



SCRUB UP ON SCIENCE COMPETITION 2019

This competition involves teams choosing a challenge, experimenting and recording results and then creating a video or PowerPoint presentation to showcase their work to a judging panel.

STEP 1

Choose a task for the competition

This competition requires teams of students (2-4 people) aged between 11 and 16, to choose one of the following two challenges:

- **Bath bomb challenge**

Think up and test a hypothesis that helps create a great bath bomb. It might be about creating the best smell, being the longest lasting or the most effervescent fizz.

- **Bubble bath bubble challenge**

Think up and test a hypothesis that helps create a brilliant bubble bath. Teams must then use the bubble bath to blow the biggest bubble possible and measure it.

STEP 2

Get help with the science and start planning

To prepare for the competition, teams will first have to make sure they understand the science behind preparing bubble baths and bath bombs.

CREATING A BATH BOMB

- To create a good bath bomb, teams will need to find the best combination of ingredients to make the most fizz. Teams should start by using the [viscosity lesson plan](#) and the [interactive bath bomb experiment](#) to help them.
- Next, teams need to think of a hypothesis they can test that might improve the bath bomb. For example, does changing the surface area of the bath bomb increase the rate of fizzing, or if the crystals are finer, will the fizz be better? What is the science behind this?
- **Teams need to consider how to record the experiment and plan their submission.**

Remember, the closing date is **26th April 2019!**

CREATING A BUBBLE BATH

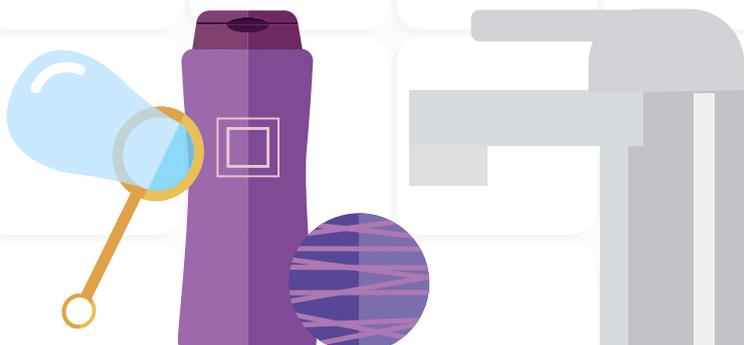
- To create a good bubble bath mixture, teams will first need to find the correct amount of salt to add to the surfactant to create a luxurious thick product. Teams should start by using the [viscosity gel lesson plan](#) to help them. It will probably be necessary to dilute the finished bubble bath to start blowing bubbles. See teacher FAQs for more information on where to obtain surfactant for this experiment.

TOP TIP:

Instead of finding the salt level that gives maximum viscosity, think about using a bubble wand to see if the team can change the bubble size, strength and stability by adding small amounts of glycerine or sugar.

- Next, teams are required to think of a hypothesis to test on their bubble bath. For example, does increasing the amount of bubble bath added to bath water increase the strength of the bubbles? Or, the hypothesis could involve added glycerine. What is the science behind this?
- **Teams need to consider how to record the experiment and plan their submission.**
- If this challenge is chosen, teams will need to find a way of measuring the biggest bubble and explain how this has been done in the video or PowerPoint.

Remember, the closing date is **26th April 2019.**



STEP 3

Explore the science further

Teams need to then get experimenting with their bath bombs and bubble baths and record results and observations to support their hypothesis. It is important to consider and note:

- important findings arising from the results
- whether the results prove or disprove the initial hypothesis
- the conclusions.

Use the online resources, which include lessons and an interactive bath bomb experiment to help prepare the experiments.

IMPORTANT

Teacher supervision is required to ensure all health and safety procedures outlined in the lesson plans are carried out.

STEP 4

Presenting entries

Teams need to create either a video (max. 3 minutes) or a PowerPoint (max. 20 slides) that:

- describes the product idea
- shows judges how the team understands the science behind how it works
- explains the hypothesis, the practical test and how the results prove or disprove the hypothesis.

Think about ways to make your entry stand out so the judges will be impressed by something engaging and visually interesting!



Top tips for teams preparing video presentations ('unlisted' on YouTube):

- Don't forget to introduce the team, school and the project!
- Speak clearly and check sound quality.
- Only include what you need to as you only have three minutes!
- Think about how you'll explain your ideas, practical work and results.
- Show the judges the science: help them understand your hypothesis, each step of your scientific method, your results and your conclusion.
- Remember copyright: don't include anything you didn't create yourself – so no photos, music or images etc. taken from the internet.
- Practise: do a practice run to check light and sound. Watch it back before filming the final version.
- Upload your video (no more than 3 minutes long) to YouTube once it's ready. **Make sure the video is set to 'unlisted'**. This means that those provided with the link – including our judges – will be able to view it, but no one else.

Top tips for teams preparing PowerPoint presentations (10MB max):

- Don't forget to introduce the team, school and the project!
- Write clearly: check your spelling and grammar – written communication is really important, so try to avoid any mistakes or errors.
- Think about how you'll explain your ideas, practical work and results using words, pictures, diagrams and tables.
- Show the judges the science: help them understand your hypothesis, each step of your scientific method, your results and your conclusion.
- Remember copyright: don't include anything you didn't create yourself – so no images taken from the internet.
- Presentations must be in PowerPoint (PPT) – any version is fine. They should be no more than **10MB and 20 slides**, to ensure they upload easily.
- Don't embed films in your PPT – you must enter either a film on YouTube or a PPT.

STEP 5

Submitting entries

Teachers should collate team entries and submit them via our [website](#). You will be asked to provide your school and students' details, the names of the teams and presentations or links to films. The website will not allow files any bigger than 10MB to be uploaded.

KEY DATES

- **Competition closes: 26th April 2019**
- **Schools informed if they have been shortlisted: 17th May 2019**
- **Finalists' day: 18th June 2019**

TEACHER FAQs

How many students can enter from my class?

There is no limit, but students must enter in groups of 2-4.

Is there a limit on the number of teams that can enter?

Any one school can enter as many teams as they like. However, no more than two teams from the same school into the final will be allowed.

What age do my students have to be?

Students must be 11 or over on 1 October 2018 and they must be 16 or under on 26 April 2019.

Can we make both a bath bomb and a bubble bath solution?

Each team can only choose one challenge, but different teams entering from one school may choose whichever they prefer.

Where can I get more information for my students?

The Scrub up on Science [website](#) is packed full of lesson plans and content relevant to the experiments required for this competition.

Where can I get surfactant to make bubble bath?

You can order FREE surfactant to help you run your

bubble bath experiment by emailing edcoms@education.co.uk. Please provide your name and school address. Postage and handling is also free.

When do I need to submit entries by?

Friday 26th April, 2019.

We have entered before – does this matter?

No! A team or school can enter as many times as they like from year to year. If your school has previously chosen one challenge, why not try the other for 2019?

What costs are associated with getting to the venue for the final, if we are selected?

SCS will cover reasonable travel costs from any location within the UK to the chosen venue for all team members and one supporting adult. Train travel must be standard class. The SCS Committee will have final authorisation of all travel costs.

All taxes, insurances, spending money and other expenses, unless specifically stated, are the sole responsibility of the finalists.

What are the judges looking for?

All entries will be assessed on the following criteria:

- **Excellence of scientific method:** Explain the science behind your product. What is the chemical explanation that makes it work as a bath bomb or bubble bath mixture?
- **Hypothesis:** Tell us your hypothesis – without one you can't tell whether your experiment is a success or not! What are you going to change? What do you predict will happen? How might this improve your product?
- **Show us how you tested your hypothesis:** What was your method? How did you ensure it's a fair test that

others could reproduce? What are your results and what do they tell you?

- It doesn't matter whether you prove or disprove your hypothesis – we want to see some great scientific thinking and application!
Important: all entries must include a hypothesis to be considered for the final.
- **Communication skills:** Can you explain your work clearly, confidently and in a way that inspires others? Have you delivered an engaging and original video or PowerPoint?
- **Creativity:** Have you come up with some great creative ideas? How will your bath bomb or bubble bath mixture appeal to your intended customers?
- **Passion for science:**
Does your enthusiasm for science shine through?

How do I send in entries?

Only teachers can submit entries on behalf of their students. First, read our [terms and conditions](#). When you are ready to enter, fill in our [entry form](#) and upload your film(s) or presentation(s). You will need to [register](#) to do this. If you have already registered, your details will be in our system from a previous year. Remember to upload your files in good time, especially if you have more than one as teachers tell us it always takes a little longer than planned! **The closing date is 26th April, 2019!**

If you encounter any problems uploading files, email scrubuponscience@edcoms.co.uk

Uploading my students' presentation does not work. What should I do?

Is the presentation no more than 10MB? Larger files may not upload. Have the students embedded a video in the presentation? This will probably make it too big. Their entry should be a video on YouTube OR a PowerPoint, not both.

If you are still having problems, try uploading at a different time of day. Sometimes, particularly towards the deadline date when many entries are being submitted, the website can experience the odd problem as many teachers submit large files. If your upload still doesn't work, please email scrubuponscience@edcoms.co.uk

See the competition [terms and conditions](#) for more information.

GOOD LUCK!

