



**BRONZE AWARD**

# DESIGN A GAME CONTROLLER



Typically 10+ hours of project work  
Recommended for 11-14 year olds



**Design & make  
project**

Use ergonomics to design a  
game controller

**#engineering**

**#design**

**#entertainment**



# HOW TO RUN CREST USING THIS ACTIVITY

Looking for some support? Find a mentor by contacting your local STEM Ambassador hub:  
[www.stem.org.uk/stem-ambassadors/local-stem-ambassador-hubs](http://www.stem.org.uk/stem-ambassadors/local-stem-ambassador-hubs)

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

- **Complete a minimum of 10 hours of project work**
- **Consider the broader impact of their project and demonstrate an innovative approach**
- **Complete the project workbook or short report in another medium**
- **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](http://www.crestawards.org/sign-in)

Create a new Bronze Award project with the name(s) of the student(s) and the title of their project. If you don't have all the details, 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 workbook or profile to plan and carry out their project, keeping a record of all their amazing progress.

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. They should now fill in any remaining sections of their workbook. This is a chance for them to reflect on all the interesting things they've learnt and the invaluable skills they have used.

## Enter your project for a Bronze CREST Award

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

Log in to your CREST account at [www.crestawards.org/sign-in](http://www.crestawards.org/sign-in)

Select the project and upload a sample of the students' workbooks or other project evidence.

Check the participating students have met each of the criteria on the teacher assessment page.

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

Congratulations on completing CREST Bronze!

## What next?

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

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

# STUDENT BRIEF

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AWARD**

## Design a game controller

There are loads of different games consoles on the market – and even more controllers for them. In this project, you need to research all the various types of controllers available and set about designing your own. You're not expected to be able to design and make the electronic circuitry to make them work, but you can make a scale model of your design.

### Getting started

First, choose a console that your controller will be for. This way, you can find out things like how many buttons your controller will need. Find out about 'ergonomics' and how it has been used to design console control layout.

### Designing your own:

Design your own ultimate console control layout. Sketch lots of different ideas and think about your target audience to see which they prefer. Whittle your ideas down to two or three of the most popular. Create some detailed engineering drawings of these showing all the exact dimensions and colours etc.

### Modelling your design:

Use different modelling techniques to create a model of your design. If you're making a bespoke controller you should work closely with the person it's designed for - this might be yourself, which is nice and easy! You should make sure the controller fits their hands perfectly. Perhaps you could ask them to loosely grip a piece of clay. This will give you the perfect shape.

### Things to think about

You could use the results of your market research to try to design a controller for a specific group of people, for example, one that fits the preferences of boys aged 11-14, or for girls aged 18-24, etc.

Or you could make a bespoke controller, one that's designed specifically for one person, perhaps someone with a disability.

### Useful resources

Have a look on the internet and in shops at all the different games console controllers and compare the different layouts. Carry out some market research. Ask as many people as you can which sorts of controller they prefer. You could use pictures of different controllers to see which ones people prefer the look of.



# STUDENT BRIEF

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### Health and safety

Science project work 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.

### 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.