



ENTRY LEVEL CERTIFICATE

Science

Entry Level Certificate **R483**

OCR Report to Centres June 2018

About this Examiner Report to Centres

This report on the 2018 Summer assessments aims to highlight:

- areas where students were more successful
- main areas where students may need additional support and some reflection
- points of advice for future examinations

It is intended to be constructive and informative and to promote better understanding of the specification content, of the operation of the scheme of assessment and of the application of assessment criteria.

Reports should be read in conjunction with the published question papers and mark schemes for the examination.

The report also includes links and brief information on:

- A reminder of our **post-results services** including **reviews of results**
- Link to **grade boundaries**
- **Further support that you can expect from OCR**, such as our Active Results service and CPD programme

Reviews of results

If any of your students' results are not as expected you may wish to consider one of our reviews of results services. For full information about the options available visit the [OCR website](#). If University places are at stake you may wish to consider priority service 2 reviews of marking which have an earlier deadline to ensure your reviews are processed in time for university applications: <http://www.ocr.org.uk/administration/stage-5-post-results-services/enquiries-about-results/service-2-priority-service-2-2a-2b/>

Grade boundaries

Grade boundaries for this, and all other assessments, can be found on the [OCR website](#).

Further support from OCR



Active Results offers a unique perspective on results data and greater opportunities to understand students' performance.

It allows you to:

- Review reports on the **performance of individual candidates**, cohorts of students and whole centres
- **Analyse results** at question and/or topic level
- **Compare your centre** with OCR national averages or similar OCR centres.
- Identify areas of the curriculum where students excel or struggle and help **pinpoint strengths and weaknesses** of students and teaching departments.

<http://www.ocr.org.uk/administration/support-and-tools/active-results/getting-started/>



Attend one of our popular CPD courses to hear exam feedback directly from a senior assessors or drop in to an online Q&A session.

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1. General Comments:

The Entry Level Science Specification is now R483.

A list of what is required in 2019 from a centre is

1. A copy of the Candidate Record Card (CRC) for each of the candidates in the sample selected correctly totalled for all the three components and with the final overall points total rounded down and transferred to the cover sheet. **This must be checked carefully.**
2. **All** marked End-of-Item Tests for the requested candidates arranged in test order.
3. One Practical Task representing each requested candidate's best total mark with the completed cover sheet attached to the front.
4. The final mark should be rounded down and transferred to OCR.

It would be useful to the moderator if the following pieces of information were also supplied:

1. A headed piece of paper with the name of the teacher responsible and preferably including **an email address** as well as a telephone number and centre address.
2. A letter stating how standardisation was carried out in the centre and this may be included on the headed paper. This is especially useful if there is more than one teacher involved or more than one set of candidates.
3. It is best if the work of a single candidate is held together by a single treasury tag or in a folder.

After moderation, all the work will be returned to the centre except for the work of candidates that is retained for use by OCR in awarding, archiving or training.

When the results are sent to centres in August they will also receive

1. A copy of the Moderator's Report and
2. Any adjustments made to the points totals.

The Entry Level Science course continues to be very successful. This must be due to the popularity of the course with both teachers and candidates. The possibility of using the course as a pre-requisite to other OCR GCSE Sciences has also not escaped the notice of centres that double enter candidates for Entry Level Science and a GCSE Science.

Moderation procedure

Internal moderation should take place in centres before submission to the moderator. A piece of headed note paper should contain information to say how this internal moderation has occurred even if it states that there is only one teacher and the marks are checked by the Head of Department and preferably the email address of the teacher responsible.

Administration

When End-of-Item tests are downloaded from Interchange some centres do not print double-sided. When candidates can take 36 End-of-Item Test and each one is, single-sided this results

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in a very large package, a waste of paper and also increases the cost of postage. Part of the internal moderation within a centre should be checking that marks have been correctly added and transferred to the Candidate Record Cards as working documents throughout the course. Filling these in at the last minute can lead to errors.

Common errors

- The centres must send all the End-of-Item Tests as well as the Practical Task
- Not enclosing a covering letter with the sample giving the name of the contact teacher or not saying in the covering letter how internal standardisation was carried out (if the course is taught by one teacher then the letter should simply say this).
- Not putting candidate names or candidate numbers on tests or assessed work which causes serious problems over identification of work.
- Submitting End-of-Item Tests for moderation that had not been entered on a Candidate's Record Card, or it had not been marked.
- The electronic version of the Candidate Record Card has a box on the front cover in which the number of End-of-Item Tests is included
- Incorrect totalling of points for End-of-Item Tests on page 4 of the record card
- Rounding-up the Final Total of End-of-Item Test marks and/or Final Total of Can-do Tasks to whole numbers rather than to one decimal place
- Not submitting Practical Tasks
- Not rounding-down the final mark
- Not putting forward the Practical Task as a question or using discrete variables. It is difficult to award marks under Aspect C if there is not an identifiable trend or pattern.
- The End-of-Item Tests must be marked in red
- **Allowing a candidate to take a test more than once. Only the original mark from the first undertaking of the test will be counted.**

End-of-Item Tests**It is most useful if the End-of-Item Tests are in numerical order.**

Please note that in 2019 for R483 the End-of-Item Tests should have the code R483 at the top. Tests cannot be taken more than once by a candidate.

Moderators select and remark a sample of 7 End-of-Item Tests per candidate chosen from the whole range of tests attempted by the centre so that a balanced overview of the centre's marking obtained.

Most centres had marked the End-of-Item Tests following the published mark schemes and had marked in accordance with the instructions on the front cover of the schemes. Centres are to be thanked for the care that they put into this part of the assessment.

The “1 tick>equals=1-mark” point still has to be made as quite a few teachers continue to circle the mark allocation. In a question that has a True/False answer then if the candidate writes something different but it is clear what was meant then the mark can be credited. An example is in the test that required a missing word from a list above, the candidate drew a line from the circled word to the sentence. The mark can be credited and benefit of doubt (BOD) written alongside in annotation.

Errors that did occur with the assessment of the End-of-Item Tests included

- Marking the tests in colours other than red (especially green which the moderators use)
- Marking ‘sequence’ type questions incorrectly
- Circling totals at the end of each question (use the one tick – one mark method)
- Incorrect transfer of points to the Candidate Record Cards (CRC)
- Failing to record the End-of-Item test on the CRC
- Recording a mark for an End-of-Item Test that is not sent as part of the portfolio

If a teacher thinks an answer that a student has given is correct but is not covered by the mark scheme, the teacher should annotate the copy of the mark scheme and apply it to all the candidates from their Centre. It is acceptable to mark such an answer correct but there should be annotation on the script to explain why the mark has been given (even if only BOD – benefit of doubt).

Can-do Tasks

Some centres had candidates completing several End-of-Item Tests and Practical Activities but ticked very few Can-do Tasks; even though the Practical Activity carried out must have involved the candidate demonstrating some Can-do Tasks successfully.

In the specification R483 there are 16 Can-do Tasks and the total number completed is added together and divided by 2 giving a maximum of 8 points. The result should be to one decimal point. Can-do Tasks cannot be given part marks.

Practical Tasks

It is advisable that centres use a continuous variable so that a trend can be identified.

Many centres used writing frames and these can be useful to guide candidates. However if too much guidance is given then Aspect A, **Planning to collect data**, may not be awarded the maximum 4 marks. Templates including general headings such as “What will I do?”, “The equipment I will need is”; and “How will I make it safe?” are acceptable. The comments on the safety aspect should relate to the actual task involved.

The candidates may then go on to gain marks for Aspect B, **Processing the data**, if they put their results into a table. Here again if the table is given or the graph axes are given with the labelled axes this limits the mark they should be awarded. Many centres have been awarding 4 marks for just completing a table with only 3 results. Headings to the tables with units are also needed for the full 4 marks.

Examples of suitable and popular tasks were craters using different masses. Poor choices were often just comparisons of two or three discrete values such as pulse rate after walking and running or cooling beakers with different covers.

The writing frames or help sheets used must be updated for the new specification R483. Some of the work sheets used were too specific such as getting a response for Aspect D – “Why did the crater increase in size when the mass of the meteor changed?”, and this effectively gives the trend. Work sheets often tend to produce similar work from the candidates. Centres are

reminded that while the practical data may be shared, the writing up process needs to be done independently.

The planning is best done before the activity so that it can be collected in and marked and checked for the safety aspect.

Aspect A: Quite often just list of equipment was given. A useful indicator for marking is, for 3 or 4 marks is 'Can I do the Practical Task based on what has been written?' and the safety aspect is specific for the task.

Aspect B: Preferably 5 sets of data should be obtained. Bar charts are acceptable for 3 or 4 marks, but if a continuous variable has been selected, a line graph is more appropriate.

Candidates should be encouraged to use a continuous variable. Plotting needs to be reasonably accurate for 3 or 4 marks. Tables of results can score up to 2 marks. A graph on its own without the table of results makes it impossible to check the plotting.

Aspect C: this is an easy 4 marks if a continuous variable was chosen, and the "er....er" idea has been taught. Comparisons (best/worst) are only a match to 2 marks. Certainly the best of two cannot get 4 marks for this aspect.

Aspect D: This is about explaining why it happened and there was often little evidence seen from centres. It would help the candidates if they were taught the relevant science before they carried out this Practical Task. Some centres seemed to be using trends and patterns (Aspect C) in order to claim a match. For 2 marks a simple explanation is needed and for 3 or 4 marks some simple science ideas. Examples: Craters: 2 marks for larger objects are heavier. 4 marks needs a link to larger massed have more force (or acceleration). Solubility at different temperatures: 2 marks for heat makes the water move more. For 4 marks more heat means more particle collisions.

There has been a return to investigational experiments of the type "Does the temperature of the water affect the rate at which an indigestion tablet dissolves? "Does the rate of reaction depend on the surface area?" "Does the mass added to an elastic band affect how much the elastic band stretches?" but in a lot of the tasks, Aspect D. **Interpreting the data**, proved difficult to assess. This should not be merely a re-statement of the trend or pattern which is Aspect C but requires the candidate to relate the trend or pattern to the relevant science. Sensible ideas for explaining the pattern could score 2 marks but for more marks some basic science ideas are needed. Common sense ideas might be able to score 2 marks.

Aspect E, Reviewing the method, must refer to the actual data collected. It requires the candidate to comment on how suitable the method used was and how it affects the quality of the data collected. Some centres were awarding high marks for stating they should repeat the Practical Task when they already have a good set of results. The data has to be linked to quality.

This aspect (Aspect E) is about the method used and the data collected. For 1 or 2 marks there needs to be a relevant comment – could be about whether the best equipment was selected, or the most precise measuring device, or any comment about how well the method worked – it's often easier to state a problem here. Something simple can match 1 or 2 marks, but for 3 or 4 marks it needs to be how this affected the data. One way to do this is by looking for results that do not fit the pattern and suggesting a reason why this might have occurred.

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Whatever Practical Task is chosen the centre should check that it is appropriate for their candidates and that they have the resources for their candidates to tackle the task. The most important question to ask is if the Practical Task is a collaborative effort then centres should annotate work so that individuals' contributions are identified.

Practical Tasks that were seen in 2018 were:

- Craters – still very popular either for the size of the meteor or for the height it is dropped
- Rate of dissolving – indigestion tablets added to water at different temperatures
- Rate of reaction – magnesium and different concentrations of acid
- Hooke's Law – the stretching of elastic bands or springs

The Practical Tasks on huddling, cladding of beakers and the task on the OCR web on milk fat are generally impossible to find a trend. Some other Practical Tasks that were seen were just not appropriate at all such as

- A traffic survey
- Pulse rates of the class compared with teachers
- Comparison of shoe size
- Testing solutions for pH

“Can Aspect C be fully answered?” i.e. is there a trend or pattern that can be found? The variables therefore should not be discrete ones and more than three results, preferably five, to obtain the pattern.

Candidate Record Card

Please note that there is an electronic version of the Candidate Record Card which automatically adds up the marks and converts them to points. In 2019 please make sure you use the R483 version if entering for that code. Please note that if you use the electronic version and then add marks at a later stage to the sheet the totals must be checked.

The Entry Level Science specification R483 has 36 End-of-Item Tests

- 12 Biology
- 12 Chemistry
- 12 Physics

The Assessment Components

• End-of-Item Tests	72 points
• Can-do Tasks	8 points
• Practical Task	20 points

(All mark schemes have been written to address the following targeted thresholds :)

• Entry Level 1	40 points
• Entry Level 2	60 points
• Entry Level 3	80 points

The End-of-Item Tests are converted to points as follows:

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A maximum of 36 tests can be “counted” and they have 15 marks each. Each End-of-Item Test has a maximum of 2 points and the overall weighting is 70%. The marks are converted to points as follows:

Marks	Points
12 – 15	2.0
9 – 11	1.5
6 – 8	1.0
3 – 5	0.5

Note that the marks to points are different to the previous R591 tests which should not be used. If the specification has been taken over a number of years and R591 tests have been used at the start then the conversion of marks to points should be as in R591.

The Can-do Tasks have been arranged as 16 tasks and each task is worth 0.5 point. Therefore the maximum mark is $16 \times 0.5 = 8$ points.

The Practical Task is a question that the candidates are given to answer and they will need to:

- Plan a suitable procedure
- Display data in a suitable format
- Recognise patterns in data
- Interpret data and relate to relevant science
- Comment on the method used to collect data

The Practical Task will be teacher devised and

- Teacher assessed
- Five defined Performance Descriptors
- Each awarded from 0 to 4 marks
- Total marked out of 20
- Directly converted into points

Some digital photographs were used which were very helpful in showing how the investigation was carried out but should not include a photograph of the candidate.

There are two options for entry R483/01 and R483/02. Please note that the R483/01 is to use the Repository Option where all the candidates’ work needs to be scanned by the Centre.

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