when writing chemical symbols. The first letter of an element symbol is always a capital.



Atomic number is the smaller number: the number of protons in an atom. Atomic Mass is the larger number: the mass of an atom.

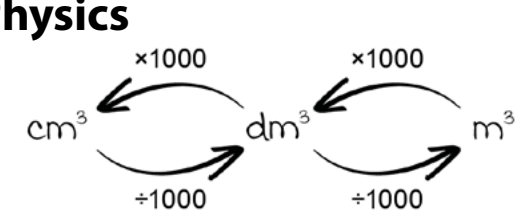


When drawing the structure of a metal, draw the delocalised electrons surrounding and in between the metal ions.

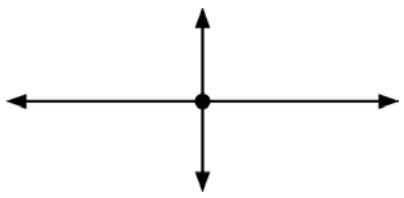


Half equations show you what happens to each ion in the reaction showing the electrons involved.

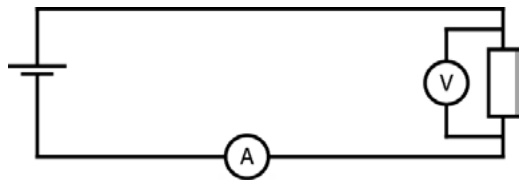
Physics



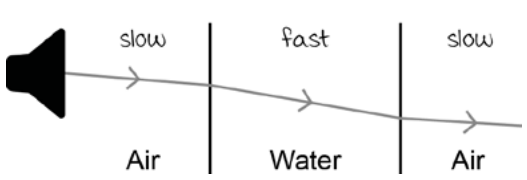
In calculations always check the units and make conversions if needed.



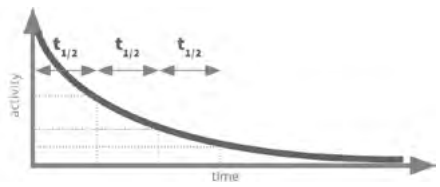
A free body diagram is the scientific way to show the forces acting on an object. Length and position of arrows matters.



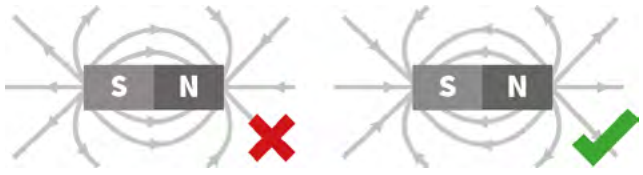
In circuit diagrams components must be connected and in the correct position. Ammeter in series, voltmeter in parallel.



Sound waves move faster in denser mediums. e.g. Sound waves move faster in water than in air.



The half-life of a radioactive source is the time taken for half its nuclei to decay and can be found using an activity-time graph.



When drawing magnetic field lines, the arrows go from the north pole to the south pole and should not overlap.

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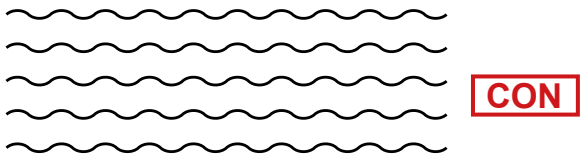
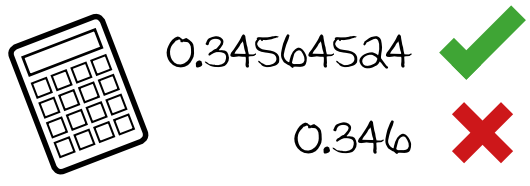
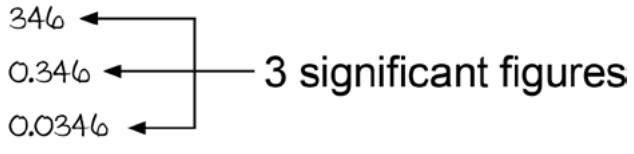
If changing an MCQ answer, completely cross out the wrong letter and write the correct one anew. Use upper-case letters only.



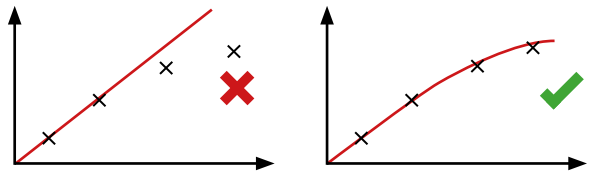
Longer answers don't always lead to more marks. If correct responses are contradicted, marks can be lost.



It's always more accurate to round once, for the final answer, and work with unrounded values on the calculator.

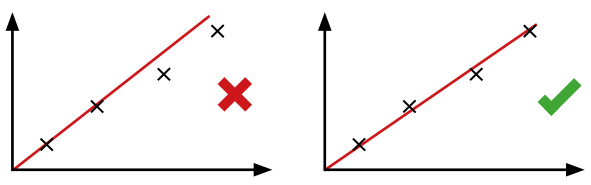


Make sure you give answers to the number of significant figures asked for after performing calculations.

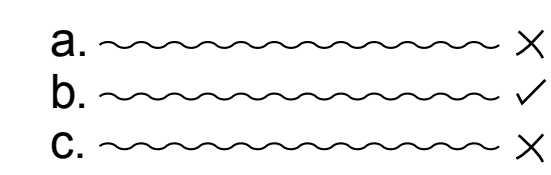


Lines of best fit can be straight or curved. They don't have to extend to the axes or origin if not appropriate.

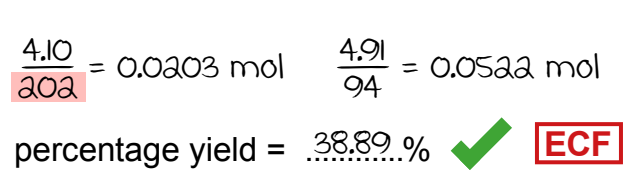
Cross out answers if you need to change them. Trying to correct an answer by writing over it can make it unclear.



Lines of best fit should cover all points and have a fair distribution of points above and below the line.



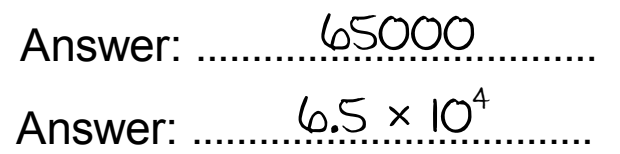
For MCQs, if you don't know the answer try eliminating options by annotating. Don't leave MCQ answers blank!



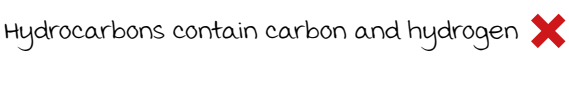
Show clear working for calculations. Error carried forward may mean a response still gains marks if a mistake is made.

Remember that precision is the closeness of agreement between different results. It is not the same as accuracy.

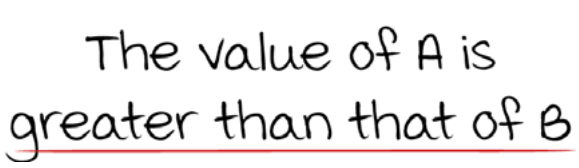
Accuracy is a measure of how close a result is to the true value.



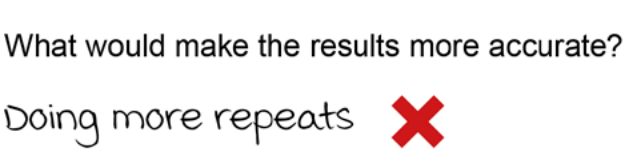
You need to be able to convert results between decimal form and standard form (e.g. $a \times 10^n$).



Use precise terminology, so your answer shows the whole picture.



When a question asks you to make a comparison, make sure you clearly describe differences and/or similarities.



Repeats improve precision of the set of measurements, and not their accuracy.

The candidate exemplar materials for the 2019 GCSE Science papers can be found on Interchange.

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