CREST AWARDS

SILVER AWARD

How steady is your hand?

30H Typically 30 hours of project work
Recommended for 14-16 year olds

Practical project

Make a shaky hand game and use it to help you investigate who has the steadiest hand.

#biology
#health
#sport

HOW TO RUN CREST USING THIS ACTIVITY

Entering your project without a teacher or facilitator? No problem! You can enter your work yourself by following this link: **www.crestawards.org/sign-in**

Looking for some support? Find a mentor by contacting your local STEM Ambassador hub: **https://www.stem.org.uk/stem-ambassadors/local-stem-ambassador-hubs**

To use their project to achieve a CREST Silver Award your students will need to:

- **Develop and lead the project**
- **Complete a minimum of 30 hours of project work**
- **Consider the broader impact of their project and demonstrate an innovative approach**
- **Write a project report or portfolio of evidence**
- **Reflect on their work during the project using a student profile form**

Preparation

Ready to get going with CREST? Sign up for a CREST account here: **www.crestawards.org/sign-in**

Create a new Silver Award project with the name(s) of the student(s) and the title of the project. If you don't have the details yet, you can fill these in later!

Run the project

We have some super handy workbooks and profiles for your students to use when running a CREST Award. You can download these when you create your CREST account by following the link above.

Encourage your students to use the Silver student guide to plan and carry out their project. Each student involved in the project should complete their own profile form.

You don't want all their good work to go to waste, so be sure they keep a record of all their amazing progress. Keeping a regular project diary will save them precious time when writing their final project report.

Make sure you consider safety and risks!

Reflection

So, your students have been hard at work and completed their CREST project, but don't let this be the end of their learning. At the end of the project, each student should complete a Gold profile form and communicate their project. This is a chance for them to reflect on all the interesting things they've learnt and the invaluable skills they have used.

Students working in a group can either submit a joint report or separate reports, but they must each complete a profile form.

Use the CREST criteria on the profile form to help the students check that they have included everything in their report.

Enter your project for a CREST Gold Award

Hard work deserves a reward! Celebrate and certify your student's achievements by entering their project for a CREST Silver Award. Simply:

Log in to your CREST account at **www.crestawards.org/sign-in**

Select your project and upload the profile form per student, project report and other evidence, such as pictures and diagrams.

Finally, complete the delivery and payment details for assessment and to order your snazzy certificates.

Congratulations on submitting for CREST Silver!

What next?

Is university on the horizon for your students? They can use their project to help demonstrate their newly found STEM skills and knowledge in UCAS personal statements.

The scientific discovery doesn't need to end here. Students can have a go at the next level up – CREST Gold.

Don't keep all the fun to yourselves, encourage others to take part in CREST projects and share the wonder of science. For free ideas on how to get started, see **www.crestawards.org**

STUDENT BRIEF

SILVER AWARD

How steady is your hand?

Getting started

The first thing you have to do is make something to test people's performance. The device you're going to make is an electronic 'wire course'. You've probably seen one before – they're pieces of wire bent into a wiggly shape. You have to navigate a metal hoop around the 'wire course' without touching it, if you do, a buzzer sounds or a light turns on.

First things first, you need to design the course. It should have a few bends, but don't make it too hard – if nobody can complete it your experiments will take forever! You will probably benefit from some research into properties of materials. You should also find out about electric circuitry and electronic devices.

When you've made your device, you need to find some willing participants to test. You should design a method for testing their performance - the simplest idea would be to time how long it takes somebody to complete the 'wire course' without sounding the buzzer. You could test boys and girls, people of different ages, people who do a lot of exercise, people who don't do much exercise – the choice is yours!

You now need to think about what factors might affect somebody's performance. Again, it's up to you what variables you introduce.

Here are some suggestions:

Allow the person being tested some time to practise

Test people at different times of the day

Ask people to compete against each other

Things to think about

How long will the course be and how complex will you make it?

What diameter hoop will you use - perhaps you could use hoops of differing diameters?

What electronic components will you need, and how will you make the circuitry?

You should think about power supply, input device, processor and output device.

Will you need to find out about techniques such as soldering?

Useful resources

Speak to your D&T and science departments to see if they have any wire and other materials that you can use. Local electric or hardware stores may also be able to help!

The results: You should have compiled quite a lot of data. It's up to you how to present it. You might like to compare the initial results, before you introduced any variables, and see which group of people appeared to have the best performance. For example, are older children better than young children?

You could then look at the results after introducing variables. For example, did competition vary performance more or less than introducing an audience? Finally, you could 'cross-reference' your data. For example, did competition affect boys more than it affected girls?

STUDENT BRIEF

SILVER AWARD

Health and safety

A science project is both dynamic and exciting but can also carry some risk. To avoid any accidents, make sure you stick to the following health and safety guidelines before getting started:

- find out if any of the materials, equipment or methods are hazardous;
- assess the risks (think about what could go wrong and how serious it might be);
- decide what you need to do to reduce any risks (such as wearing personal protective equipment, knowing how to deal with emergencies and so on);
- make sure your teacher agrees with your plan and risk assessment.

Take care when using tools. Make sure tools are only used in a properly supervised workshop or D&T room.

Remember!

Science isn't just about data. The most successful projects will demonstrate good communication skills and show original ideas that address a real-world problem.

Look at the world around you and consider all the innovative ways that you could address the challenge. Even if things go wrong, use this to show what you have learned. Don't forget to use the student profile form to help structure your project.