

Cambridge Upper Secondary Science Competition

Learner Guide

Contents

What is the competition?	2
What are the benefits?	2
What does the competition involve?... ..	2
How do I get started?	3
Planning the project	3
Doing the investigation	3
Prizes	4
Judging criteria (mark scheme)	4

What is the Cambridge Upper Secondary Science Competition?

It is an exciting team competition that is designed to give you the opportunity to be real-world scientists using the understanding of science you have from classes. There are also some prizes: each student who completes the competition gets a Cambridge certificate, and there is a chance of winning a regional prize or even a global prize!

- Students form a team of three to six, and choose a science topic of interest to investigate.
- This competition is not just about science but also about how well you work in your team and how well you present your work to others.
- The Cambridge Upper Secondary Science Competition regional prize goes to the winning team in each of the nine Cambridge regions.
- The Cambridge Upper Secondary Science Competition global prize goes to the best of the regional winners.

What are the benefits of participating?

The Cambridge Upper Secondary Science Competition:

- gives you the opportunity to develop your passion for science through practical work, investigating topics of interest
- promotes the attributes of the Cambridge learner through collaboration and communication, promoting innovation and creativity, giving you skills you will use throughout your life
- provides you with a certificate and the opportunity to showcase your experience – frequently useful in the next stages of your education.

What does the Cambridge Upper Secondary Science Competition involve?

- Around 20–25 hours of work on a science topic
- Working in a team of three to six learners (and supported by your teacher)
- Working on an interesting topic
- Writing up your work and presenting it to other learners
- Reflecting on your teamwork
- Practising the attributes of the Cambridge learner
- Enhancing your CV for college, university or work
- The opportunity to gain a Gold, Silver or Bronze certificate, or even the regional or global prize.

How do I get started?

You need to be in a team of three to six members.

The team will discuss what topics interest all the members and which particular issue you want to investigate – often it is helpful to create a question that you will answer through the investigation.

Your project must involve some practical or investigative work. This may be in the laboratory or it may be investigative work in the field, or developing and using questionnaires or other tools such as detailed, analytical research. You may find a mixture works well for your team.

Your team:

- produces a report of the investigation describing what you did, the evidence used and the conclusions
- provides a reflection describing how you managed the work between team members and how well you worked together
- presents your work by sharing aspects of it with other learners in the school – this could be a PowerPoint, explanation of a poster, etc.

Planning the project

You need to decide on:

- exactly what aspect of a topic you are investigating; this should be in the form of a question or a hypothesis
- the information you need to collect and which members of the team will collect it
- how the work will cover the time you have
- the equipment and resources you will need for the work
- how you will produce the outputs needed:
 - investigation
 - reflection
 - the presentation to other students .

Show your plans to your teacher when they are complete. You may be asked to produce a single Word or PDF document for the investigation and reflection, as work submitted to Cambridge must be in this format.

Doing the investigation

- Your team will work out how the work is allocated between you and how you communicate with each other.
- Your teacher will meet with you regularly to discuss your progress.
- Keep records of all the information and data you have collected.
- When you are doing the practical/investigative work keep safety in mind. If your plans change then check again with your teacher.
- Keep reflecting on how the work is going and how the team is working together, and keep a record of these reflections.

Prizes

- Your work will be judged by a teacher in your school and you will receive a certificate from Cambridge International showing that your team participated in the Cambridge Upper Secondary Science Competition.
- If your work achieves high marks you may receive a Gold, Silver or Bronze certificate.
- The best teams awarded a Gold certificate may be eligible for a regional prize – your teacher will tell you more if your work is being submitted for consideration.
- The overall best regional team will be awarded the global prize. Winners receive a medal and letter of recognition from Cambridge International. We may also feature your work in our magazine [Cambridge Outlook](#).
- Your certificates can be mentioned and the project discussed in university applications and in interviews for jobs or further education courses.

Judging criteria (mark schemes)

Investigation mark scheme

Maximum mark 7

Descriptor	Mark
<ul style="list-style-type: none"> • Innovative investigation of significance to the team • Relevant practical work and management of data • Well presented conclusions • Understanding of the applications and limitations of the investigation 	6-7
<ul style="list-style-type: none"> • Appropriate and innovative investigations researched and planned with little input from the teacher • Responsible execution of practical work; accurate observations made and recorded • Logical and pertinent conclusions drawn from the experimental data 	4-5
<ul style="list-style-type: none"> • Appropriate experiments researched, planned and executed with some help from the teacher; some innovation • Mostly responsible execution of practical work; accurate observations made and recorded most of the time • Appropriate conclusions drawn from the experimental data 	2-3
<ul style="list-style-type: none"> • Teacher-directed experiments researched, planned and executed; little innovation • Teacher-led responsibilities applied; observations made and recorded • Conclusions drawn from the experimental data 	1

Team reflection mark scheme

Maximum mark 4

Descriptor	Mark
<ul style="list-style-type: none">All members of the team are fully engaged and work collaborativelyReflections on teamwork are accurate and honest, respecting different perspectives of team members	4
<ul style="list-style-type: none">Some members of the team are not fully engaged with the project – a mix of collaboration and cooperationReflections on teamwork are mostly accurate	2–3
<ul style="list-style-type: none">General lack of team engagement – cooperation not collaborationReflections on teamwork are incomplete or inaccurate	1

Presentation mark scheme

Maximum mark 4

Descriptor	Mark
<ul style="list-style-type: none">Confidence in the investigation relayed through clear and comprehensive communication of outcomes, with appropriate background contextQuestions/explanations on the project work confident and accurate	4
<ul style="list-style-type: none">Investigation outcomes communicated with confidence in many areasSome lack of confidence in presenting or explaining the project work	2–3
<ul style="list-style-type: none">Investigation outcomes communicated with confidence in a few areasPresentation skills lacking in confidence, or project detail not confidently understood/known	1

Maximum overall mark = 15