GCSE Examiners' Report

Applied Science (Double Award)

GCSE

Summer 2026

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Introduction

Our Principal examiners' report provides valuable feedback on the recent assessment series. It has been written by our Principal Examiners and Principal Moderators after the completion of marking and moderation, and details how candidates have performed in each unit.

This report opens with a summary of candidates' performance, including the assessment objectives/skills/topics/themes being tested, and highlights the characteristics of successful performance and where performance could be improved. It then looks in detail at each unit, pinpointing aspects that proved challenging to some candidates and suggesting some reasons as to why that might be.[1]

The information found in this report provides valuable insight for practitioners to support their teaching and learning activity. We would also encourage practitioners to share this document – in its entirety or in part – with their learners to help with exam preparation, to understand how to avoid pitfalls and to add to their revision toolbox.

Further support

Document	Description	Link
Professional Learning / CPD	WJEC offers an extensive programme of online and face-to-face Professional Learning events. Access interactive feedback, review example candidate responses, gain practical ideas for the classroom and put questions to our dedicated team by registering for one of our events here.	https://www.wjec.co.uk/home/professional-learning/
Past papers	Access the bank of past papers for this qualification, including the most recent assessments. Please note that we do not make past papers available on the public website until 12 months after the examination.	Portal by WJEC or on the WJEC subject page
Grade boundary information	Grade boundaries are the minimum number of marks needed to achieve each grade. For unitised specifications grade boundaries are expressed on a Uniform Mark Scale (UMS). UMS grade boundaries remain the same every year as the range of UMS mark percentages allocated to a particular grade does not change. UMS grade boundaries are published at overall subject and unit level. For linear specifications, a single grade is awarded for the subject, rather than for each unit that contributes towards the overall grade. Grade boundaries are published on results day.	For unitised specifications click here: Results, Grade Boundaries and PRS (wjec.co.uk)

[1] ***Please note that where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.***

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Executive Summary

Total entries were similar to 2025, with the vast majority of candidates entered at Foundation tier. There was a very small higher tier entry, which was approximately 10% of the total entry for this qualification.

The beginning of the Foundation tier papers included many objective style questions and straightforward calculations. These parts were generally well attempted, although many candidates made errors in questions requiring recall and made random guesses. There were also those candidates who, through failing to read the question properly, did not follow instructions so selected more or less answers than required.

Candidates often did not answer a question in the way they were instructed to. E.g. failure to use data in an answer when instructed to do so often resulted in no marks being awarded. Where candidates demonstrated some understanding, many answers were vague or confused and sometimes did not relate exactly to the question asked. Examples of using irrelevant data were seen.

Questions that assessed mathematical skills were generally well attempted. However, many candidates substituted incorrectly into given equations and sometimes ignored the maths symbols that were given. There continued to be a significant number of candidates that did not show any workings.

The quality of graph work was inconsistent. The majority of candidates were able to successfully plot some points onto the grid but usually an error was seen. Only a minority were able to add a best fit curve. Again this year, candidates often didn't read questions thoroughly and therefore missed out on some marks, e.g. adding lines to a graph.

QER questions that did not require recall were better answered than those that did, e.g. questions requiring recall of a practical method or describing the desalination process were poor.

In the task based assessment, pack B was more popular than pack A. However, candidates appeared to perform equally well across both packs. In the planning section there was still some confusion on variables and candidates had more difficulty producing labelled diagrams this year. Most could write a method, but often repeats and range were missed. Collecting and recording was the best section, however questions on resolution were often answered badly or units missed out. In the analysis section, graph plotting was often an issue. Evaluations were the weakest sections.

In the practical assessment unit, there was evidence that candidates were familiar with practical work and the analysis of practical results. As in previous series, candidates were largely successful in making hypotheses and in identifying variables. Notable areas that candidates found challenging were scaling graphs and lines of best fit. Using data to justify evaluations was also weak.

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APPLIED SCIENCE (DOUBLE AWARD)

GCSE

Summer 2026

UNIT 1 FOUNDATION TIER

Overview of the Unit

The exam paper included questions based on all three assessment objectives so tested recall of knowledge (40%), application and understanding of knowledge (40%), and analysis, interpretation and evaluation of information (20%). The Applied Science examination papers cover biology, chemistry and physics topics, set in an applied context.

There was a similar number of objective style questions this year as in previous years. Performance in these questions was generally good. The remainder of the paper was comparable with previous series. It provided a fair test for the candidates at Foundation Tier and differentiated well. The degree of difficulty of questions increased throughout the paper, with questions in the common section providing the most challenge.

The objective style question parts were generally well attempted. This style of questioning made them more accessible to candidates. However, many candidates lacked the basic knowledge and understanding of the topics assessed through some of these questions and probably made random guesses. The performance of candidates in other recall questions was poor. This is nothing new and has been commented on in exam reports for several series.

In some question parts, candidates were asked to include data in their answer. Failure to do so often resulted in no marks being awarded. Candidates needed to take more care when reading all the information. Questions that involved giving explanations or reasons for data given in tables were especially badly answered with most candidates just re-stating values in the tables. Candidates also found it difficult to compare the data given in two charts.

Questions that assessed mathematical skills seemed to be better attempted this session. Equations were given in the appropriate form in the question part. However, many candidates failed to extract the required information from charts given and substituted incorrectly into given equations. Another problematic area was the incorrect rounding of final answers. It is emphasised that workings should be shown in the provided spaces when answering calculation questions. Marks are often provided for selection of values and substitution. These marks cannot be awarded if all that is shown is an incorrect answer on the answer line.

Graph plotting was generally good but some candidates did not join the points with straight lines.

The QER question required recall of knowledge. A good number of candidates attempted the question, but the facility factor of this part was low. As in previous sessions, many spelling, and capitalisation errors were seen

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Comments on individual questions/sections

Q.1 This question was answered well by most candidates. The most common error was to answer molten metal core instead of mantle.

Q.2 (a) Generally answered well but oxygen and carbon dioxide were frequently the wrong way round.

(b) Most candidates scored at least one mark.

Q.3 (a) Most candidates gained at least half marks here. It was common to see high and low inverted.

(b) (i) Very few candidates earned a mark here. This was not attempted by nearly 27% of candidates. Many candidates suggested answers of 'time it' / 'stir it' rather than the correct answer of heating.

(ii) Very few candidates earned a mark here. It was common to just see the colour given in the table re-stated rather than the reason that glucose had entered the water.

Q.4 (a) (i) This was a very well attempted question. Common errors included answers of 6 or 24, as well as other values from incorrect elements.

(ii) Another well attempted question. Approximately half the candidates selected the correct answer.

(b) (i) Generally answered well but it was common for candidates not to multiply the 16 by 4 to find the total mass of oxygen.

(ii) Very few correctly recalled that water was the missing product formed from the reaction between an acid and base. Common incorrect responses were oxygen and hydrogen.

(c) Very few marks were awarded here. Candidates were required to use named elements from group 6 to explain that the number of neutrons was not the same for each element in the group. Some candidates picked the wrong group; others went across periods. Some candidates who used the correct group only checked the first elements, limiting themselves to a single mark. The non-attempt rate was over 30%.

Q.5 (a) About half the candidates selected the correct option.

(b) (i) A minority of candidates were able to describe the relationship based on the graph. About 20% of candidates did not attempt an answer.

(ii) Most candidates could correctly give the value when the current was the same for both components.

(iii) About half of the candidates could correctly calculate the resistance.

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Q.6 (a) This QER question required recall of knowledge which always demonstrates a deficiency in the time candidates spend in learning subject content. Common indictive content seen was 'filtration removes dirt/debris' and 'chlorine added to water to kill bacteria.' Candidates showed little understanding of the process and purpose of desalination or how filtration is carried out.

(b) Very few candidates earned a mark here.

(c) (i) Most candidates scored well in this graph question. Most of the points were on major grid intersections and were joined with a series of straight lines. There was some carelessness when drawing lines point-to-point. A ruler was not always used. Some candidates failed to draw the line.

(ii) Most candidates scored this mark.

(iii) Only a minority scored this mark.

Q.7 (a) Very well attempted but only a small number of candidates scored both of these recall marks.

(b) Only a minority of candidates scored on this recall question with the idea of stepping up power seen much too often.

(c) The majority of candidates completed the calculation correctly. The mark lost tended to be power of ten errors in transcription.

Q.8 (a),(b) This question required candidates to look at tables of data in order to explain problems of sustainability and carbon footprint. This was poorly answered, and the non-attempt rate was about 25%. It was common to see parts of the table copied into the answer lines rather than explanations why these improved sustainability or led to a carbon footprint.

Q.9 This question was common with the Higher tier.

(a) This was poorly answered, and the non-attempt rate was about 24%. Many candidates struggle to compare the two graphs and did not realise that for certain months too much was produced and for other months not enough was generated. Many candidates didn't seem to look at the graphs and just used the figures in the question to say Aled was correct.

(b) (i) About half of candidates scored marks on this question. The most common error was to divide 0.265 into 1.

(ii) This was not answered well. Many candidates didn't realise they needed to multiply output of the solar panel by 12, some multiplied by 12^2. The most common mark given was for reading 510 from graph.

(iii) This was poorly answered.

Q.10 This question was common with the Higher tier. The question was poorly answered.

(a) Some incorrect answers included carbohydrase, glucose, acid, starch.

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(b) It was very rare for candidates to score both marks.

(c) (i) The only mark scored by candidates was for keeping temperature the same.

(ii) some candidates scored the mark for saying that activity increased and then decreased. A few candidates correctly gave the optimum value of 7.5.

(iii),(iv) These parts were very poorly answered.

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APPLIED SCIENCE (DOUBLE AWARD)

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UNIT 1 HIGHER TIER

Overview of the Unit

The exam paper included questions based on all three assessment objectives so tested recall of knowledge, (40%), application and understanding of knowledge, (40%), and analysis, interpretation and evaluation of information (20%). This paper examined topics from the three science disciplines offered in the Science suite.

The degree of difficulty of questions increased throughout the paper. Questions in the common section provided the least challenge.

The performance of candidates in recall questions was poor. This is nothing new and has been commented on in exam reports for several series. The QER question required recall of knowledge. The facility factor was low but slightly higher than in previous years.

Sometimes a question part required candidates to include data in their answer. Failure to do so often resulted in no marks being awarded. Candidates need to take more care when reading all the information, making sure they act on command words and any other instruction given. Candidates also found it difficult to compare the data given in two charts.

Generally, the best answered questions on the paper were the calculations. However, many candidates substituted incorrectly into given equations. Sometimes this was due to incorrectly selecting data or by not considering units. Candidates struggled to re-arrange a formula when required. Another problematic area was the incorrect rounding of final answers. This always attracts a penalty. It is emphasised that workings should be shown in the provided spaces when answering calculation questions. Marks are often provided for selection of values and substitution. These marks cannot be awarded if all that is shown is an incorrect answer on the answer line.

There seems to have been a number of candidates that would have been better suited to being entered for the Foundation tier paper.

Comments on individual questions/sections

Q.1 This question was common with the Foundation tier.

(a) Many candidates struggled to compare the two charts and didn't realise that for certain months too much was produced and for other months not enough was generated. Many candidates didn't seem to look at the graphs and just used the figures in the question to say Aled was correct.

(b) (i) Many candidates scored both marks on this question. The most common error was to divide 0.265 into 1.

(ii) A minority of candidates scored all the marks on this question. Many candidates didn't realise that they needed to multiply output of solar panel by 12, some multiplied by 12^2. The most common mark given was for reading 510 from the graph. Some rounding errors were seen.

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(iii) This was poorly answered.

Q.2 This question was common with the Foundation tier. The question was poorly answered.

(a) Some incorrect answers included; carbohydrase, glucose, acid, starch.

(b) It was very rare for candidates to score both marks.

(c) (i) This was well answered, with just over half of the candidates scoring the mark.

(ii) Most candidates scored the mark for saying that activity increased and then decreased, and many correctly gave the optimum value of 7.5.

(iii),(iv) These parts were very poorly answered.

Q.3 (a) This recall question was poorly answered by the majority of candidates.

(i) Many candidates failed to read the question and wrote about filtration or chlorination, or just a vague comment about making the water pure without describing the process.

(ii) Similar part (i), vague comments such 'it cleans the water' were given.

(b) (i) This was very poorly answered. Candidates could have approached this in two ways, either comparing the slopes of the graph or by calculating the fractional drops over certain time periods. Many answers had no data at all and scored zero.

(ii) This part was well attempted with many gaining credit for improvements in technology or increased efficiency.

Q.4 (a) (i) Few candidates scored this recall mark.

(ii) This definition was correctly given by about half of the candidates.

(b) Only a very few candidates scored both marks. Candidates realised it was glucose entering the water for the first mark but didn't explain that the colour change was related to it's concentration.

(c) (i) Few candidates scored this mark. They did not realise that the temperature increase would lead to faster particle movement and therefore greater rate of diffusion.

(ii) Few candidates realised that there was no concentration gradient so no net movement of particles.

Q.5. This QER question was attempted by 90% of candidates. Most candidates scored at least a bottom band mark for knowing some of the reactants or products of both types of respiration. Some candidates went on to give the idea of anaerobic respiration occurring when there was a lack of oxygen or producing an oxygen debt. A few candidates scored top band marks which was pleasing to see.

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Q.6 (a) (i),(ii) Less than 25% of candidates could recall this component.

(b) (i) A 40% non-attempt rate on the shapes of *IV* characteristics. Those who did attempt the question either drew the curve the wrong way and scored zero, or drew the curve in the correct direction but failed to have the curve cross the line and end correctly. Only a few candidates achieved all three marks.

(ii) Many candidates scored on this question, but very few obtained all four marks. It required reading a value from graph, that most candidates achieved, and rearrangement of formula. It was common to see resistance = current × voltage. Even when the final answer was calculated correctly a mark was often lost for the unit. Some rounding errors were seen.

(iii) Very few candidates earned a mark here.

Q.7 (a) This was very poorly answered with over 25% not attempting the question and only about one in ten scoring a mark. It was common to see the same formulae for the reactants and the products or (incorrect) variants e.g. Zn03 + H2SO2.

(b) Many candidates just added the three numbers, without taking into account the number of each type of atom, and scored zero.

(c) Very few candidates earned a mark here.

(d) (i) Many candidates either didn't refer to the Periodic Table, although instructed to do so, or did not understand the values of mass and atomic number given on the table. It was common to see 16 protons. It was pleasing to see that the stronger candidates could state the correct number of electrons and give the correct electronic configuration.

(ii) Only a very few candidates scored both marks. Some candidates scored the mark for knowing that elements in a group had the same number of electrons in their outer shell.

Q.8 Most candidates attempted all parts of this question, scoring poorly on the recall parts but scoring well on the calculations.

(a) Few candidates scored these recall marks.

(b) (i) Few candidates scored these recall marks.

(ii) Many candidates scored a mark for realising it made the electricity safe. Some candidates scored both marks.

(c) This question was well answered by candidates. Common marks lost were power of ten errors while converting, or by incorrect manipulation of the formula.

(d) Most candidates scored the mark for the amount of carbon dioxide produced, but it was very rare to see this being by the activities of an individual/organisation.

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APPLIED SCIENCE (DOUBLE AWARD)

GCSE

Summer 2026

UNIT 2 FOUNDATION TIER

Overview of the Unit

The exam paper included questions based on all three assessment objectives so tested recall of knowledge, (40%), application and understanding of knowledge, (40%), and analysis, interpretation and evaluation of information (20%). This paper examines topics from the three science disciplines offered in the Science suite.

The demand of the early questions was less than in previous series due to an increase in objective style questions and straightforward calculations. The remainder of the paper was comparable with previous series. It provided a fair test for the candidates at Foundation Tier and differentiated well. The degree of difficulty of questions increased throughout the paper, with questions in the common section providing the most challenge.

The early objective style question parts were generally well attempted. This style of questioning, especially those requiring recall of knowledge, made them more accessible to candidates. However, many candidates lacked the basic knowledge and understanding of the topics assessed through these questions and probably made random guesses. There were also those candidates who, through failing to read the question properly, did not follow instructions so selected more or less answers than required e.g. q1(b) - ticking only 1 box or selecting more than 2. There is no further comment on this type of question in the next section.

There were a significant number of question parts with an attempt rate below 90%, the lowest being 62%.

Candidates do not always answer a question in the way they are instructed to. In some question parts, e.g. q5 (c) and (d), candidates are asked to use data in their answer. Failure to do so often results in no marks being awarded. Where candidates demonstrated some understanding, many answers were vague or confused and sometimes did not relate exactly to the question asked. Examples of using irrelevant data were seen.

Questions that assessed mathematical skills were generally well attempted. Equations are given in the appropriate form in the question part e.g. q2(b). However, too many candidates substitute incorrectly into given equations and sometimes ignore the maths symbols that are given. It is emphasised that workings should be shown in the provided spaces when answering calculation questions. Marks are often provided for selection of values and substitution. These marks cannot be awarded if all that is shown is an incorrect answer on the answer line.

The quality of graph work was inconsistent. The majority of candidates were able to successfully plot some points onto the grid but usually an error was seen. Only a minority were able to add a best fit curve.

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Comments on individual questions/sections

Section A

Q.1 (a) Few candidates could arrange the statements in the correct order.

(b) No further comment.

Q.2 (a) Candidates had great difficulty in identifying the variables in parts (i) to (iii). Success decreased in each successive part. Also, the attempt rates dropped to between 82% and 78%. In part (iii), answers related to the apparatus were specifically excluded by the question but despite this, responses about apparatus were seen. Very few candidates achieved the mark for part (iv).

(b) Most candidates had much more success in completing these calculations. However, others made substitution errors or multiplied values despite the given equations showing that a division was required.

Q.3 (a) No further comment.

(b) (i) Most candidates completed the calculation correctly although some worked out the answer to 2 × 1.7 instead.

(ii) The majority of candidates arrived at the correct answer, including those who carried forward an error from part (i). Some candidates failed to round their answer correctly so lost a mark.

Q.4 (a) No further comment.

(b) No further comment.

Q.5 (a) No further comment.

(b) Mostly correct answers seen.

(c) This was the first question part that required an extended written answer. About 11% ofcandidates failed to attempt the question. The question asked candidates to include data in their explanation, but many failed to do this. These did not gain any credit. Most candidates include a concluding remark about agreement or disagreement with the suggestion in this type of question.

(d) About 12% of candidates failed to attempt the question. This question also asked candidates to include data in their explanation, but many failed to do this. These did not gain any credit.

Q.6 Only about 72% of candidates attempted this QER question. It required them to describe the motion shown by a distance-time and velocity-time graph of identical shape. They did not perform well. The question stated that the graphs did not represent the same motion. Despite this, many concluded that they did. There were descriptions not of motion but of the lines going up, being flat and going down.

Q.7 (a) No further comment.

(b) Both parts gave an answer choice of alpha, beta and gamma. Despite this, responses of X-rays and microwaves were seen.

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(c) (i) Mostly correct answers seen.

(ii) Most candidates earned 1 or 2 of the plotting marks but few were able to join the points with a suitable curve as instructed. Some added a straight line or a series of point-to-point lines.

(iii) Only a minority of candidates answered correctly.

(iv) About 66% of candidates attempted the question. Only a small number gave the correct answer.

Section B

Only 2 question parts had an attempt rate over 80%.

Q.8 (a) Candidates were instructed to use only the information in Figure 1 to answer both question parts.

(i) Many candidates gave the answer of burning fossil fuels despite the instruction to state another process.

(ii) This was very poorly answered. Candidates did not use the information in Figure 1 but gave answers based on general knowledge.

Q.9 (a) This was answered well.

(b) Few candidates earned this mark. Addition errors were common.

Q.10 Most often credit was only given for completing the Land Use column correctly.

Q.11 (a) A small minority of candidates earned credit here. It was common to see answers without data included.

(b) This was the question with the lowest attempt rate on the paper (62%). It was common to see errors when multiplying by 6.

(c) Many candidates mixed up the multipliers when making calculations so earned no credit.

(d) (i) Just under half of candidates obtained the correct answer. Some candidates made an erroneous addition of 20 000 + 800 instead of performing a division.

(ii) Candidates had difficulty in justifying their answers.

Q.12 (a) This was well answered by the majority of candidates. Others included some animals in their food chain that were not present in the food web provided in Figure 8. Others showed multiple chains. It is not up to the examiner to decide which one to assess.

(b) Candidates did not appear to understand the term ‘trophic level’.

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(c) About half of candidates could explain the effect on tree frogs or harpy eagles but not always on both. Some candidates ignored the question and wrote about the effect on other animals.

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APPLIED SCIENCE (DOUBLE AWARD)

GCSE

Summer 2026

UNIT 2 HIGHER TIER

Overview of the Unit

The exam paper included questions based on all three assessment objectives so tested recall of knowledge, (40%), application and understanding of knowledge, (40%), and analysis, interpretation and evaluation of information (20%). This paper examines topics from the three science disciplines offered in the Science suite.

The paper was of comparable demand with previous series. It provided a fair test for the candidates at Higher Tier and differentiated well. The degree of difficulty of questions increased throughout the paper, with questions in the common section providing the least challenge.

The performance of candidates in recall questions that required descriptions and/or explanations tended to be less well answered than those requiring very little knowledge e.g. q6a. This is nothing new and has been commented on in exam reports for several series.

Candidates did not always follow instructions in the questions. In some question parts, candidates were asked to use data in their answers, e.g. q2(a). Failure to do so often results in no marks being awarded. Other instructions are also ignored e.g. 10(b)(ii) ' ..adding lines to the graph…'.

Questions that assessed mathematical skills where equations were given in the appropriate form were generally well attempted with some candidates gaining full marks e.g. q 7(b). However, too many candidates substitute incorrectly into given equations. They do not consider units during the substitution process. Sometimes maths symbols were ignored. Another problematic area is the incorrect rounding of final answers. This always attracts a penalty. It is emphasised that workings should be shown in the provided spaces when answering calculation questions. Marks are often provided for selection of values and substitution. These marks cannot be awarded if all that is shown is an incorrect answer on the answer line e.g. 7(b). Addition errors were seen e.g. 4(a).

The quality of graph work is still inconsistent. Candidates were expected to add scales to a grid in question 10b(i). Some candidates were unable to produce a linear scale from the tabulated data. A majority of candidates were able to successfully plot points onto the grid and some of these were able to add a best fit curve.

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Comments on individual questions/sections

Section A

Q.1 Most often credit was only given for completing the Land Use column correctly.

Q.2 (a) A minority of candidates earned credit here. It was common to see answers without data included.

(b) It was common to see errors when multiplying by 6.

(c) This was well done by most candidates.

(d) (i) This was very well answered.

(ii) Candidates had difficulty in justifying their answers.

Q.3 (a) This was very well answered by most candidates.

(b) A minority of candidates understood the term 'trophic level'.

(c) Most candidates could explain the effect on tree frogs and harpy eagles.

Q.4 (a) A minority of candidates arrived at the correct answer. Some errors were seen in the addition of 120 + 123. Another error was using data for something other than tropical forests.

(b) Most candidates earned some credit for recognising the greatest carbon storage, but few went on to refer to methane in their answer.

Section B

Q.5 (a) Most answers did not fall within the range set by the values for Mars and Jupiter.

(b) Few acceptable answers were seen.

(c) Answers to this question should have included two pairs of named planets, one pair that supported the suggestion and another pair that did not. This was seen in a minority of responses.

(d) This was very poorly answered. Candidates just wrote down some data from the table and did not know how to proceed.

Q.6 (a) This process was not well known.

(b) Most candidates could describe one strategy but not always two.

Q.7 (a) This QER required recall of a practical. The diagram of the apparatus was provided in the question. Despite this, accounts of the method were poor.

(b) Most candidates arrived at the correct answer. However, it is important to point out that workings should be shown. In the case of incorrect answers without workings, the opportunity of substitution marks was lost. Some answers were incorrectly rounded so the final answer mark was lost.

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Q.8 (a) This was another question requiring recall of knowledge that was poorly answered. It was commonly thought that vaccines inject antibodies.

(b) The majority of candidates answered this question very well. Some candidates lost credit by not including references to all of the discs.

Q.9 (a)(b)(c) All parts required recall of knowledge and were very poorly answered.

(d) Most candidates completed the calculation correctly.

Q.10 (a) Most candidates lacked the knowledge to earn any credit here.

(b) (i) Most candidates earned the marks for producing linear scales and for plotting the points. Not all went on to draw a smooth curve through the points.

(ii) The question instructed candidates to add lines to the graph, many did not. It also stated to give the answer to two significant figures. This was not always done. As a result, it was unusual to award more than 1 mark.

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APPLIED SCIENCE (DOUBLE AWARD)

GCSE

Summer 2026

UNIT 3 FOUDATION TIER

Overview of the Unit

The exam paper included questions based on all three assessment objectives so tested recall of knowledge, (40%), application and understanding of knowledge, (40%), and analysis, interpretation and evaluation of information (20%). This paper examines topics from the three science disciplines offered in the science suite.

The demand of the early questions was less than in previous series due to an increase in objective style questions and straightforward calculations. The remainder of the paper was comparable with previous series. It provided a fair test for the candidates at Foundation Tier and differentiated well. The degree of difficulty of questions increased throughout the paper, with questions in the common section providing the most challenge.

The early objective style question parts were generally well attempted. This style of questioning, especially those requiring recall of knowledge, made them more accessible to candidates. However, many candidates lacked the basic knowledge and understanding of the topics assessed through these questions and probably made random guesses. There were also those candidates who, through failing to read the question properly, did not follow instructions so selected more or less answers than required e.g. q1(a)(ii) - ticking only 2 boxes or selecting more than 3. There is no further comment on this type of question in the next section.

The performance of candidates in recall questions, particularly those that required descriptions and/or explanations tended to be poorly answered. The QER depended on recall of methods that reduce food spoilage. The attempt rate was over 92%. However, the mean mark of 2 demonstrated a lack of secure knowledge on this topic.

In some question parts, e.g. q2(b)(iii), candidates are asked to use data in their answer. Failure to do so often results in no marks being awarded. Where candidates demonstrated some understanding, many answers were vague or confused and sometimes did not relate exactly to the question asked. Examples of using irrelevant data were seen.

Questions that assessed mathematical skills were generally well attempted. Equations were given in the appropriate form in the question part e.g. q5(d). However, too many candidates substitute incorrectly into given equations and sometimes ignore the maths symbols that are given. It is emphasised that workings should be shown in the provided spaces when answering calculation questions. Marks are often provided for selection of values and substitution. These marks cannot be awarded if all that is shown is an incorrect answer on the answer line.

The quality of graph work was inconsistent. The majority of candidates were able to successfully plot some points onto the grid but usually an error was seen. Only a minority were able to add a best fit curve.

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Comments on individual questions/sections

Q.1 No further comment.

Q.2 (a) No further comment.

(b) (i),(ii) The majority of candidates achieved well in parts (b)(i) and (b)(ii)I. It was evident that some candidates didn't use the data in the relevant row to calculate a mean to complete the table but followed a pattern down the mean column. In the next calculation, some candidates did not extract the correct data from the table. Only a minority of candidates were able to complete the final calculation correctly.

(iii) This was the first question part that required an extended written answer. About 15% of candidates failed to attempt the question and the remainder did not answer it well. The question asked candidates to use data to explain but many failed to include any in their response. These did not gain any credit. Most candidates included a concluding remark about agreement or disagreement with the suggestion in this type of question.

Q.3 (a) Candidates did not respond well to this type of question. About a third failed to attempt it. Most of the remainder did not understand that numbers were required to balance a chemical equation. Instead, chemical symbols were inserted in the spaces.

(b) (i) Most candidates were able to gain success in plotting the points. A minority of candidates were able to draw a smooth curve through the points.

(ii) About half of candidates were able to state the relationship between the variables.

(iii) There was roughly a 50/50 split between the correct answer of 40s and where the graph ended at 50s.

(iv) Another 50/50 split between values lower than the previous answer and higher values.

(v) No further comment.

(c) (i) This was highly scaffolded and mostly correct answers seen.

(ii) No further comment.

Q.4 (a) No further comment.

(b) (i) Just over half of candidates were able to complete the multiplication correctly.

(ii) The majority of candidates were able to calculate 25% of 200.

(iii) Both marks were awarded to the majority of candidates for correct completion of the table.

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(iv) About a third of candidates failed to attempt the question. The remainder answered it very poorly. The half-life and nature of the decay of strontium-94 were given in the stem of the question. Few candidates referred to either of these in the answers.

Q.5 (a)(b)(c) No further comment.

(d) About two thirds of candidates were able to arrive at the correct value of volume. Others either selected the density of a material other than titanium from the table or substituted incorrectly. Despite the given equation showing a division was required, some candidates performed a multiplication.

Q.6 The QER was a 6-mark recall question about methods of slowing down food spoilage. The mean mark was just over 2 so most candidates were able to achieve some credit. Some of the methods were more well-known than others e.g. refrigeration and freezing. Even so, some candidates confused the two. The least well-known methods were salting and pickling. Some responses were very difficult to read, and too many spelling and capitalisation errors were seen.

Q.7 This was the first question that was common to FT and HT. The attempt rates dropped from here on.

(a),(b) Very few candidates achieved any credit here. Most could not interpret the information on the chromatogram to answer the questions correctly.

(c),(d) Candidates had more success in these question parts.

(e) Most candidates could substitute into the equation appropriately but did not always calculate the required answer.

Q.8 (a) Most candidates failed to identify the independent and controlled variables.

(b) (i),(ii) Most candidates gained credit in these parts that required interpretation of the given graphs.

(iii),(iv) Both parts required a more intricate interpretation of the graphs and also data was expected to be included in answers. Most candidates failed on both counts. Credit was given to very few candidates.

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APPLIED SCIENCE (DOUBLE AWARD)

GCSE

Summer 2026

UNIT 3 HIGHER TIER

Overview of the Unit

The exam paper included questions based on all three assessment objectives so tested recall of knowledge, (40%), application and understanding of knowledge, (40%), and analysis, interpretation and evaluation of information (20%). This paper examines topics from the three science disciplines offered in the science suite.

The paper was of comparable demand with previous series. It provided a fair test for the candidates at Higher Tier and differentiated well. The degree of difficulty of questions increased throughout the paper, with questions in the common section providing the least challenge.

The performance of candidates in recall questions that required descriptions and/or explanations tended to be less well answered than those requiring very little knowledge e.g. q3a (i) and (ii). This is nothing new and has been commented on in exam reports for several series.

In some question parts, candidates were asked to use data in their answers, e.g. q2(b) (iii) and (iv). Failure to do so often resulted in no marks being awarded.

Questions that assessed mathematical skills where equations were given in the appropriate form were generally well attempted with some candidates gaining full marks e.g. q1(e). However, too many candidates substituted incorrectly into given equations. Errors were seen when an equation needed to be rearranged. They did not consider units during the substitution process. Sometimes maths symbols were ignored. Another problematic area was the incorrect rounding of final answers. This always attracts a penalty. It is emphasised that workings should be shown in the provided spaces when answering calculation questions. Marks are often provided for selection of values and substitution. These marks cannot be awarded if all that is shown is an incorrect answer on the answer line.

The quality of graph work is still inconsistent. Candidates were expected to add scales to a grid in q5b(i). Some candidates were unable to produce a linear scale from the tabulated data. A majority of candidates were able to successfully plot points onto the grid and most of these were able to add a best fit curve.

Sometimes a question part will ask candidates to add to a diagram or graph. These types of questions were often ignored e.g. q5b(iii).

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Comments on individual questions/sections

Q.1 (a),(b) Few candidates achieved any credit here. Most could not interpret the information on the chromatogram to answer the questions correctly.

(c),(d) Candidates answered these parts very well.

(e) Most candidates calculated the correct answer.

Q.2 (a) A minority of candidates were able to identify the independent and controlled variables.

(b) (i),(ii) Most candidates gained credit in these parts.

(iii),(iv) Both parts required a more intricate interpretation of the graphs and also data was expected to be included in answers. Many candidates failed on both counts. Credit was given to about a third of candidates.

Q.3 (a) (i),(ii) Candidates knowledge of bonding was poor.

(iii) Recall of the properties of ionic and covalent compounds was slightly better. Most candidates could achieve at least 1 mark.

(b) There were excellent attempt rates for both calculations. It was very pleasing to see some candidates earn full marks in each part. However, this was in only a few examples.

(i) Common errors seen in this part were:
- Not multiplying by 2 to take into account two carbon atoms
- Inability to rearrange the equation correctly
- Mishandling standard form.

(ii) Common errors seen in this part were:
- Inability to rearrange the equation correctly
- Not multiplying 0.26 by 22
- Omitting 3.14 in the rearranged equation.

Q.4 (a) This topic was not well known. Most candidates achieved one or two marks only.

(b) (i) This was answered well with many candidates arriving at the correct answer to earn full marks.

(ii) This required candidates to select pairs of concentrations that showed a doubling in units. Not all candidates achieved this. Some candidates only considered one pair and based their conclusion on this pair alone. As a result, only a minority of candidates earned full credit.

(c) The relative formula mass was calculated correctly by the majority of candidates. Others failed to take into account the subscripts in the formula of the compound.

(d) Once again, poor recall of knowledge let candidates down here.

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Q.5 (a) Few candidates were able to write the balanced symbol equation for the reaction. Most candidates did not know the symbol for oxygen. Usually O was seen rather than O_2.

(b) (i) A majority of candidates were able to successfully construct the scales, plot points onto the grid and most of these were able to add a best fit curve. However, the quality of graph work was still inconsistent. Some candidates were unable to produce a linear scale on the y-axis from the tabulated data.

(ii) I. It was rare to see a correct answer here. Most candidates commented that the volume of oxygen increased over the time period.

II. Knowledge of particle theory in chemical reactions was not well known.

(iii) The instruction to **Add** a line was in bold print but this question was ignored by about half of candidates. About half of the remaining candidates could add the line successfully.

(c) (i) This was another question where candidates were required to add to a diagram. The instruction to **Complete** the diagram was in bold print. About 20% of candidates failed to do this. Even when the instructions were followed, very few candidates were able to complete the reaction pathway correctly and even less were able to add the energy values in the correct positions.

(ii) About half of candidates were able to name the type of reaction but mostly incorrect answers were seen for an explanation in terms of bonds. In fact, just under half of candidates did not even attempt to answer part II.

(iii) Few candidates were able to explain whether the use of a catalyst would affect the energy values.

Q.6 (a) This QER question required knowledge of fission reactors. Most candidates achieved 2 or 3 marks out of a maximum of 6. The names of features within a reactor were better known than their purposes. There was confusion between the roles of the moderator and the control rods. Few candidates knew how a fission reactor could be shut down.

(b) (i) Mostly correct answers were seen here. It was evident that some candidates did not realise 25% is equivalent to a quarter.

(ii) This was a standard half-life calculation. Under half of candidates arrived at the correct answer. Even when the correct sequence of halving was shown, the common error of miscounting the number of half-lives was seen.

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APPLIED SCIENCE (DOUBLE AWARD)

GCSE

Summer 2026

UNIT 4 FOUNDATION TIER

Overview of the Unit

All AOs are assessed in this Unit.

Both packs tested candidates' ability to: plan, carry out experiments, make measurements and record them, analyse data, evaluate methods and data, and to assess risk.

Pack A tested candidates' ability within the topics of 'Scientific detection', 'Underpinning energy concepts', and 'Our planet.' Pack B tested candidates' ability within the topics of 'Underpinning energy concepts', 'Transfer and recycling of nutrients,' and 'Producing useful compounds in the laboratory.'

Pack B was much more popular than Pack A. Candidates appeared to generally perform equally well across both packs. Candidates' performance in this unit was commensurate with last year. Candidates' ability to answer questions fully continues to improve, and many fewer candidates were leaving questions blank.

It was once again obvious that some centres had not practiced assessments on this unit with their candidates.

Comments on individual questions/sections

Activity 1

Task A Planning

Some candidates are still confused by the terms independent, dependent and controlled variables. The style of 'choose the variables from a list', allowed more candidates to correctly select the independent and dependent variables, particularly as these are generally identifiable from the introduction section. Some candidates in both packs still had problems identifying the controlled variables. Many candidates on the foundation tier selected 'the height of the stand' as a controlled variable for Pack B.

The standard of labelled diagrams appears to be dropping. Most candidates do not use a ruler and a pencil, which is disappointing. Most candidates will draw some form of diagram, but a high percentage do not draw the diagram as it is actually set up in the experiment, with frequent examples of 'floating' pieces of apparatus, particularly a ruler in both Pack A and B. A significant proportion of candidates do not label all the pieces of apparatus.

Most candidates in both packs attempted to write a method, and the quality of candidates' SPaG has improved over time, with many candidates obviously going back over their method and correcting spelling and punctuation. Centres are advised to teach their candidates to write methods using a numbered list - it is much easier for candidates to check that they have started sentences with a capital letter and finished them with a full stop. Numbered lists also make it much easier for candidates to check their methods for errors or omissions.

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Candidates do need to be able to spell key scientific words correctly. These are generally words that can be found in the introduction section to the activity. Centres should remind their candidates before the examination to check their spelling of the key words.

Centres do need to remind their candidates to check that their methods include repeats and the correct range/interval for the experiment, as requested in the task instructions.

Task B Collecting and recording
This section continues to be high scoring.

Many candidates omitted to write the resolution of their ruler (Pack A) or stopwatch (Pack B) – just leaving them blank, whilst other candidates seemed confused by having one space to write the resolution and another, next to it, for the unit. Some candidates wrote different units in both spaces.

Most candidates attempting Pack A managed to measure and record the diameters of six ink splats for each release height, and identified the maximum and minimum values. The vast majority of candidates attempting Pack B managed to take repeated readings across the stated mass range, with some taking care to ensure that their repeats were similar to each other, or identified anomalies. A number of candidates took repeated measurements that were wildly different from each other. Examiners were looking for a degree of similarity within the repeats.

Some candidates still need practice with listing all the units on tables, and making sure that they do not include the units in the body of the table. A significant minority of candidates are still struggling to use the correct (consistent) number of decimal places on columns of numbers, particularly when calculating means.

A significant minority of tables were very scrappy. Centres need to practice this with their candidates. Please encourage candidates to use the space to record their rough data and then produce a good quality ‘best’ table in the space at the bottom of the page. Many candidates lost marks because they did not label the columns of their best table correctly.

Task C Analysis
The most common difficulty in this task involved plotting the graphs.

Candidates do need to be more critical of their data and check for obvious anomalies. These should be identified and removed from any mean calculations.

Candidates should practice calculating mean values of repeated measurements and expressing them to the same number of decimal points as the (primary) data. This was an issue for a significant minority of candidates from both Pack A and Pack B.

Candidates still find it very challenging to produce accurate graphs/charts. Common mistakes involve non-linear, and inappropriate scales, inaccurate point plotting and poor best-fit line drawing (if appropriate). Candidates in Pack A particularly found drawing a best fit line a challenge, with many candidates merely joining the points together with a straight line. A significant number of candidates did not include a value on the y-axis origin. The graph in Pack B proved to be more successful, although many candidates failed to plot a point at (0,0), despite this being a point in the table. Candidates should be reminded by centres that the scale should be over half of the available plottable area. Centres should continue to give candidates lots of practice on this skill, and give plenty of opportunities to design and plot simple graphs from data.

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Many candidates were able to state the pattern in their results, but a significant number wrote a statement that did not contain both the independent and the dependent variable.

Both packs required candidates to extract information from their graph. Most could determine a value from their line of best fit but in some cases, candidates were hampered by thickly drawn best-fit lines that did not allow them to obtain the correct tolerance, or did not draw a vertical line up to their line and were also out of tolerance.

A significant majority of candidates on both packs were able to perform the calculations given, although a large number of candidates sitting Pack B did not know the unit of speed.

Task D Evaluation
As still continues to be the pattern, candidates find the evaluation component of any task hard.

When asked about the suitability of the experiment, some candidates still write about their own performance during the experiment, or state that the method was easy to follow. Candidates need to either examine the pattern in the data, or give a comment about the uncertainty of the data.

Candidates still need to be more aware of the meaning of repeatability, although this was phrased differently on both packs. Pack B asked candidates to explain why the measurement of time was repeated twice and a significant minority continue to give an answer based on reliability. Many candidates do not subsequently refer to using repeated values to calculate a mean value. Pack A asked candidates why the largest and smallest ink splats were ignored and most candidates did not give an explanation based on uncertainty.

Candidates are better at spotting inaccuracies and suggesting improvements, although extensions to an investigation are not considered to be improvements.

Many candidates found explaining the suggestion/agreement question at the end of this section for both packs a challenge. Candidates should take more time reading this question, and thinking about a suitable response, before writing their final answer. There is no credit for a simple Yes/No answer, an explanation is needed, and in both cases the use of data, or patterns in the graph was expected.

Activity 2

Task A Analysis
A minority of candidates on both packs did not circle the anomalous value in the table, suggesting that they did not read the questions carefully. Most attempted to calculate the missing mean values, but frequently did not remove the anomaly, or did not round their answers correctly.

In both packs, most candidates were able to draw some form of graph, and once again, very few plotted bar charts. However, the scale needed for Pack B proved to be a considerable issue, with a significant proportion of candidates using a scale that went up in threes, which subsequently caused many plotting errors. Many candidates struggled to draw a suitable smooth best fit line, with many candidates drawing wispy, bifurcated lines, or completely missing the obvious best-fit. A significant number of foundation candidates are incorrectly drawing best-fit lines as join-the-dots.

Most candidates were able to state the relationship between the two variables plotted on the graph, and it is good practice to encourage candidates to use the names of the two variables, inevitably given in the question, to frame their answer.

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Most candidates were able to use their graph to determine a value for the stated x-axis variable.

Candidates are generally quite good at extracting information from text / tables / graphs / diagrams, and most candidates on both packs gained some credit for question 2. Many candidates scored full marks for this question in Pack B, but identifying the energy change for the rock projectile in Pack A, proved to be a particular challenge, indicating that candidates are generally not secure with their knowledge of energy transfers.

Task B Evaluation
As has always been the case, candidates find evaluations very challenging.

For both packs, when asked about the suitability of the experiment, many candidates write about the method being easy to follow. Candidates need to either examine the pattern in the data, or give a comment about the uncertainty of the data.

Candidates found it quite hard to explain why the results were repeated. Most candidates that gained credit mentioned the need to calculate a mean value. A small minority wrote about spotting anomalies or reducing uncertainty.

Most candidates really struggled to suggest why the distance travelled by the paper pellet, in Pack A was measured from the point of first contact with the floor, and struggled to express themselves as to why the subjects were blindfolded in Pack B. This proved to be a good discriminator question for the higher grades.

Many candidates were able to suggest a suitable improvement to the experiment, with many candidates correctly suggesting a higher number of repeats. Please note, extensions of the experiment are not considered to be improvements.

Only a minority of candidates gained any credit for the suggestion/agreement question at the end. Most candidates did not use their graph (Pack A) or data (Pack B) to give a reason for their answer.

Activity 3

Candidates continue to find constructing a risk assessment difficult.

Centres are reminded to run through the general structure of a CLEAPSS Student Safety Sheet, as most of the expected responses are contained within each one.

Please ensure that candidates know that:

- Hazards require the specific nature of the hazard to be stated (e.g. 0.2 mol/dm^3 potassium hydroxide is an irritant) – the specific nature is lifted straight off the Student Safety Sheet. Please note, candidates should always state the concentration of solutions if it is given, as this determines the level of the nature of the hazard.

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- Risks must have an injury and an action (e.g. glowing / burning splint could burn skin / eyes whilst demonstrating the reaction). A significant minority of candidates correctly identified the relevant injuries, but did not state the action. Please make candidates aware that some identified hazards, are now classified as 'currently not classified as hazardous', replacing the 'low hazard' description on previous versions of the Student Safety Sheets. In this case, 'no specific risk' and 'no specific control measures' are appropriate responses. Risks must be related to the hazard.
- Control measures need to be appropriate for the stated hazard and risk, e.g. when handling hot apparatus, gloves need to be stated as heat-proof. Some control measures are specified on the relevant Student Safety Sheet. (e.g. only handle, or perform experiments, in a fume cupboard).

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APPLIED SCIENCE (DOUBLE AWARD)

GCSE

Summer 2026

UNIT 4 HIGHER TIER

Overview of the Unit

All AOs are assessed in this Unit.

Both packs tested candidates' ability to: plan, carry out experiments, make measurements and record them, analyse data, evaluate methods and data, and to assess risk.

Pack A tested candidates' ability within the topics of 'Scientific detection', 'Underpinning energy concepts', and 'Our planet.' Pack B tested candidates' ability within the topics of 'Underpinning energy concepts', 'Transfer and recycling of nutrients,' and 'Producing useful compounds in the laboratory.'

Pack B was much more popular than Pack A. Candidates appeared to generally perform equally well across both packs. Candidates' performance in this unit was commensurate with last year. Candidates' ability to answer questions fully continues to improve, and many fewer candidates were leaving questions blank.

It was once again obvious that some centres had not practiced assessments on this unit with their candidates.

Comments on individual questions/sections

Activity 1

Task A Planning

Some candidates are still confused by the terms independent, dependent and controlled variables. As with previous years, a significant minority of Higher Tier candidates neglected to state any of the variables. Centres should point out to candidates that most of these are generally identifiable from the introduction section. Some candidates in both packs still had problems identifying the controlled variables.

The standard of labelled diagrams appears to be dropping. Many candidates do not use a ruler and a pencil, which is disappointing. Most candidates will draw some form of diagram, but a high percentage do not draw the diagram as it is actually set up in the experiment, with frequent examples of 'floating' pieces of apparatus, particularly the ruler in both Pack A and B. A significant proportion of candidates do not label all the pieces of apparatus.

Most candidates in both packs attempted to write a method, and the quality of candidates' SPaG has improved over time, with many candidates obviously going back over their method and correcting spelling and punctuation. Centres are advised to teach their candidates to write methods using a numbered list - it is much easier for candidates to check that they have started sentences with a capital letter and finished them with a full stop. Numbered lists also make it much easier for candidates to check their methods for errors or omissions.

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Candidates do need to be able to spell key scientific words correctly. These are generally words that can be found in the introduction section to the activity. Centres should remind their candidates before the examination to check their spelling of the key words. Centres do need to remind their candidates to check that their methods include repeats and the correct range/interval for the experiment, as requested in the task instructions.

Task B Collecting and Recording
This section continues to be high scoring.

Some candidates omitted to write the resolution of their ruler (Pack A) or stopwatch (Pack B) – just leaving them blank, whilst other candidates seemed confused by having one space to write the resolution and another, next to it, for the unit. Some candidates wrote different units in both spaces.

Most candidates attempting Pack A managed to measure and record the diameters of six ink splats for each release height, and identified the maximum and minimum values. The vast majority of candidates attempting Pack B managed to take repeated readings across the stated mass range, with some taking care to ensure that their repeats were similar to each other, or identified anomalies. A number of candidates took repeated measurements that were wildly different from each other. Examiners were looking for a degree of similarity within the repeats.

Some candidates still need practice with listing all the units on tables, and making sure that they do not include the units in the body of the table. A significant minority of candidates are still struggling to use the correct (consistent) number of decimal places on columns of numbers, particularly when calculating means.

A significant minority of tables were very scrappy. Centres need to practice this with their candidates. Please encourage candidates to use the space to record their rough data and then produce a good quality 'best' table in the space at the bottom of the page. Many candidates lost marks because they did not label the columns of their best table correctly.

Task C Analysis
The most common difficulty in this task involved plotting the graphs.

Candidates do need to be more critical of their data, and check for obvious anomalies. These should be identified and removed from any mean calculations. Candidates should practice calculating mean values of repeated measurements and expressing them to the same number of decimal points as the (primary) data. This was an issue for a significant minority of candidates from both Pack A and Pack B.

Candidates still find it very challenging to produce accurate graphs/charts. Common mistakes involve non-linear, and inappropriate scales, inaccurate point plotting, and poor best-fit line drawing (if appropriate). Candidates in both packs found drawing a best fit line a challenge, with many candidates merely joining the points together with a straight line. Candidates should be encouraged to use scales that are over half of the available plottable area. Centres should continue to give candidates lots of practice on this skill, and give plenty of opportunities to design and plot simple graphs from data. A significant minority of Higher tier candidates did not label the axes correctly, frequently omitting the word 'mean' from the label and omitting the units (on both axes). A small minority of candidates on Pack B plotted 10T rather than T.

Many candidates were able to state the pattern in their results but a significant number wrote a statement that did not contain both the independent and the dependent variable.

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A minority of candidates on Pack A did not read the instructions correctly and did not plot a line for real blood.

A significant majority of candidates on both packs were able to perform the calculations given, although a number of candidates sitting Pack B did not know the unit of speed, or gave it as mph or mps.

Task D Evaluation
As still continues to be the pattern, candidates find the evaluation component of any task hard.

When asked about the suitability of the experiment, some candidates still write about their own performance during the experiment, or state that the method was easy to follow. Candidates need to either examine the pattern in the data, or give a comment about the uncertainty of the data.

Candidates still need to be more aware of the meaning of repeatability, although this was phrased differently on both packs. Pack B asked candidates to explain why the measurement of time was repeated twice and a significant minority continue to give an answer based on reliability. Many candidates do not subsequently refer to using repeated values to calculate a mean value. Pack A asked candidates why the largest and smallest ink splats were ignored and most candidates did not give an explanation based on uncertainty.

Candidates are better at spotting inaccuracies and suggesting improvements, although extensions to an investigation are not considered to be improvements.

Many candidates found explaining the suggestion/agreement question at the end of this section for both packs a challenge. Candidates should take more time reading this question, and thinking about a suitable response, before writing their final answer. There is no credit for a simple Yes/No answer, an explanation is needed, and in both cases the use of data, or patterns in the graph was expected.

Activity 2

Task A Analysis
A minority of candidates on both packs did not circle the anomalous value in the table, suggesting that they did not read the questions carefully. Most attempted to calculate the missing mean value, but frequently did not remove the anomaly, or did not round their answers correctly. This is a skill that centres can easily practice with their candidates.

In both packs, most candidates were able to draw some form of graph. However, the scale needed for Pack B proved to be a considerable issue, with a significant proportion of candidates using a scale that went up in threes, which subsequently caused many plotting errors. Many candidates struggled to draw a suitable smooth best fit line, with many candidates drawing wispy, bifurcated lines, or completely missing the obvious best-fit. A significant number of Higher tier candidates failed to state that the y-axis label was the mean value.

Most candidates were able to state the relationship between the two variables plotted on the graph, and it is good practice to encourage candidates to use the names of the two variables, inevitably given in the question, to frame their answer.

A significant number of candidates doing Pack A did not include the squared number in the calculation and did not know that the unit of energy is the joule.

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Candidates are generally quite good at extracting information from text / tables / graphs / diagrams, and most candidates on both packs gained some credit for questions 2 and 3. Many candidates scored good marks for these questions in Pack A, but comparing the two human homunculus diagrams in Pack B, proved to be a particular challenge.

Task B Evaluation
As has always been the case, candidates find evaluations very challenging.

For both packs, when asked about the suitability of the experiment, many candidates write about the method being easy to follow. Candidates need to either examine the pattern in the data, or give a comment about the uncertainty of the data.

Candidates found it quite hard to explain why the results were repeated. Most candidates that gained credit mentioned the need to calculate a mean value. A small minority wrote about spotting anomalies or reducing uncertainty.

Most candidates really struggled to suggest why the distance travelled by the paper pellet in Pack A was measured from the point of first contact with the floor, and struggled to express themselves as to why the subjects were blindfolded in in Pack B. This proved to be a good discriminator question for the higher grades.

Many candidates were able to suggest a suitable improvement to the experiment, with many candidates correctly suggesting a higher number of repeats. Please note, extensions of the experiment are not considered to be improvements.

Only a minority of candidates gained any credit for the suggestion/agreement question at the end. Most candidates did not use their graph (Pack A) or data (Pack B) to give a reason for their answer.

Activity 3

Candidates continue to find constructing a risk assessment difficult.

Centres are reminded to run through the general structure of a CLEAPSS Student Safety Sheet, as most of the expected responses are contained within each one.

Please ensure that candidates know that:

- Hazards require the specific nature of the hazard to be stated (e.g. 0.2 mol/dm^3 potassium hydroxide is an irritant) – the specific nature is lifted straight off the Student Safety Sheet. Please note, candidates should always state the concentration of solutions if it is given, as this determines the level of the nature of the hazard.
- Risks must have an injury and an action (e.g. glowing / burning splint could burn skin / eyes whilst demonstrating the reaction). A significant minority of candidates correctly identified the relevant injuries but did not state the action. Please make candidates aware that some identified hazards are now classified as ‘currently not classified as hazardous’, replacing the ‘low hazard’ description on previous versions of the Student Safety Sheets. In this case, ‘no specific risk’ and ‘no specific control measures’ are appropriate responses. Risks must be related to the hazard.
- Control measures need to appropriate for the stated hazard and risk, e.g. when handling hot apparatus, gloves need to be stated as heat-proof. Some control measures are specified on the relevant Student Safety Sheet. (e.g. only handle, or perform experiments, in a fume cupboard).

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APPLIED SCIENCE (DOUBLE AWARD)

GCSE

Summer 2026

UNIT 5 PRACTICAL ASSESSMENT

Overview of the Unit

In this unit candidates are assessed on their practical skills including, forming hypotheses, recognising and preventing hazards and risks, recording and presenting data, understanding the variables that are involved in experiments, evaluating the success of the experiment and planning improvements. There was evidence that candidates are familiar with practical work and the analysis of practical results.

The tasks all proved to be accessible for most candidates who usually attempted all sections. As in previous series, candidates were largely successful in making hypotheses and in identifying variables. Notable areas that candidates found challenging were scaling graphs and lines of best fit. Using data to justify evaluations was also weak.

Comments on individual questions/sections

Section A – Hypotheses and risk assessments

Most candidates were able to make a sensible hypothesis in each of the 9 tasks, which linked the independent and dependent variables. Most candidates can make a reasonable hypothesis, identifying the expected relationship between the independent variable and dependent variable. However, some responses remained too vague to credit. A common error was failing to state how the dependent variable would change.

In producing risk assessments, the most successful candidates linked the risk with a particular action in the method. Weaker candidates identified risks that were not relevant to the method such as stating that hydrogel could be harmful if swallowed. In other cases, candidates identified a hazard but did not include a clear action such as touching or pouring.

Tables

Most candidates structured tables appropriately, with more consistent use of appropriate headings and units, and fewer errors such as abbreviated headings or units placed in the body of the table than in previous series. Weaker candidates made errors in calculating means correctly or rounding accurately. A small number of candidates failed to determine means.

Section B - Controlled Variables

Each of the 9 tasks included a section on variables. Candidates were usually able to identify the independent and dependent variables, and most were able to state the range of these variables when required. When describing controlled variables, candidates often did not provide both the value of the variable and how it was controlled. This was particularly evident where no numerical value was required and candidates needed to explain that the variable was kept consistent for each result. Weaker candidates selected variables that did not require control, such as timing in the hydrogel task, use of the same stopwatch in the glucose task, or the same person dropping the parachute. The use of incorrect terms such

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as ‘amount’ in place of volume or concentration was still evident in the work of many candidates.

Graphs

Graphs were drawn more accurately than in previous years, with many candidates labelling axes and plotting points appropriately, however, several common errors remained. These include axes plotted the wrong way around, starting values on scales not given for both axes, and the use of awkward scales, for example intervals of 3. Lines of best fit remained a key area of difficulty. Candidates were often unsure whether to use dot-to-dot plotting or a line/curve of best fit and frequently drew lines that did not leave an even spread of results on either side.

In all tasks candidates are often asked to identify the relationship between the plotted variables and this was usually done well. Whilst most candidates were able to describe a relationship between the independent and dependent variables in the graph, a description of the shape of the graph, where it was required for the second mark, was poor. Many candidates used incorrect terminology, for example describing relationships as proportional when they were not or stating that change occurred at a constant rate when the graph was curved.

Processing Data

Processing results was problematic in some cases, particularly in the hydrogel task when asked to calculate the increase in mass of the hydrogel from the starting mass, many candidates instead calculated the increase between consecutive results. Where candidates were asked to determine values from graphs, they were generally able to read values from the x-axis accurately, but many struggled to identify the corresponding y-values using their chosen scale. In common with previous series, calculations were often done well, however, as with mean calculations, rounding was often inaccurate, for example when rounding the mean speed in the parachutes task.

Evaluation of Results

Questions directly assessing understanding of repeatability and reproducibility were answered well however when judging repeatability, imprecise language often limited candidates’ access to marks. Many referred to “results” rather than “repeats”. Even where candidates used the term repeats correctly, few used data to support their judgement. Tasks requiring assessment of repeatability at a specific value of the independent variable were generally answered more successfully, for example in the parachute task where reference to “results” was acceptable.

The use of data to support judgements of repeatability was generally weak. Rather than describing variation within sets of repeats or comparing each set with the mean, candidates often quoted one or two individual values. For reproducibility, candidates usually recognised the need to compare with other groups, but weaker responses suggested more repeats or asked other groups to repeat the experiment without explicitly comparing results or identifying whether patterns were similar.

Inaccuracies and Improvements

The quality of responses varied significantly**.** Some candidates were able to identify specific inaccuracies in the method and suggest a suitable linked improvement. However, many candidates gave generic improvements, such as “take more repeats” or “take more care when obtaining results”, rather than linking the improvement directly to the identified issue.

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Others suggested inaccuracies that would not have affected the results, for example better controlling the volume of water in the hydrogel task, despite the water always being in excess.

Planning

Planning questions were generally answered more successfully than in previous years, and candidates often identified the dependent variable correctly. However, the range of independent variable values was sometimes insufficient, with some candidates providing only two or three values rather than the required four. Common errors in identifying controlled variables included stating only one variable instead of two, repeating the independent variable rather than identifying a suitable controlled variable, or selecting an irrelevant variable.

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