



BRONZE AWARD

WASTE-FREE LUNCH



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



**Design & make
project**

Introduce a 'waste-free' lunch programme

#food
#environment
#engineering



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

To use their project to achieve a CREST Bronze 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

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 CREST Bronze Award

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

Log in to your CREST account at 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

STUDENT BRIEF

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AWARD**

Waste-free lunch programme

The idea of this project is to introduce a school lunch programme to your school or college. The programme should encourage pupils to use recycled or re-usable packaging for their lunches. Produce a leaflet and/or poster presentation for the school. You will also carry out some tests on reusable packaging to check it's suitable.

Getting Started

Testing alternative packaging: You should think about what alternatives might be used to store packed lunches. Then you should carry out some tests to make sure your ideas still keep food fresh, for example: Crisps usually come in a packet that gets thrown away. So why not buy a bigger bag and bring just enough crisps to school in something else. When you've thought of a few alternatives, carry out a 'sogginess' test. Leave different containers of crisps for a day and see which ones remain crunchy.

Make sure you use the same type of crisps in each container.

Put the same amount of crisps in each container

Store all the containers in the same place

Leave a normal packet of crisps for a day as well - this will be your benchmark.

Drinks often come in cans or plastic bottles that also create waste. Find out what sort of cans are best for recycling. You could also tell people how and where to recycle cans. The other alternative is to buy a big bottle and bring just enough for one day in a reusable container. Again, you could carry out a test to make sure your alternative container keeps the drink fizzy.

Testing packaging strength: Packed lunches can often get bashed around in your school bag, but you don't want squashed sandwiches or broken biscuits. Design an experiment to see what happens to your packed lunch when it gets bashed about. Work out a way of simulating how much a packed lunch gets bashed around during a school day. This might include dropping the packed lunch to see if anything gets damaged.

Things to think about

What sorts of packaging people use at the moment to store their packed lunch

How much of it is reusable? Don't just look at lunch boxes - think about everything inside it. Crisps, sandwiches, even some fruit.

Which bits of waste from your packed lunch are biodegradable? How do you think they will be disposed of? Can any packaging be recycled? If so, how and where?

Useful Resources

Why not ask your fellow students what sort of foods they bring for lunch?



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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.

Remember, never consume or taste food or drink in the laboratory or which has been opened in the laboratory

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.