



# Higher Human Biology

## Assignment

### Assessment task

This document provides information for teachers and lecturers about the coursework component of this course in terms of the skills, knowledge and understanding that are assessed. It **must** be read in conjunction with the course specification.

**Valid from session 2018-19 and until further notice.**

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# Introduction

This document contains instructions for teachers and lecturers, marking instructions and instructions for candidates for the Higher Human Biology assignment. You must read it in conjunction with the course specification.

This assignment is worth 20 marks (scaled to 30). This is 20% of the overall marks for the course assessment.

This is one of three course assessment components. The other components are question papers.

# Instructions for teachers and lecturers

## General information

This information applies to the assignment for Higher Human Biology.

The assignment assesses the application of skills of scientific inquiry and related biology knowledge and understanding.

The assignment gives candidates an opportunity to demonstrate the following skills, knowledge and understanding:

- ◆ applying knowledge of human biology to new situations, interpreting information and solving problems
- ◆ planning, designing and safely carrying out experiments/practical investigations to test given hypotheses or to illustrate particular effects
- ◆ selecting information from a variety of sources
- ◆ presenting information appropriately in a variety of forms
- ◆ processing information (using calculations and units, where appropriate)
- ◆ making predictions and generalisations based on evidence/information
- ◆ drawing valid conclusions and giving explanations supported by evidence/justification
- ◆ evaluating experiments/practical investigations and suggesting improvements
- ◆ communicating findings/information effectively

The assignment offers challenge by requiring candidates to apply skills, knowledge and understanding in a context that is one or more of the following:

- ◆ unfamiliar
- ◆ familiar but investigated in greater depth
- ◆ integrating a number of familiar contexts

Candidates research and report on a topic that allows them to apply skills and knowledge in biology at a level appropriate to Higher.

The topic must be chosen with guidance from teachers and/or lecturers and must involve experimental work.

The assignment has two stages:

- ◆ research
- ◆ report

The research stage must involve experimental work that allows measurements to be made. Candidates must also gather data/information from the internet, books and/or journals.

Candidates must produce a report of their research.

# Conditions of assessment

## Setting, conducting and marking the assignment

### Setting

The assignment is:

- ◆ set by centres within SQA guidelines
- ◆ set at a time appropriate to the candidate's needs
- ◆ set within teaching and learning and includes experimental work at a level appropriate to Higher

### Conducting

The assignment is:

- ◆ an individually produced piece of work from each candidate
- ◆ started at an appropriate point in the course
- ◆ conducted under controlled conditions

### Marking

The report is submitted to SQA for external marking.

All marking is quality assured by SQA.

### Assessment conditions

Controlled assessment is designed to:

- ◆ ensure that all candidates spend approximately the same amount of time on their assignments
- ◆ prevent third parties from providing inappropriate levels of guidance and input
- ◆ mitigate concerns about plagiarism and improve the reliability and validity of SQA awards
- ◆ allow centres a reasonable degree of freedom and control
- ◆ allow candidates to produce an original piece of work

There are two levels of control.

Under a high degree of supervision and control	Under some supervision and control
<ul style="list-style-type: none"> <li>◆ the use of resources is tightly prescribed</li> <li>◆ all candidates are within direct sight of the supervisor throughout the session(s)</li> <li>◆ display materials which might provide assistance are removed or covered</li> <li>◆ there is no access to e-mail, the internet or mobile phones</li> <li>◆ candidates complete their work independently</li> <li>◆ interaction with other candidates does not occur</li> <li>◆ no assistance of any description is provided</li> </ul>	<ul style="list-style-type: none"> <li>◆ candidates do not need to be directly supervised at all times</li> <li>◆ the use of resources, including the internet, is not tightly prescribed</li> <li>◆ the work an individual candidate submits for assessment is their own</li> <li>◆ teachers and/or lecturers can provide reasonable assistance</li> </ul>

The assignment has two stages.

Stage	Level of control
◆ research	conducted under some supervision and control
◆ report	conducted under a high degree of supervision and control

# Instructions

Teachers and/or lecturers must exercise their professional responsibility to ensure that the report submitted is the candidate's own work.

It is recommended that no more than 8 hours is spent on the **whole** assignment.

A maximum of 2 hours is allowed for the report stage.

The instructions for candidates outline the requirements for the assignment and teachers and/or lecturers must give these to candidates at the outset. Teachers and/or lecturers must ensure candidates understand the requirements of the task.

Teachers and/or lecturers must not, at any stage, provide candidates with a template or model answers.

## Research stage

The research stage is conducted under some supervision and control. See 'Conditions of assessment' section.

### Choosing the topic

At the start of the research stage, the teacher and/or lecturer must agree the choice of topic with the candidate to ensure that it:

- ◆ is appropriate for Higher Human Biology
- ◆ has associated experimental work that can generate numerical data
- ◆ allows the candidate the opportunity to access all of the available marks

Once candidates have agreed the topic with their teacher and/or lecturer, they must formulate an aim.

### Formulating the aim

To ensure the candidate's aim is achievable the teacher and/or lecturer must provide advice on its **suitability**, taking into account:

- ◆ health and safety considerations
- ◆ availability of resources
- ◆ availability of data/information from internet/literature

Teachers and/or lecturers must not provide candidates with an aim.

After the candidate has formulated an aim, they can progress through the research stage.

The candidate's research consists of gathering data relevant to the aim from an experiment and comparative data/information from an internet/literature source.

The candidate's research may also involve gathering extracts from internet/literature source(s) to support their description of the underlying biology.

Candidates can carry out their research in any order. They do not have to follow the order outlined below.

## Experimental research

Teachers and/or lecturers can supply instructions for the experimental procedure. These must not include details of the number and range of values or reference to repeats.

Teachers and/or lecturers are responsible for ensuring that appropriate risk assessment has been carried out and that candidates have guidance on the safe and correct use of chemicals and equipment.

Teachers and/or lecturers must not provide candidates with experimental data.

Teachers and/or lecturers must not provide candidates with a blank or pre-populated table for experimental results.

Candidates must carry out the experimental work individually or as part of a small group. (A small group is defined as having two, three or four candidates.)

Group work may be an appropriate approach in a number of circumstances, for example:

- ◆ to encourage diversity of research topic
- ◆ where experimental work is labour- or time-intensive
- ◆ where resources are limited

Where candidates work in a group, teachers and/or lecturers must ensure every candidate participates in the experimental work. Within the small group, it is acceptable for candidates to share experimental data. Each group should carry out replicates where possible but, under some circumstances, for example where experimental work is labour or time intensive, data could be shared between groups. Where data is shared between groups, individual candidates must pool the results without assistance from teachers and/or lecturers.

Teachers and/or lecturers must not provide feedback to candidates on their results. However, where **candidates** identify a problem with their results and indicate that they wish to repeat the experimental work, they may do so.

## Internet/literature research

Candidates may carry out research to find comparative data/information and underlying biology outwith the direct supervision of teachers and/or lecturers.

The internet/literature research must be the work of the individual candidate. If candidates are working in a small group to gather data/information, each candidate must take an active part in this and choose their own sources of data/information.



Candidates must undertake research using only websites, journals and/or books to find secondary data/information. Teachers and/or lecturers may provide candidates with a wide list of URLs and/or a wide range of books and/or journals. (A wide list is specified as a minimum of six.) Where internet access is an issue, teachers and/or lecturers can provide candidates with a printed copy of the **full** content of **all** URLs given in the list. This list must have a sufficient range of sources to allow candidates to make decisions about which data/information is relevant.

Candidates must find internet/literature data that they can directly compare to their experimental data and record the reference to the source.

This can be data which:

- ◆ matches the sample range used
- ◆ is not an exact match for the sample range used
- ◆ is generic and illustrates a trend or pattern expected in the experimental data

Where it is not possible to find such data, candidates should aim to find information that may:

- ◆ directly support the experimental data
- ◆ be in contrast to the experimental data

Teachers and/or lecturers must not provide candidates with feedback on their research.

## Report stage

The report stage is conducted under a high degree of supervision and control. See 'Conditions of assessment' section.

Candidates must be given a maximum of 2 hours to produce the report.

- ◆ This can be a continuous period of time or split over a number of successive subject lessons.
- ◆ Centres are responsible for ensuring that candidates are given no more than the maximum time.
- ◆ If candidates produce the report over a number of lessons, then the teacher and/or lecturer must retain and store candidates' work securely between lessons.

Candidates may word-process their reports and use appropriate software to produce graphs – providing that the assessment conditions are met.

Teachers and/or lecturers must check that all materials (in any format) that each candidate will use in the report stage fit the following criteria.

The only materials which can be used in the report stage are:

- ◆ the instructions for candidates, which must not have been altered
- ◆ the candidate's raw experimental data
- ◆ data/information taken from the internet or literature
- ◆ a record of the source(s) of internet or literature data/information
- ◆ extract(s) from internet/literature source(s) to support the underlying biology
- ◆ the experimental method, if appropriate

Candidates must not have access to a previously prepared:

- ◆ draft of a report
- ◆ draft of a description of the underlying biology
- ◆ specimen calculation(s) or set of calculations for mean or derived values
- ◆ graph
- ◆ comparison of data
- ◆ conclusion
- ◆ evaluation

In addition, candidates must not have access to the assignment marking instructions during the report stage.

Candidates must not have access to the internet during the report stage.

Teachers and/or lecturers must not provide any form of feedback to a candidate on their report.

Following completion of the report stage candidates must not be given an opportunity to redraft it.

Teachers and/or lecturers must not read the reports before they are submitted to SQA.

## **Evidence to be gathered**

The following candidate evidence is required for this assessment:

- ◆ a report

The report is submitted to SQA, within a given time frame, for marking.

The same report cannot be submitted for more than one subject.

# Marking instructions

In line with SQA's normal practice, the following marking instructions for the Higher Human Biology assignment are addressed to the marker. They will also be helpful for those preparing candidates for course assessment.

Candidates' evidence is submitted to SQA for external marking.

## General marking principles

Always apply these general principles. Use them in conjunction with the detailed marking instructions, which identify the key features required in candidates' responses.

- a Always use positive marking. This means candidates accumulate marks for the demonstration of relevant skills, knowledge and understanding; marks are not deducted for errors or omissions.

## Detailed marking instructions

Read the whole report before assigning any marks.

Section	Max mark	Expected response and marking instructions
<b>1 Aim (1 mark)</b>		
	1	<p><b>An aim that describes clearly the purpose of the investigation.</b></p> <p>The word 'aim' is not required, but the statement of the aim should be separate from the title.</p> <p>Acceptable versions of an aim could be:</p> <ul style="list-style-type: none"><li>◆ 'To investigate the effect of lead concentration on the activity of the enzyme catechol oxidase.'</li><li>◆ 'To investigate the effect of UV radiation exposure time on the growth of UV-sensitive yeast cells.'</li></ul> <p>Note: 'to investigate enzymes', or 'the rate of enzyme action', or 'the effect of ultraviolet light' would not be acceptable.</p>

Section	Max mark	Expected response and marking instructions
<b>2 Underlying biology (4 marks)</b>		
	4	<p><b>An account of biology relevant to the aim of the investigation.</b></p> <p>Award marks for expanded descriptions and explanations at Higher level.</p> <p>The candidate must use biology terms/ideas at a depth appropriate to at least Higher level.</p> <p>Four relevant points, award 4 marks.  Three relevant points, award 3 marks.  Two relevant points, award 2 marks.  One relevant point, award 1 mark.</p> <p>Ideally, the candidate will give their account of the underlying biology in this section of the report; however, you should be aware that they may include some of the underlying biology in other sections of the report.</p> <p>Information quoted from references in this section and then explained or expanded on by the candidate is acceptable.</p> <p>Only award marks for underlying biology. Do not award marks for general information, for example historical or socio-economic information.</p>

Section	Max mark	Expected response and marking instructions
<b>3 Data collection and handling (5 marks)</b>		
3 a	1	<p><b>A brief summary of the approach used to collect experimental data.</b></p> <p>Where the candidate has not demonstrated the ability to summarise the method, do not award the mark.</p> <p>The summary need only be in sufficient detail that the nature of the experiment can be visualised. The candidate must name any chemical(s) and measuring equipment used.</p> <p>The candidate does not need to include details, such as the concentrations and volumes of solutions, in the summary.</p> <p>A diagram on its own is insufficient to gain this mark.</p> <p>Acceptable summaries of practical work could be:</p> <ul style="list-style-type: none"> <li>◆ ‘Six beakers were set up with different concentrations, but the same volume, of hydrogen peroxide. Filter paper discs were soaked in catalase solution. One disc was dropped to the bottom of the first beaker and a stop clock used to time how long it took for the disc to rise to the surface. This was repeated for each concentration.’</li> <li>◆ ‘Five woodlice were placed in a sealed flask which was fitted with a carbon dioxide probe. The flask was placed in a water bath at 5°C and left for 10 minutes. Then the probe was used six times a minute for the next four minutes to record the CO<sub>2</sub>. This was repeated at four other temperatures.’</li> </ul>

Section	Max mark	Expected response and marking instructions
3 b	1	<p><b>Sufficient raw data from the candidate's experiment.</b></p> <p>Repeated measurements must be included.</p> <p>The number and range of values must be appropriate to the aim. A minimum of three values will be appropriate in some investigations; however, the number will depend upon the aim of the investigation.</p> <p>For example:</p> <ul style="list-style-type: none"> <li>◆ In an experiment to investigate the effect of end product inhibition of phosphatase, five different phosphate concentrations would be appropriate over the range of molarities: 0, 0.05M, 0.10M, 0.20M, 0.30M.</li> <li>◆ In an experiment to investigate how using different respiratory substrates affects dehydrogenase activity in yeast, three substrates would be sufficient, for example glucose, maltose and lactose.</li> </ul> <p>In this section, do not penalise errors in presentation of the data, such as missing headings or missing units from tables.</p> <p>Award this mark for raw, unprocessed data and not the mean/average values calculated from raw data.</p>
3 c	1	<p><b>Data, including mean/average values, presented in a correctly produced table(s).</b></p> <p>Experimental data must be tabulated.</p> <p>Every column must have a clear heading.</p> <p>Units must be indicated in column headings or given after every data entry.</p> <p>All mean/average values must be calculated correctly and tabulated.</p>

Section	Max mark	Expected response and marking instructions								
3 d	1	Data/information relevant to the aim from an internet/literature source.								
3 e	1	<p><b>A citation and reference for a source of internet/literature data or information.</b></p> <p>The candidate must cite the literature/internet source within the body of the report and give the reference later in the report.</p> <table border="1"> <thead> <tr> <th>Source</th> <th>Reference</th> </tr> </thead> <tbody> <tr> <td>Website</td> <td>Full URL for the page(s) with date accessed The URL 'www.bbc.co.uk (Feb 2018)' is not acceptable, but <a href="http://www.bbc.co.uk/education/guides/z46cwmn/revision">http://www.bbc.co.uk/education/guides/z46cwmn/revision</a> (Feb 2018) is an acceptable reference.</td> </tr> <tr> <td>Journal</td> <td>Title, author, journal title, volume and page number</td> </tr> <tr> <td>Book</td> <td>Title, author, page number and either edition or ISBN</td> </tr> </tbody> </table> <p>The reference can be to the source of data/information relevant to the aim, or to a source of information gathered to assist with the account of the underlying biology.</p>	Source	Reference	Website	Full URL for the page(s) with date accessed The URL 'www.bbc.co.uk (Feb 2018)' is not acceptable, but <a href="http://www.bbc.co.uk/education/guides/z46cwmn/revision">http://www.bbc.co.uk/education/guides/z46cwmn/revision</a> (Feb 2018) is an acceptable reference.	Journal	Title, author, journal title, volume and page number	Book	Title, author, page number and either edition or ISBN
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Journal	Title, author, journal title, volume and page number									
Book	Title, author, page number and either edition or ISBN									



Section	Max mark	Expected response and marking instructions
<b>4 Graphical presentation (4 marks)</b>		
		<p>The candidate's graph must be based on their own experimental data.</p> <p>Mark computer-generated graphs in the same way as hand-drawn graphs.</p> <p>Graphs should be of a size that allows the scaling and labelling of the axes and the accuracy of the plotting of the data points to be readily checked.</p> <p>It may not be possible to check the accuracy of plotting if data points are excessively large, minor gridlines are omitted, or the candidate has not used graph paper.</p>
4 a	1	<p><b>An appropriate format from the options of bar graph or line graph.</b></p> <p>The candidate should select a bar graph for a discrete variable and a line graph for a continuous variable.</p>
4 b	1	<p><b>The axes of the graph have suitable scales.</b></p> <p>If the candidate produces a bar graph, then consider <b>bar labels</b> here in place of scale.</p>
4 c	1	<p><b>The axes of the graph have suitable labels and units.</b></p> <p>Do not penalise spelling mistakes or the use of abbreviations if the meaning of an axis label can be clearly understood within the context of the investigation.</p> <p>Appropriate abbreviations may be used for units.</p>
4 d	1	<p><b>Accurately plotted data points and a line (line graph) or clear bar tops (bar graph).</b></p> <p>Do not award this mark if it is not possible to check the accuracy of plotting.</p>

Section	Max mark	Expected response and marking instructions
<b>5 Analysis (1 mark)</b>		
	1	<p><b>A valid comparison or an appropriate calculation linked to the aim of the investigation.</b></p> <p>This could be:</p> <ul style="list-style-type: none"> <li>◆ a comparison of the experimental data with data/information from the internet/literature source</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>◆ a correctly completed calculation(s) based on the experimental data, along with a statement(s) linking the result of the calculation(s) to the aim of the investigation</li> </ul> <p>This must be a calculation other than the mean or average values that have already been marked in section 3 c.</p> <p>Do not award this mark for calculations without a linking statement.</p>
<b>6 Conclusion (1 mark)</b>		
	1	<p><b>A valid conclusion that relates to the aim and is supported by all the data/information in the report.</b></p> <p>Where the candidate has used an indirect measurement, they must make reference to the dependent variable and not only to the indirect measurement.</p> <p>Where no aim has been stated, do not award this mark.</p>

Section	Max mark	Expected response and marking instructions
<b>7 Evaluation (3 marks)</b>		
	3	<p><b>Evaluation of the investigation</b></p> <p>Award 1 mark for each valid evaluative statement supported by appropriate justification, to a maximum of 3 marks.</p> <p>The evaluative statements could relate to the experimental procedures, results or data/information from an internet/literature source.</p> <p>A maximum of one of these marks is available for an evaluation of data/information from an internet/literature source.</p>
<b>8 Structure (1 mark)</b>		
	1	<p><b>A clear and concise report, with an informative title.</b></p> <p>The structure of the report does not need to follow the structure suggested in the marking instructions or instructions for candidates, but should flow in a logical manner.</p> <p>Note: 'Higher Human Biology assignment' alone is not acceptable.</p>
<b>Total</b>	<b>20</b>	

# Instructions for candidates

This assessment applies to the assignment for Higher Human Biology.

This assignment is worth 20 marks. This is 20% of the overall marks for the course assessment.

It assesses the following skills, knowledge and understanding:

- ◆ applying knowledge of human biology to new situations, interpreting information and solving problems
- ◆ planning, designing and safely carrying out experiments/practical investigations to test given hypotheses or to illustrate particular effects
- ◆ selecting information from a variety of sources
- ◆ presenting information appropriately in a variety of forms
- ◆ processing information (using calculations and units, where appropriate)
- ◆ making predictions and generalisations based on evidence/information
- ◆ drawing valid conclusions and giving explanations supported by evidence/justification
- ◆ evaluating experiments/practical investigations and suggesting improvements
- ◆ communicating findings/information effectively

Your assignment has two stages:

- ◆ research
- ◆ report

Your teacher or lecturer will let you know if there are any specific conditions for doing this assessment, and tell you how the assignment will be carried out.

In this assignment you have to investigate a topic in human biology by doing research.

Your research involves gathering data from an experiment and data/information from internet/literature source(s).

You then produce a report on your investigation.

Your teacher or lecturer will not mark your report at any point. It is sent to SQA for marking.

# Research stage

## Choosing your topic

- ◆ You need to choose a relevant topic in human biology to investigate.
- ◆ You must agree your topic with your teacher or lecturer.

## Deciding your aim

- ◆ Once you have chosen your topic, you need to decide on the aim of your investigation. Remember that you need to do an experiment **and** find data/information to compare with your experimental results.
- ◆ Your teacher or lecturer will provide advice on the suitability of your aim.

## Experimental research

- ◆ When choosing your experiment, remember it must allow measurements to be taken.
- ◆ When carrying out your experiment, you must work either on your own or as part of a small group. If you are working as part of a small group, you must take an active part.
- ◆ Make sure you use a sufficient number of values over a wide enough range to meet the aim of your investigation.
- ◆ You must have repeat measurements.
- ◆ You will use your raw experimental data during the report stage.

## Internet/literature research

- ◆ You need to find data/information from the internet, books and/or journals that you can compare to your experimental data. This could be a table or a graph, or information such as a diagram or text which is relevant to your aim. This data/information does not need to exactly match your experiment but could illustrate the trend or pattern expected in your experiment.
- ◆ It is important that you record where you get your data/information from in enough detail that another person could find it. This is known as a reference.
- ◆ In your report you will need to describe the biology relevant to your aim. You can gather extracts from the internet, books and/or journals to help you write your description of the underlying biology. During the report stage you will need to show your understanding by writing this description using your own words.

# Report stage

## Producing the report

- ◆ The report must be all your own work.
- ◆ When producing your report, you will be supervised at all times.
- ◆ You have 2 hours to complete your report.

## Resources

During the report stage, you are only allowed to have certain materials.

You can have:	You cannot have a previously prepared:
<ul style="list-style-type: none"><li>◆ these instructions for candidates</li><li>◆ extracts you have gathered from the internet, books and/or journals to help you describe the biology relevant to your aim</li><li>◆ the experimental method</li><li>◆ your raw experimental data</li><li>◆ your internet or literature data/information, including the reference to the source of the data/information</li></ul>	<ul style="list-style-type: none"><li>◆ draft of your report</li><li>◆ draft of your description or explanation of biology relevant to your aim</li><li>◆ specimen calculation(s) or set of calculations for average or derived values</li><li>◆ graph</li><li>◆ comparison of data</li><li>◆ conclusion</li><li>◆ evaluation</li></ul>

Your teacher or lecturer cannot provide you with feedback or tell you how to improve your report.

# Guidance on producing your report

Your report must be easy to follow.

You may find that using headings will help to make your report clear.

## Title

- ◆ Your title must tell the reader what your report is about.

## Aim

- ◆ Your aim must describe clearly the purpose of your investigation.

## Underlying biology

- ◆ You must describe the biology relevant to your aim. You need a minimum of four points along with their descriptions or explanations at Higher level.
- ◆ You must use your own words as much as possible.
- ◆ You can quote from sources as long as you give a description or explanation showing that you understand the biology.
- ◆ Do not include a passage copied directly from a source. This would not show that you understand the biology.

## Description of experiment

- ◆ You must give a brief description that shows you can summarise your experimental method. You must not give a full description.
- ◆ Your summary must include the names of any chemicals and measuring instruments you used.
- ◆ You do not need to give details of the range or the number of repeats.

## Experimental data

- ◆ You must include a table showing **all** of the measurements you recorded during your experiment.
- ◆ Make sure you include column headings and units.
- ◆ You must calculate average values from your repeated measurements and include these in your table.

## Graphical presentation

- ◆ You must produce a graph of your experimental results.
- ◆ The graph must:
  - be a line graph or a bar graph, whichever is appropriate for your data
  - be large enough to allow points to be read accurately
  - have suitable scales, labels and units on the axes
  - have points which are joined with a line (line graph) or clear bar tops (bar graph)
- ◆ You must use graph paper or graphing software.
- ◆ If you are using graphing software, include both major and minor gridlines, and use plotting symbols that are clear but not too large.

## Data/information from an internet/literature source

- ◆ You must include data/information from an internet/literature source that you can compare with the data from your experiment. It must be clear from what you include that this data/information is relevant to the aim of your investigation.
- ◆ You must cite your internet/literature source within the body of the report, near to the relevant data/information, and include a reference later in the report.
- ◆ You can cite a source in many ways. One way is to put a number, for example (1), next to the data/information and the same number beside the reference included later in the report.
- ◆ You must include the following information in a reference:

Source	Reference
website	full URL for the page or pages, with date accessed
journal	title, author, journal title, volume and page number
book	title, author, page number and either edition or ISBN

## Analysis

- ◆ You must compare your experimental data with the data/information from your internet/literature source.  
**OR**
- ◆ You must include a correctly completed calculation(s) based on the experimental data. You must include a statement to link the result of the calculation(s) to the aim of the investigation. This must be a calculation other than the average(s) you have already given.

## Conclusion

You must state a conclusion that relates to your aim **and** is supported by **all** the data included in your report.



## Evaluation

You must make three statements, supported by justifications, which evaluate the data/information you have included.

These statements can relate to:

- ◆ your experimental procedure
- ◆ your results
- ◆ data/information from your internet/literature source

No more than one of your statements can evaluate data/information from your internet/literature source.

## Summary

You can use this table to check you have covered all the sections in your report.

Section	Description	Marks
Title and structure	An informative title and a structure that can be easily followed.	1
Aim	A description of the purpose of your investigation.	1
Underlying biology	A description of the biology relevant to your aim, which shows your understanding.	4
Data collection and handling	A brief description of your experiment.	1
	Sufficient data from your experiment.	1
	Data from your experiment, including average values, presented in a table with headings and units.	1
	Data/information from an internet/literature source.	1
	A citation for an internet/literature source and the reference later in the report.	1
Graphical presentation	Appropriate type of graph used to present your experimental data.	1
	Suitable scales.	1
	Suitable labels and units on axes.	1
	All data plotted accurately.	1
Analysis	A correct comparison of the experimental data with data/information from the internet/literature source <b>OR</b> a correctly completed calculation(s) based on the experimental data, linked to the aim.	1
Conclusion	A conclusion relating to your aim, based on all the data/information in your report.	1
Evaluation	Three evaluative statements supported by justifications.	3
<b>Total</b>		<b>20</b>

Once complete, give your report to your teacher or lecturer to submit to SQA.

# Administrative information

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## History of changes

Version	Description of change	Date

Note: you are advised to check SQA's website to ensure you are using the most up-to-date version of this document.

## Security and confidentiality

This document can be used by SQA approved centres for the assessment of National Courses and not for any other purpose.

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