



BRONZE AWARD

WHICH CRISPS ARE CRISPIEST?



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



**Practical
project**

Investigate different types of crisps to find out what makes them crispy.

#food

#chemistry

#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

**BRONZE
AWARD**

Which crisps are crispiest?

For this project, you will carry out a number of experiments looking at the crispiness of crisps. To start with you will work out which crisps are the crispiest. Then you will investigate what factors can make crisps un-crisp and if there is way of restoring the crispiness of soggy crisps.

Getting Started

Start by selecting which crisps you want to test.

You should try to get different sorts of crisp. For example, some crisps are made from peeled potatoes, others still have their skins. Some crisps are 'hand cooked in sunflower oil'. Some crisps come in 'foil fresh' bags. Some crisps are crinkle cut. There are also lots of different brands. Try to get as wide a variety as possible. Try to get packets that have the same sell-by date, so your tests are fair.

Crispiness: Devise a way to measure the crispiness of crisps. A crispy crisp is one that breaks without bending. It is brittle. So you could try to see how easy it is to break the crisps.

Freshness: Investigate how long each type of crisp stays fresh. You will need to design an experiment for this. Perhaps when it gets a bit soggy. How could you measure this? The results might be down to your judgement.

Getting wet: Design an experiment to see what happens if you don't store your crisps in a dry place. You could put them somewhere that has a lot of moisture in the air (for example, the bathroom). You could try to work out if there is any way you can control the amount of moisture in the air.

Regaining the crispiness:

Try to find out if there's any way of making a soggy crisp crispy again.

What happens if you heat them up? Try putting them in the oven or in the microwave. Does it work? How long do they need? Do some crisps require longer than others?

The results: For each type of crisp you should have a list of results. Think of a good way to display the results,

Things to think about

How will you make each experiment a fair test?

How will you make sure each crisp is the same size?

Do you repeat the experiments, if so, how many times?

How will you display your results?

Did the same brand of crisp perform best for all the experiments?

Useful Resources

Find out what conditions are suggested for storing your crisps (these are usually given on the side of the packet).



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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, you should never eat or taste crisps in the laboratory or which have been handled 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.