

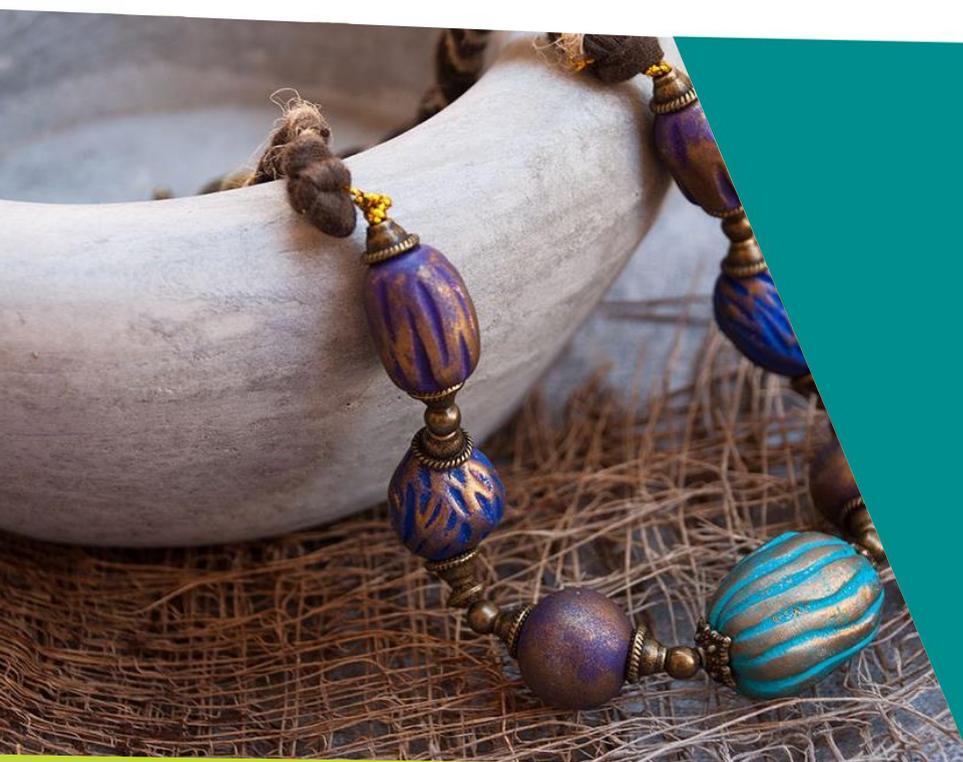


SILVER AWARD

MAKE AND TEST CERAMIC JEWELLERY



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



Design & make
project

Investigate the properties of
clay by creating your own
jewellery

#chemistry

#materials

#fashion



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/stemambassadors/localstem-ambassadorhubs>

To use their project to achieve a Silver CREST 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 Silver CREST Award

Hard work deserves a reward! Celebrate and certify your students' achievements by entering their project for a Silver CREST 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

Make and test ceramic jewellery

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AWARD

For this project, you will use clay as your ceramic. You will design and shape beads and/or pendants to make a necklace or bracelet. You will investigate ways of finishing the clay - in other words, colouring it and protecting it. You will then carry out tests to see how strong your product is.

Getting started

Start by researching the properties of clay.

Designing your jewellery:

Now design a 'multi-piece' beaded necklace or bracelet using at least five beads. Think about the size of the beads and if you will vary them.

- Will you make holes in them before or after the clay is fired?
- What colour will you make them? How will you apply the colour?

Making and testing the beads:

Now that you've designed your beads you should go ahead and make them. Once you've made your beads you should test them - the tests will, more than likely, be destructive, so make sure you've made more than one set of beads! What tests will you use?

The beads should be fairly strong -you don't want them to break easily.

The finish should protect them against everyday abrasives and water.

You will also have to consider how to fasten the chain. You could try buying the equipment from a craft shop - the items you're looking for are called clasps, crimps and jump rings.

Mass production: You've successfully made a piece of jewellery - but what if you wanted to mass produce your designs? Think about how the manufacturing process would change if you had to make your jewellery in batches of 50.

Things to think about

What are the advantages and disadvantages of using clay for jewellery?

Find out about the process of firing clay and the different ways of finishing clay.

What sorts of glaze are available? What happens when they are heated?

Can you decorate or colour the clay after it's been fired?

What happens if you fire the clay at different temperatures or different lengths of time?

You may wish to contact a local potter or your school/college art to ask about the properties of clay.



STUDENT BRIEF

SILVER AWARD



Health and safety

A 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.

Be aware that some glazes and pigments used in pottery are hazardous.

Some materials can store a lot of energy when they stretch and can whip dangerously when they break. Make sure you wear eye protection. Think about how to keep people's feet out of the way of falling weights.

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.