A LEVEL *BIOLOGY A & B*

OCR
Oxford Cambridge and RSA

2019 Summer Highlights

Your answer: ~~A~~ B

If changing the answer for an MCQ, completely cross out the wrong letter and write the correct one anew.

CON

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

0.34564524 ✓
0.346 ✗

It's always more accurate to round once, for the final answer, and work with unrounded values on the calculator.
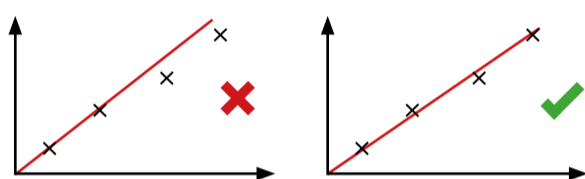
346
0.346 → 3 significant figures
0.0346
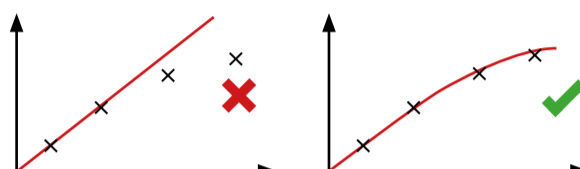
Make sure you give answers to the number of significant figures asked for after performing calculations.

✗   ✓

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

Answer: ~~1008~~ –504

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.

a. ✗
b. ✓
c. ✗

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

$R_f = 2.0 \div 5.0$

Answer: 4.0 ✓ ECF

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

precise   imprecise

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

accurate   inaccurate

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

Answer: 65000
Answer: 6.5×10^4

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

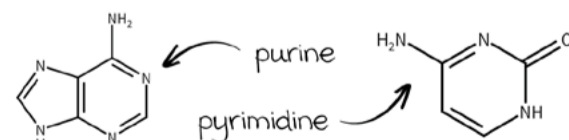State three variables necessary for a **valid** comparison.

Validity is about controlling the variables around the collection of data so that is not affected by inconsistencies.

For   Against

You should always aim to give a balanced discussion in ethical based questions.

Animal A has smaller legs than animal B ✗

Animal A has shorter legs than animal B ✓

When describing differences, the language used must be precise and use comparative terms such as 'more' or 'less'.

Remember that DNA consists of a sequence of bases, not a sequence of amino acids.

Osmosis   water concentration ✗
water potential ✓

Osmosis is the net movement of water across a partially permeable membrane down a water potential gradient.

NH_2 purine
H_2N pyrimidine

Purines (A, G) have a double carbon ring structure while the pyrimidines (T, C, U) have a single.

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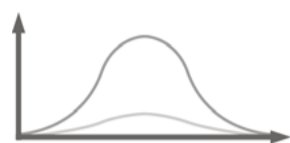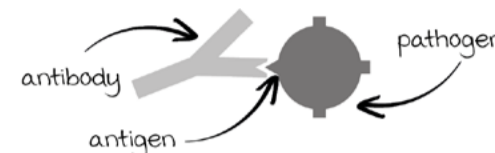
Compare the changes in the graph

When asked to compare, describe or evaluate make sure you quote relevant data, including units.

probability ≠ chance

The word 'chance' in statistics refers to the random deviations from 'probability' that can occur.

antibody · antigen · pathogen

Antigen is a protein on the outside of a foreign organism. Antibody is the protein produced by the body's immune system.

xylem
cambium
phloem
sclerenchyma

Remember, the xylem is on the inside of each bundle and the phloem on the outside.

veins are travelling closer to the skin ❌
veins are closer to the skin surface ✅

Avoid terms like veins are 'travelling', 'pushing' or 'moving' closer to the skin.

Humans *Homo sapiens*

The term 'species' doesn't refer to an individual organism. Using it in the wrong context could lose you marks.

Rate of reaction / Temperature — enzyme denatured
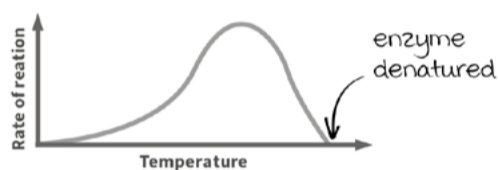
Enzymes do not denature at low temperature. They have lower kinetic energy therefore there is lower activity.

$mm^a\ s^{-1}$ ✅ $mm^a\ sec^{-1}$ ❌
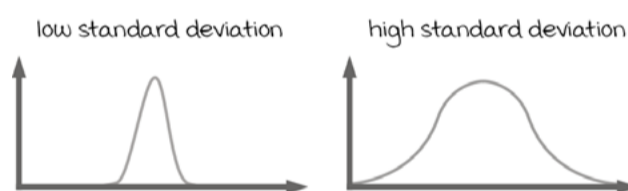mm^a/s ✅ mm^a/s^{-1} ❌

Avoid combining two conventions such as a slash and '-1'. Correct abbreviations of units must be used.

$\% \text{ uncertainy} = \dfrac{2 \times \text{absolute uncertainty}}{\text{quantity measured}} \times 100$

The percentage uncertainty equation is one of the mathematical formulae students are expected to recall.

biodiversity levels ≠ areas of a habitat
biodiversity levels ≠ classification

When referring to biodiversity at different levels this is habitat, species and genetic biodiversity.

low standard deviation   high standard deviation

Standard deviation cannot tell us if a difference is significant.

$\% \text{ change} = \dfrac{\text{new value} - \text{original value}}{\text{original value}} \times 100$

Percentage change is a formulae that students need to recall. A negative value indicates a % decrease.

CH_2OH — deoxyribose — ribose
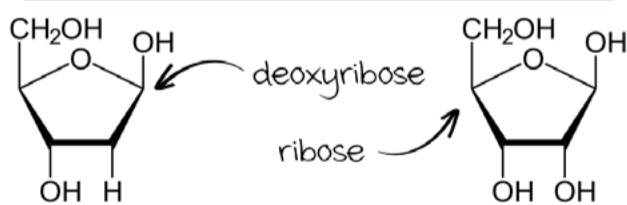
Distinguishing between DNA and RNA structure seemed to be a challenge.

Genes affect the offspring ❌
Genes are passed on to the offspring ✅

The use of precise language is important and marks may be lost if the correct terms are not used.

No. of phospholipid molecules: ....150,000.... ❌
No. of phospholipid molecules: ....150.5.... ✅

Students need to consider whether their numerical answer is reasonable and realistic.

The full candidate exemplar materials for the 2019 Biology A Level papers can be found on Interchange.