



TAKE THE SCRUB UP ON SCIENCE CHALLENGE!

WHAT DO I HAVE TO DO?

- In teams of 2 to 4 people choose one of the two challenges: bath bomb or bubble bath bubble challenge.

Bath Bomb Challenge

- Think up and test a hypothesis that helps you create a great bath bomb. The biggest fizz! The longest lasting! The best smelling!

Bubble Bath Bubble Challenge

- Think up and test a hypothesis that helps you create a fantastic bubble blowing bubble bath.
- Then, use your bubble bath to blow the biggest bubble possible and measure it!

Create a video (max. 3 minutes) or a PowerPoint (max. 20 slides) that:

- describes your product idea
- shows us how you understand the science behind how it works
- explains your hypothesis, your practical test and how your results prove or disprove your hypothesis.
- Use the [online resources](#), which include lessons and an interactive bath bomb experiment to help you.
- Think about ways to make your entry stand out so the judges will be impressed!

PLANNING FOR YOUR ENTRY

How do I learn more?

To create a **bath bomb**, you first need to find the best combination of ingredients to make the most fizz. Use the viscosity lesson plan and the interactive bath bomb experiment to help you.

Then think of a hypothesis you will test to improve your bath bomb. For example, does changing the surface area of your bath bomb increase the rate of fizzing? The finer the crystals, the faster the fizz.

To create a **bubble bath mixture**, you first need to find the correct amount of salt to add to the mixture to create a luxurious thick product. Use the viscosity gel lesson plan to help you. You will probably need to dilute your finished bubble bath to start blowing bubbles.

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

Think of a hypothesis you can test on your bubble bath, such as:

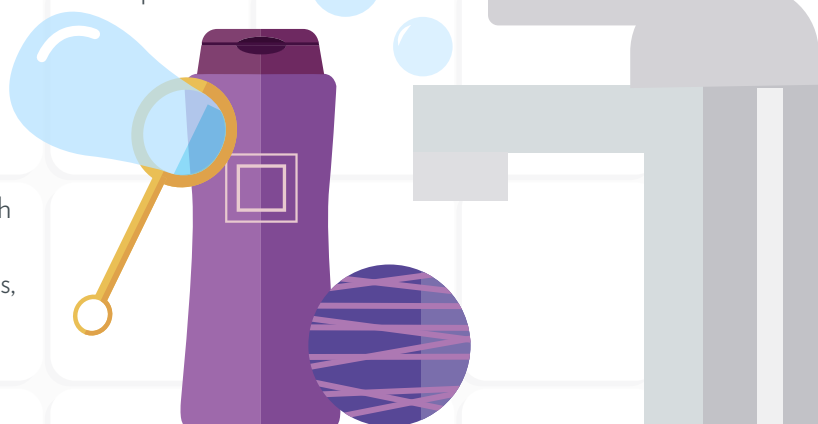
Increasing the amount of bubble bath added to bath water increases the strength of the bubbles. Your hypothesis could involve added glycerine.

Find a way of measuring your biggest bubble and explain how you've done this on your video or PowerPoint.

Exploring the science

Record your results and observations to support your hypothesis. What were the important findings from the results? Do your results prove or disprove your initial hypothesis? What conclusions can you make?

Ask a teacher to supervise you. Make sure you follow all health and safety procedures outlined in the lesson plans.



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 get surfactant for bubble bath?

To make and test bubble bath mixtures you'll need a special ingredient called a surfactant. It's easy to order surfactant from the SCS. Simply register on the website www.scrubuponscience.co.uk, go to the teachers' area and you will find the details you need on the teacher notes for the Key Stage 4 viscosity lesson (Lesson two).

Top tips: video

- Introduce yourself: tell us your age, your school and which product you've decided to create.
- Speak clearly and make sure you are loud enough.
- Don't waste time: you've only got three minutes, so edit your video and only include what's necessary.
- Make your video engaging and visually interesting:

think about how you'll explain your ideas, practical work and results.

- Show us the science: help us 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.
- Practice: do a practice run to check light and sound. Watch it back before filming the final version.
- Upload your video 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: PowerPoint

- Introduce yourself: tell us your age, your school and which product you've decided to create.
- Write clearly: check your spelling and grammar – written communication is really important, so try to avoid any mistakes or errors.
- Make your slides engaging and visually interesting: think about how you'll explain your ideas, practical work and results using words, pictures, diagrams and tables.
- Show us the science: help us 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.

Closing date

27 April 2018

For further help email: schools@scs.org.uk

GOOD LUCK!

