CREST AWARDS

DISEASE, DEVELOPMENT AND DIAGNOSTICS

Six project briefs

crestawards.org

Supported by

NUFFIELD DEPARTMENT OF WOMEN'S & REPRODUCTIVE HEALTH
Medical Sciences Division

UNIVERSITY OF OXFORD

wellcome centre human genetics

BRONZE LEVEL

What is a Bronze CREST Award?

A Bronze CREST Award is an award from the British Science Association (BSA) in recognition of project work for secondary-aged students.

The awards are recognised by universities and employers.

You can select the project and your teacher will help guide you through approximately 10hrs of project work that includes research and investigation work.

At the end of your project, your teacher will send samples of your project to the BSA.

After they have checked your work, you will be sent your certificates.

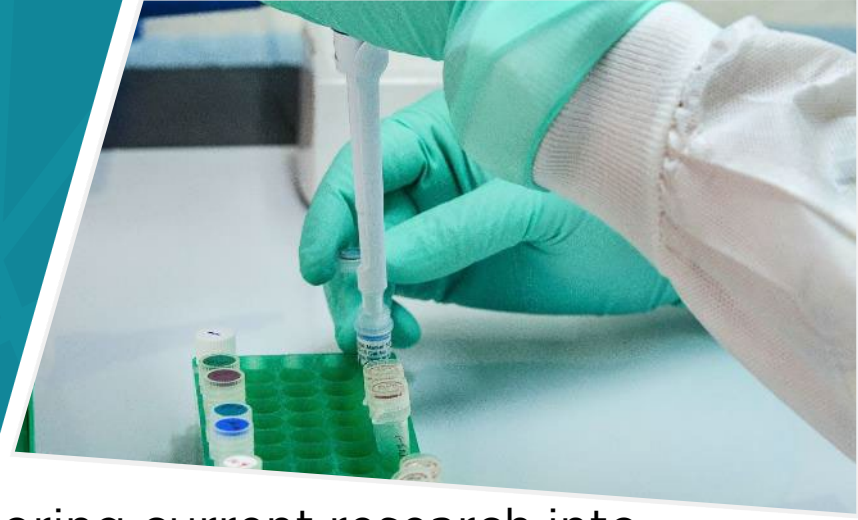
Disease, development and diagnostics

The overall theme for the projects that follow is disease, development and diagnostics.

Each the six project briefs are based on real-life research projects from the Nuffield Department for Women's & Reproductive Health and the Wellcome Centre for Human Genetics.

Each project will enable you to explore a range of diagnostic tools that detect disease and gain knowledge of how STEM skills are used to develop solutions to improve people's health.

Six project briefs



1. **Science research: it's teamwork** is a research-based project exploring current research into endometriosis.

2. **Let's talk periods** is a communication project to increase young people s understanding of menstruation and the impact periods have on lives through education material.

3. **HPV and cervical cancer** is a communication project to increase awareness of the role of vaccinations and screening in public health.

4. **It's a pain** is a research project exploring methods of dealing with gynecological pain (inc. period pain).

5. **Smart health** is a communication project that enables students to explore and develop online antenatal health information.

6. **Little learners** is a design and make project to develop an activity or toy that can be used as part of a child's development check up at two years.

Science research: it’s teamwork

Brief one

Science research: it's teamwork

In this project, you will explore the role of medical research to develop a clearer understanding of endometriosis, a health condition that causes severe pelvic pain and can lead to fertility problems.

Endometriosis CaRe Oxford is a centre of expertise in research on endometriosis. Like many science-based research centres they collaborate and share their research with other organisations.

Endometriosis CaRe Oxford is planning a conference for researchers to share and learn more about each other s work.

Q. What do you think are the benefits of working collaboratively across different research centres?

Project brief

You have been asked to write a report on different endometriosis research topics.

This should help the team in Oxford to decide who to invite to the conference to present their research.

Getting started

Find out more about endometriosis, so that you understand more about the disease.

Find out about as many research projects on endometriosis as you can. Don't forget to keep a record of the research areas

Find out which of the research projects are conducting clinical trials and how they are run.

Consider what is the best way to present your report to the team in Oxford

Ask your teacher for the Student Guide *Science research: it's teamwork*. It contains useful links to research and video clips on endometriosis.

Let’s talk periods

Brief two

Let’s talk periods

In 2021, almost 100,000 people over the age of 16 shared their concerns about health issues.

The final report *Women’s Health Let’s talk about it* highlighted several recommendations to improve girls and women’s health.

One recommendation is that schools should teach all students about ‘female health conditions’ as part of the relationships, sex, and health education (RHSE) curriculum.

Q. What do you think about this recommendation?

Project brief

Imagine you are responsible for advising on the content of the RHSE curriculum for 11-14 years in the UK.

You are tasked with developing a set of lesson activities for teachers to use to cover the topic of periods, for people who have periods, and for people who don’t.

Getting started

Research existing teaching materials used to cover the topic of periods.

Think about how many lessons it would take to cover the topic of periods in sufficient detail.

Think how you can make the lesson activities on periods engaging for both those who have periods, and those who don't.

Ask your teacher for the Student Guide *Let's talk periods*. It contains ideas to help you with your project and useful weblinks to support your research.

It’s a pain

Brief three

It’s a pain

Did you know that lots of students miss school every month due to their period?

The focus of this project is research into the treatment of pain, particularly chronic gynecological pain that is experienced by those who have period pain.

The Nuffield Department for Women’s and Reproductive Health and The Wellcome Centre for Human Genetics are conducting research into period pain. This includes how the brain and hormones can affect pain with the hope of developing more effective treatments.

Q. How important do you think this area of research is?

Project brief

Imagine you are working for the NHS. You have been asked to develop some information to help young people find out about the range of self-help treatments and painkillers to treat period pain.

Getting started

Conduct some online research into period pain to find out how people are affected.

Find out about which medications and/or self-help therapies are recommended on medical website to treat period pain.

Ask your teacher for the Student Guide *It's a pain*. It contains ideas to help you with your project and useful weblinks to support your research.

HPV and cervical cancer

Brief four

HPV and cervical cancer

Has anyone you know had the HPV vaccination? The vaccination protects people from becoming infected by some of the most harmful strains of HPV, that can lead to the development of some cancers, including cervical cancer.

According to the Nuffield Department Women's and Reproductive Health, cervical cancer is *'the most common cancer in women under 35'*. That is why the NHS offer all people with a cervix between the ages of 25-64 cervical screening tests.

A big concern for the NHS is that the number of people attending cervical screening tests is falling.

Q. Why do you think some people might not take the opportunity to have the HPV vaccination?

Project brief

Imagine you work for the NHS. You are concerned about young people who have not been vaccinated against HPV and those who do not attend cervical screening.

Develop a public health campaign that either encourages:

- Young people aged 12-13 years to accept the HPV vaccination
- More people with cervixes between 25-64 years to attend cervical screening tests

Getting started

Find out about the HPV vaccination and the link to cervical cancer.

Find any existing information and public health messages that cover the HPV vaccination and

cervical cancer.

Ask your teacher for the Student Guide *HPV and cervical cancer*. It contains ideas to help you with your project and useful weblinks to support your research.

That’s SMART

Project five

That's SMART

In the UK, most people are lucky enough to be able to get medical advice when needed.

An example of this is during pregnancy, when a midwife or doctor monitors the health of the pregnant person and baby. If the pregnant parent develops a health condition it is often diagnosed and treated.

In some parts of world, pregnant people are not so fortunate. Sometimes particularly those who live in rural areas have little access to trained medical staff. So, their chances of a diagnosis of serious health conditions are low.

But an exciting project called SMARThealth in India is making a difference. SMARThealth is an on-line information service helps health workers in rural regions to diagnose health conditions during pregnancy. If they diagnose a serious condition the pregnant person would then go to a hospital or health clinic.

Project brief

Imagine you are a doctor or midwife in a part of the world where many pregnant people lack access to medical support from trained midwives.

Your task is to develop information for health workers to help diagnose common health conditions during pregnancy such as diabetes and high blood pressure.

Getting started

Conduct online research into common health conditions during pregnancy and then choose a single or

multiple health condition that you want to focus on.

Find out what is the best way to create information that can be accessed through a mobile device.

Ask your teacher for the Student Guide *That's SMART*. It contains ideas to help you with your project and useful weblinks to support your research

Little learners

Project six

Little learners

Do you know any toddlers? If so, what can they do? Jump, kick a ball, speak?

These are the sorts of questions that Child Development specialists are interested in.

At the Nuffield Department for Women's & Reproductive Health, a project was set up to investigate whether a set of activities can provide a reliable method of testing the development of two-year-olds.

These activities test areas of children's development including: communication and language, personal social and emotional skills, physical development and cognition (how children think, explore and figure out things).

Q. In the UK, all children around the age of two years are offered a check up to monitor their development in the areas above. Why do you think that it is?

Project brief

Imagine you are a health visitor who runs the check ups for two-year-olds in the area where you live.

Design and make an activity or toy to help you assess the development of a two-year-old. You can choose any area of development: speech and language skills; personal, social, and emotional development; physical development; cognition.

Getting started

Conduct some research into the areas of a two-year-old's development.

Find information on the development milestones for each area of development.

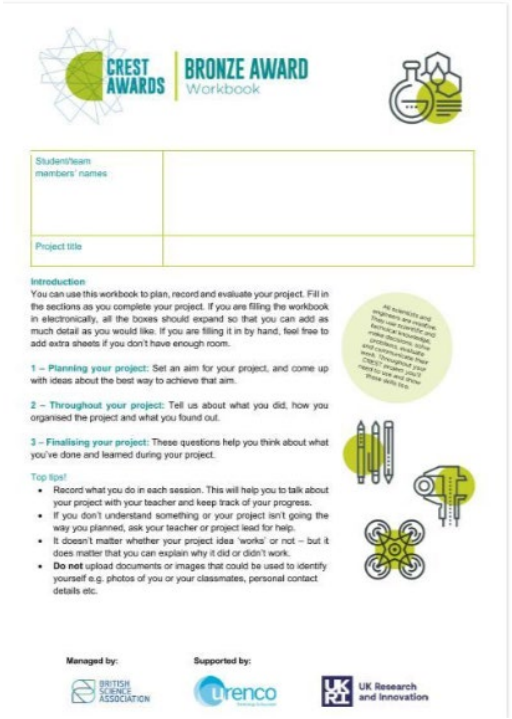
Ask your teacher for the Student Guide *Little Learners.* It contains ideas to help you with your project and useful weblinks to support your research.

Bronze Awards workbooks and profiles

Recording your project work

Bronze Awards workbooks and profiles

For whichever project you select, your teacher will give you a workbook or profile. This will help you to record and keep track of your project work. Have a look at your booklet so that you have an idea of what is expected of you throughout the project.


CREST AWARDS | BRONZE AWARD
Workbook

Student/team members' names	
Project title	

Introduction
You can use this workbook to plan, record and evaluate your project. Fill in the sections as you complete your project. If you are filling the workbook in electronically, all the boxes should expand so that you can add as much detail as you would like. If you are filling it in by hand, feel free to add extra sheets if you don't have enough room.

1 – Planning your project: Set an aim for your project, and come up with ideas about the best way to achieve that aim.

2 – Throughout your project: Tell us about what you did, how you organised the project and what you found out.

3 – Finalising your project: These questions help you think about what you've done and learned during your project.

Top tips!
- Record what you do in each session. This will help you to talk about your project with your teacher and keep track of your progress.
- If you don't understand something or your project isn't going the way you planned, ask your teacher or project lead for help.
- It doesn't matter whether your project idea 'works' or not – but it does matter that you can explain why it did or didn't work.
- **Do not** upload documents or images that could be used to identify yourself e.g. photos of you or your classmates, personal contact details etc.

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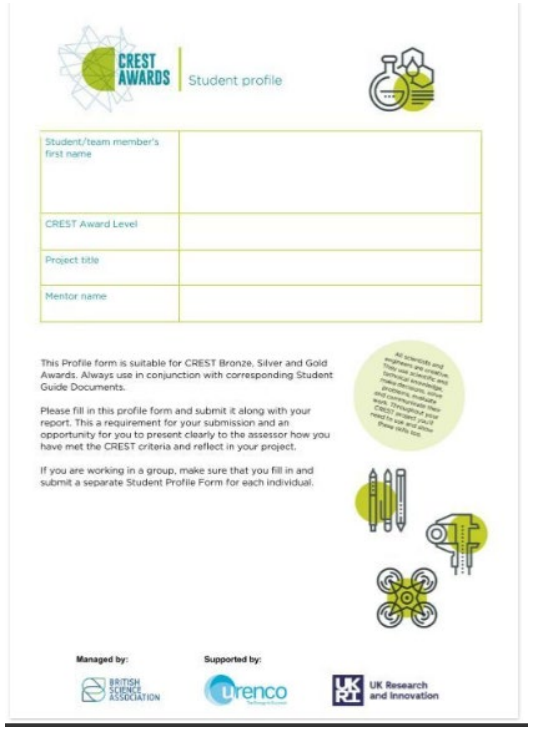
CREST AWARDS | Student profile

Student/team member's first name	
CREST Award Level	
Project title	
Mentor name	

This Profile form is suitable for CREST Bronze, Silver and Gold Awards. Always use in conjunction with corresponding Student Guide Documents.

Please fill in this profile form and submit it along with your report. This a requirement for your submission and an opportunity for you to present clearly to the assessor how you have met the CREST criteria and reflect in your project.

If you are working in a group, make sure that you fill in and submit a separate Student Profile Form for each individual.

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Project tips

Understand the problem or task: Carry out a little research to make sure you are clear about the problem or task you need to solve or carry out.

Plan your work: Write a plan of how you will approach the problem or task. You should include the resources you need and how you will use your time over the 10hrs.

Health and safety: Identify any health and safety or ethical concerns you think there could be. Decide how you will limit or overcome these risks.

Research: Find out more by doing some research using the suggested links in your Student Guide project page.

Project tips continued

Use your research to improve your plan and generate ideas to deliver your project.

Finalise your idea and carry out your work to realise your project.

Conclude your project by reflecting on what have you found out by doing your project.

Communicate about it by telling others about what you did throughout your project.

What next?

CREST AWARDS | BRONZE

Congratulations on achieving your Bronze Award!

If you have enjoyed your project, ask your teacher about going for **Silver**!

There are lots of great projects that take approximately 30hrs to complete.

CREST AWARDS

Thank you

crestawards.org

BRONZE LEVEL