CREST AWARDS

BRONZE AWARD

BATH BOMB CHALLENGE

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

Design & make project

Investigate to find the best recipe for homemade bath bombs

#home
#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 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**

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**

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

Bath bomb challenge

In this project, you will make your own homemade bath bomb. You will find out what makes bath bombs fizz and then vary your recipe to try to change how much yours fizzes.

Getting started

You'll need two things for this project: First, you'll need a recipe for homemade bath bombs. Second, you'll need a mould to make your bath bomb the right shape.

Making the bath bomb: When you've got your recipe, you're ready to make and test your bath bomb. Most of the recipes tell you to leave the bath bomb for one or two days so it sets - you should set it in your mould so it's the right shape.

Testing the bath bomb: Put the bath bomb in some water and write down what happens.

Fiddling with the fizz: Now you've tested your first bath bomb - your prototype - you should make some more. But this time, you should try changing the fizz. Bath bombs fizz because the citric acid reacts with the baking soda. So when you make more bath bombs, change the amounts of baking soda to see what happens. Make sure you conduct a fair test. You will need to keep lots of things the same.

- They should be made in the same size and shape mould.
- They should be left to set for the same amount of time.
- You should put the bath bombs in the same amount of water.
- The water should be at the same temperature.
- You should make the same sort of observations for each one.

The results: Write down all your observations in some sort of table. That way it will be easy to compare them. Decide which type of bath bomb was your favourite. Re-write the recipe as a step-by-step illustrated guide.

Things to think about

How long does it take for the bath bomb to disperse?

How much baking soda gave the most fizz?

How much baking soda gave the least fizz?

Put the different recipes in order of fizziness.

How much 'fizz' is there?

How does the water change? Does it change colour? Does it go 'greasy'?

Useful resources

For bath bombs you can often find recipes on the internet, try searching for "homemade bath bomb". You may also be able to find recipes in books in the library. For the mould you could buy one, recycle something, or make your own.

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.

Make sure your information comes from a reliable source. Always complete a risk assessment and have it checked by your teacher before you start your experiment. Never use anything on your skin that has been made in the laboratory or using laboratory chemicals.

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.