



## GOLD AWARD

# STUDENT GUIDE

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[www.crestawards.org](http://www.crestawards.org)



## 1. Before your project

### What does a CREST Gold Award involve?

- Complete minimum of 70 hours of work on one project area
- Use scientific and/or technical knowledge appropriate to students aged 16 to 19
- Contribute something new to the scientific or technological community or to a particular field of study.
- Write a project report or portfolio of evidence to present to your CREST assessor
- You're encouraged to access support from a mentor, ideally someone who works in a STEM field related to your CREST project topic

### Where should I start?

1. Read through this student guide. It will make the CREST process easier for you, your mentor and your teacher. If you are unsure of anything, your teacher or mentor should be able to help.
2. Look at the criteria we use to assess your project, and make sure you understand what you need to do to get a CREST Gold Award.

### CREST criteria

#### 1 - Planning your project

- Set a clear aim and break it down into smaller steps/objectives
- Explain the wider purpose of your project
- Consider different ways to do your project
- Describe your plan for how to complete your project and give reasons for the approach you chose
- Explain how you planned your time and organised who would do what

#### 2 - Throughout your project

- Say who and what materials you needed to help you complete your project
- Summarise the background research you did to help you understand your project and where you found the information

#### 3 - Finalising your project

- Make logical conclusions and explain the implications for the wider world
- Describe how what you did affected the outcome of your project
- Explain what you learned and how you would change your project if you did it again

#### 4 - Project-wide criteria

- Show understanding of the science behind your project
- Describe how you made sensible decisions about your project. Consider safety and risks
- Show creativity in the way you carried out your project
- Explain how you identified and overcame problems
- Explain your project clearly in writing and in conversation



## Finding a mentor

We strongly recommend getting support from a mentor who works in a STEM field related to your CREST project topic. Mentors can play an important role in CREST projects by offering you their experience, knowledge and enthusiasm. They can open a window into what working in STEM can be like. To find a mentor for your project, you can:

- Contact your CREST local coordinator
- Request support through the STEM Ambassadors Scheme
- Contact local universities or STEM businesses. It's usually best to start with the schools liaison team in most universities, who will refer you on to appropriate people
- Ask your school careers advisor for support in connecting with local businesses

If you're participating in CREST through an accredited provider, often a mentor will be provided by the scheme.

## 2. During your project

- Use the CREST criteria as a guide, to make sure you cover all the criteria as you work.
- Take lots of notes of what you do, including your planning from early on in the project. This will help you to write your report and personal reflections.

## 3. Producing your report

At the end of the project, you will need to write a report to introduce, describe and evaluate your work.

Alongside your report you will need to complete the CREST Gold Award student profile, to check you've covered all the assessment criteria in your report. The checklist is there to help you as you write your report, so completing it at the end with your report should be very straightforward.

If you are working as part of a team, your team should produce a joint report but each team member should have a separate student profile.

### Remember to:

- Number the pages in your report. This will help you reference areas of the report when you fill out the checklist.
- Use your own words. We want to hear about your project and what you did. You should not use information copied straight from the internet in your report.
- Make sure to list the sources of your research information. We don't mind what format your references are in, just to give us the information we need to find any sources you used. If you want advice on this, please ask your teacher.



## 4. Completing your profile form

### Showing you've met the CREST criteria: CREST Gold checklist

Each student who contributed to the project needs to submit a checklist as part of their individual student profile.

When you fill in the checklist, put the page numbers where the assessor can find the evidence and the paragraph number on that page. The pages in your report should be numbered, but you don't need to number the paragraphs in your report.

#### A sample checklist might look like this:

	Where do you show this in your report or project record?	Your notes to the assessor (optional)
<b>1 – Planning your project</b>		
Set a clear aim and break it down into smaller steps/objectives	Page 2, paragraph 5	
Explain the wider purpose of your project	Page 3, paragraph 3	
Consider different ways to do your project	Page 4 all, page 5 paragraph 4	Changed approach part way through after reflecting on how things were going. See appendix B.

If you think evidence for some criteria can be found in your personal reflections, you should refer the assessor to these sections using the same system as above.



## 5. Personal reflections

### Writing your personal reflections

As well as the report that focuses on what you created or discovered and the process of your project, each team member should record personal reflections as part of their student profile.

This is where you think about what you did during the project and what you have learned. It is an opportunity to think about what you did well in your project and tell us what you think you could have done differently. This process of reflective learning is widely used in industry and universities to help people to learn and it is an essential part of the CREST process.

### For team projects

Each team member will need to complete around half a page of reflection covering:

*My role in the team and tasks I completed*

*How my project was successful/not successful*

*What I learned*

*What impact the results of my project might have on other people/the wider world*

*What I would have done to improve my work*

*What I'd do to develop the project in the future*

We use this to see what everyone in the team did. Be clear and honest about what you contributed and don't be shy about telling us your individual achievements!

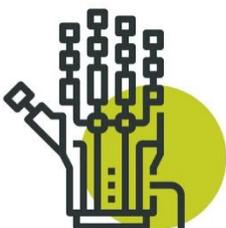
### A good example of a student's personal reflections from a team project would be:

*I acted as team leader for our project. This meant I helped pull everyone else's work together, and helped everyone make sure we stuck to the plan we set at the beginning. Sometimes we disagreed about aspects of the project, and we discussed this as a team. I would try to find a way that everyone was happy with, or when this wasn't possible, made the best decision for the project on the information I had available.*

*I had never led a team before so I had to learn ways to get everyone to work together, stick to deadlines, and not take things personally. I struggled a lot at first, but I talked to our team mentor and he helped me find ways to do this really well. These included learning how to manage a meeting, and keep information flowing so everyone knew what was going on.*

*To improve our project, I would have spent more time getting the details of what the mentor wanted clear for all of us at the beginning of the project, so we had a much better idea of what we were aiming for. This would have helped us set off in the right direction instead of wasting time going in directions that wouldn't work for the mentor.*

*In future, we would develop a more reliable propulsion system, and reduce the weight of the chassis, as we know the strain on the engine caused by the weight of the chassis was part of the reason why it failed. We also think our vehicle could be used in other production lines, and want to investigate the possibilities and potential markets for our mentor.*



## For individual projects

You need to add around half a page of reflection at the end of your report. It should cover:

*Tasks I completed and how my project was successful/not successful*

*What I learned*

*What impact the results of my project might have on other people/the wider world*

*What I would have done to improve my work*

*What I'd do to develop the project in the future*

### **A good example of a student's personal reflections from an individual project would be:**

*I was attached to Dr Thomas' research team, working with him and one of his PhD students. My role was to investigate the tidal patterns in the Estuary to work out when the work on flood defences could be carried out. To complete my project, I had to gain an understanding of the work which needed to be done, the issues the tide would cause, and how available tidal information related to our site. I then had to come up with a way to use all of this information to provide the answer we needed. I did this by joining in the work of the group, to see how it all fitted together and bouncing ideas off my supervisor, Dr Thomas, and his PhD students. I was lucky that they also involved me in their work.*

*I have learned a lot of new engineering knowledge, about hydrodynamics, geology and flood defences. I have also discovered how difficult project work can be because it requires people with different skills and knowledge to work together. It takes a lot of effort to make sure everyone understands each other and doesn't make wrong assumptions.*

*To improve my project, I would have spent more time understanding what was required at the beginning, so I had clearer aims and objectives, and asked more questions when I didn't understand. This would have saved me a lot of work later in the project. I would also have used more than one set of tidal data to make my predictions more accurate.*

*In future I would like to investigate the use of 'soft' flood defences which help to maintain biodiversity while providing effective flood defence.*



## 6. Assessment

### After your project

Your assessor will need the following to assess your project:

- A copy of your project report
- A completed CREST Gold Award student profile, which includes the project checklist and personal reflections about your experience and what you learned.

When the project is done by a team, each team member needs to submit an individual student profile.

To get a CREST Gold Award you need to demonstrate at least 11 of the CREST criteria at acceptable standard or above, covering all four sections of the criteria. You should also complete around 70 hours of project work.

### How we assess

1. The assessor will read the documents you submitted.
2. The assessor may visit your school to ask further questions, or send a list of questions where they require further information. The assessor may also speak to your mentor and teachers to find out how well you performed during your project.
3. If you meet the standard, you will receive your Gold Award.  
If not, we may:
  - Offer you a Silver Award
  - Ask for further work to be done or request further information
  - Make no Award at all

The assessor does not have to recommend everyone in a team for the same level of Award.



## 7. What next for your CREST Award?

### Join a growing community of scientists and engineers

Once you've received your CREST Award, you can join the CREST Alumni Network.

It is free and aims to highlight STEM events, competitions and opportunities for young people, as well as capturing inspirational case studies about students' projects and education/career paths.

To find out more, and fill in the simple five-minute registration visit [www.crestawards.org/alumni](http://www.crestawards.org/alumni)

You can also keep up with CREST Awards via Facebook and Twitter.



[www.facebook.com/CRESTAwardsUK](http://www.facebook.com/CRESTAwardsUK)



[@CRESTAwards](https://twitter.com/CRESTAwards)

### Celebrate your achievements

#### University applications

Use CREST to enhance your UCAS personal statement - they're well regarded, high-quality and a tangible recognition of success.

#### Job applications

You could mention your Award in your personal statement on job applications and in interviews. When you mention your project, it's a good idea to include some reflections on the skills you used and what you learned through the CREST process.

