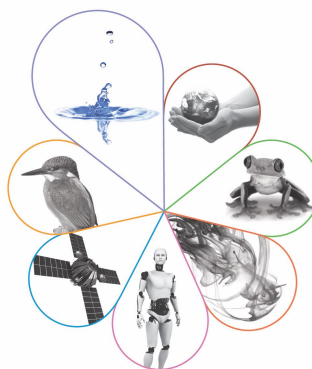


GCSE Science: Virtual Communities - Spring 2023

Spring 2023



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Welcome



Supporting students with extended prose questions

- What are extended prose questions?
- How do 'extended response' questions differ from other open response questions?
- Understanding the mark schemes
- Understanding the command words
- Examples of good extended prose responses
- Ideas for supporting students in tackling extended prose questions

What are extended prose questions?

- Open response questions that require students to write their answers in the form of structured sentences.
- Worth at least 4 marks.
- Set at all levels of demand and covering all assessment objectives.

Types of extended prose questions

- **Extended open prose questions:**
 - usually require a specific number of points to be made in a specific order, which are not necessarily linked
 - marked using a points-based mark scheme.
- **Extended response questions are a type of extended prose which:**
 - require a more defined level of reasoning, logical structuring and linking of points in terms of knowledge, understanding and skills
 - are marked on a levels of response mark scheme.

What is 'extended response'?

- Ofqual defines an extended response as:

'... evidence generated by a Learner which is of sufficient length to allow that Learner to demonstrate the ability to construct and develop a sustained line of reasoning which is **coherent, relevant, substantiated** and **logically structured**.'

[GCSE \(9 to 1\) qualification level conditions and requirements](#) (Updated April 2022: Ofqual)
- These regulations apply to all GCSEs and are not specific to GCSE science.

Extended response questions in GCSE science

- Not all questions worth 4–6 marks are classified as extended response.
- Extended response questions are worth 4 or 6 marks.
- Typically use the following command words: describe, explain, design/plan, compare, evaluate.
- Can be a multi-step calculation worth 4, 5 or 6 marks involving two or more distinct steps or use of two or more distinct equations.
- Relatively small proportion of the marks for the assessment:
 - Foundation tier papers – about 10%
 - Higher tier papers – about 15%.
- Marked on a levels of response mark scheme (except calculations).

Activity 1: can you identify 'extended response'?

- Examples 1 and 2 (resource booklet page 4) are 6-mark extended prose questions with the command word 'explain'.
- One of these counts as 'extended response', one doesn't.
- Discuss the following:
 - Which would you classify as 'extended response'?
 - What about the question influenced your decision?

Activity 1: Example 1

Question	Answers	Mark	AO / Spec. Ref.
03.7	Level 3: Relevant points (reasons/causes) are identified, given in detail and logically linked to form a clear account.	5–6	AO2
	Level 2: Relevant points (reasons/causes) are identified, and there are attempts at logical linking. The resulting account is not fully clear.	3–4	AO1
	Level 1: Points are identified and stated simply, but their relevance is not clear and there is no attempt at logical linking.	1–2	AO1
	No relevant content	0	
	Indicative content <ul style="list-style-type: none"> enzymes are protein molecules (so) have a 3D structure lock and key theory have an active site (which) has a specific shape shape of active site will only match shape of substrate starch is substrate for amylase at pH values above or below the optimum the shape of active site is changed (in some molecules) (so) substrate can no longer fit the active site at extreme pH values enzyme is denatured (so) shape of active site is changed (so) amylase can no longer digest starch (so) rate of digestion decreases <p>For Level 3 reference to enzyme structure and effect of pH on enzyme activity are needed</p>		4.2.2.1

Activity 1: Example 2

Question	Answers	Extra information	Mark	AO / Spec. Ref.
05.3 indirect marking view with 5.2	(when blood glucose concentration is high after a meal) insulin / B is secreted (by the pancreas) causing glucose to enter <u>cells</u>		1	AO2
	(glucose is) converted to glycogen in the liver / muscle (cells for storage)		1	AO1
	(this causes) blood glucose concentration to return to normal so insulin / B secretion slows / stops / decreases		1	AO2
	when blood glucose concentration is low glucagon / A is secreted (by the pancreas)		1	AO2
	(which causes) breakdown of glycogen in the liver (into glucose)	allow (which causes) breakdown of glycogen in the muscle (cells)	1	AO1
	(this causes) blood glucose concentration to return to normal so glucagon / A secretion slows / stops / decreases		1	AO2 4.5.3.2

Activity 1: Further thoughts

- How easy was it to tell the difference without seeing the mark scheme?
- Ask yourself: Does knowing matter to the way students should approach the question?
- Example 7 (booklet pages 12 and 13) is given for you to discuss this further with colleagues back in school.

GCSE science points-based mark schemes

- **Answers** column lists the expected answers (marking points):
 - answers are listed in the order expected
 - alternative answers acceptable for a mark are indicated by 'or'
 - alternative acceptable words are shown by a solidus (/)
 - any wording that is underlined is essential for the mark point
 - material in brackets is not essential for the mark but is included to help identify the sense of the answer required.
- **Extra information** column gives further information on:
 - what will be allowed as an alternative response
 - answers that are not allowed (and might negate a previous response)
 - answers that are neutral and should be ignored.
- Every marking point is aligned with a mark in the fourth column to show exactly where marks are awarded.

GCSE science levels of response mark schemes

- Reward open questions where there is a variety of ways for students to arrive at a mark.
- Allow students to gain credit for the relevant science they know using a holistic marking technique.
- Mark performance on a continuum by dividing performance into chunks of marks (levels) on the continuum.
- Describe the performance at each level.

GCSE science levels of response mark schemes

- Generic levels descriptors linked to specific command words.
- Indicative content lists major relevant points that need to be made in the answer.
- Answer does not have to be perfect to achieve top level.
- Can include 'good' hurdles at the end of the indicative content: examples of key content required to access a particular level descriptor.

Applying a levels of response mark scheme

- **First determine the level:**
 - read and understand the levels descriptors
 - read through the whole response and holistically determine the overall quality of the answer
 - take into account the descriptor for each level
 - use any additional guidance in the mark scheme ('good' hurdles) to help set level
 - use a 'best-fit' approach: do not penalise small and specific parts where a student has not performed as well as the rest.
- **Then determine a mark within the level:**
 - look at the indicative content: it is a guide only, not intended to be exhaustive and students do not have to cover all the points made to reach the highest level of the mark scheme
 - ignore any irrelevant points, although full marks should only be awarded if there are no incorrect statements that contradict a correct response.

Activity 2: determining a level

- Example 8 (booklet pages 18–20) gives two student responses to the same question.
- This is a 'compare' question and is marked in two levels.
- One of the student responses is Level 1, one is Level 2.
- Which do you think is which?
- What are your reasons for your decision?

Activity 2 feedback

Student A:

Although there is a good comparison of what happens after the main sequence stage there is nothing about the formation of the stars. This is only half an answer and cannot be awarded Level 2 marks.

Student B:

Has identified scientifically relevant features in the formation stage using clearly comparative language, and using a tabular, almost flow-chart format, have then clearly compared the two types of star in the post-main sequence stage. This is very definitely a Level 2 answer.

There are other examples for you to look at with colleagues on pages 21–28 of the Resources booklet.

Answering extended prose questions

- Students **do not** have to write their answer in continuous prose.
- Answers can be given in a number of acceptable ways, for example:
 - bullet points or numbered statements – often a good way of describing methods
 - tabulating the answer – particularly helpful when answering compare or evaluate questions
 - a logically sequenced series of annotated diagrams may be clearer than a long written account.
- Encourage students to be concise and not over-write. The number of answer lines is an indication of the maximum amount of space to use, not the space they must fill. Students can run the risk of writing extra material that contradicts something they've written earlier.

Activity 3: features of a good response

- Examples 13, 16, 19 and 20 are student responses that gained full marks.
- These are a mixture of points marked and levels marked questions.
- Can you see features that enable these responses to achieve full marks?

Activity 3 feedback

- Example 13 – as well as meeting all the marking points, the response is clear, well organised and easy to follow.
- Example 16 – demonstrates that a well annotated diagram can include most of the detail needed, supplemented with a clearly written account with further details.
- Example 19 – as well as matching all the marking points, this is a clearly laid out evaluation, with a judgement that is supported by reasons.
- Example 20 – a concise and clear explanation, linking relevant scientific points to form a detailed and logical account.

Supporting students with extended prose questions

- Help students understand the command words that commonly prompt extended prose (especially describe / explain / compare / evaluate):
 - for example, using a command words card sort (FoS pack on Scientific literacy).
- Use the level descriptors for extended response questions, along with the description of the command word, to help students understand good structuring of an extended answer – not just for extended response questions.

Supporting students with extended prose questions

- Familiarity with the levels descriptors helps students understand how to answer this type of question rather than one specific question.
- Use peer review of work to criticise and increase understanding of how to give a full answer for any question worth 4 or more marks.
- Emphasise importance of at least having a go – by writing something that is relevant students could gain a mark or two but by not even trying they won't get anything.

Resources to support extended prose

- AQA Focus on Success packs:
 - Extended response
 - Scientific literacy
- Virtual Communities Spring 2021 (Understanding key command words in GCSE sciences)
- Marking guidance scripts (Centre Services)
- Exampro Highlights

Any questions?

- Your chance to ask questions about aspects of today's meeting.
- Any questions that we don't manage to answer today will be sent to you via email approximately one week after this event.



Resources

Take advantage of our extra resources in the 'Planning', 'Teaching' and 'Assessment' tabs on the subject page.

▼ / Subjects / Science / GCSE / Combined Science: Trilogy (8464)

GCSE Combined Science: Trilogy

8464

Find all the information, support and resources you need to deliver our specification.

Teaching from: September 2016

Exams from: June 2018

QAN code: 601/8758/X



[Specification](#) [Planning resources](#) [Teaching resources](#) [Assessment resources](#) [Key dates](#)

Event materials

The content of this training course contains no reference to future exam content as far as we know at the time of production (Spring 2023).

The electronic materials from this event will be available to download shortly. If you aren't able to download them at this time, they will be made available to you in the customer portal of our online booking system.

Once we receive notification that you have attended the course, you will be sent a certificate of attendance email. When you receive the email, please log in to your account and the materials will be available on the 'my resources' tab on the welcome screen.

Get in touch

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Thank you
