



SCRUB UP ON SCIENCE COMPETITION 2020

TEAMS OF 2 TO 4 STUDENTS (AGED 11-16) DESIGN AND MAKE A COSMETIC AND PERSONAL CARE PRODUCT THEN CREATE A VIDEO OR POWERPOINT PRESENTATION TO SHOWCASE THEIR WORK.

STEP 1

Choose the cosmetic and personal care product you would like to make

This competition requires teams of 2-4 students to **design and make** a cosmetic and personal care product of their choice. In the world of work, cosmetic and personal care product manufacturers need to continuously create and innovate through new product development (NPD).

The first thing to do as a team is narrow down the product type on which you will focus. Strict cosmetic safety legislation defines the term 'cosmetic and personal care product.' We've shortened the definition slightly for the purposes of the competition, to:

Any substance or mixture intended to be placed in contact with the external parts of the human body with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance, protecting them, keeping them in good condition or correcting body odours.

Here are just a few ideas for cosmetic and personal care products that teams could consider:



- A hairstyling product
- A perfume/aftershave
- A shaving product or aftershave balm
- A decorative cosmetic product e.g. an item of make-up
- A shampoo or conditioner
- A body lotion
- A bar of soap
- A bath or shower gel
- A bath bomb
- A bath oil
- A face mask
- An exfoliation product for face or body
- A lip balm

STEP 2

Get help with the science: research and planning

To prepare for the competition, teams will first have to see what is already on the market, consider the products they like and use and what else they would like to see available. Then they should make sure they understand the science behind the preparation of their chosen product. Groups should use teamwork to then become more innovative and creative with their ideas.

Research is the first step to design and manufacture:

Teams should consider:

- what the formulation of the chosen product is and how its safety is tested
- what sort of packaging best suits the formulation
- where raw materials and packaging can be sourced from: what is available at school and what would have to be sourced from elsewhere
- how this product could stand out from the crowd.

Applying research findings to your product and planning:

Teams should consider:

- using a standard formulation as a test and then adapting it to make the team's chosen product, for example, an even fizzier bath bomb, a make-up product or a lip balm that keeps your lips hydrated without being too oily
- the parameters the team can work with, for example, whether changing the viscosity of a shaving gel affects its performance
- how they can make the product unique
- how they will test the product and its safety
- how the experiment will run from start to finish and in what timeframes
- how they will record their work and present the new product development journey to the judges: via video or PowerPoint.

Ideas of places to research products include:

[The Society of Cosmetic Scientists](#)

[The Royal Society of Chemistry Cosmetic](#)

[Chemistry Infographic](#)

[The Royal Society of Chemistry Bath Bombs](#)

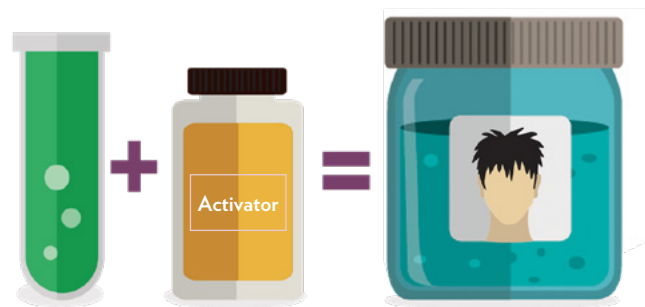
[Cosmetics Europe](#)

[The International Fragrance Association](#)

[Cosmetic, Toiletry and Perfumery Association](#)

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[Consumer Information Website](#)



STEP 3

Get experimenting

This is the fun part! Teams should use the knowledge they have acquired to work together to create a new product according to their planned experiment. Teams in KS4/S3-4 are expected to think of a hypothesis for their experiment. Younger students may include one, but it is not obligatory, as long as their work is presented to judges in a clear and logical way that demonstrates an understanding of the science behind what they have made.

Remember, the closing date is: 24th April, 2020

TOP TIP

It's important for teams to record everything they do from start to finish so that they can incorporate the information into their video or PowerPoint presentations.

Important: Teacher supervision is required at all times to ensure all health and safety procedures are adhered to. Students must have their experiment plans approved by a teacher before starting.

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
- explains a planned experiment and the process the team undertook from ingredients to finished product
- demonstrates to judges what the team understands about the science behind the product and how it works
- describes why it is special and what would make someone want to buy it.

Teams should think about ways to make their entries 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 us understand your thinking (and hypothesis for KS4/S3-4), 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.

REMEMBER: FINALISTS WILL HAVE TO GIVE A 5-MINUTE PRESENTATION ABOUT THEIR WORK AT THE INDUSTRY ACTIVITY DAY IN JUNE!

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 us understand your thinking (and hypothesis for KS4/S3-4), 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.

REMEMBER: STUDENTS WILL NEED TO BRING A FRESHLY PREPARED SAMPLE OF THEIR FINISHED PRODUCT TO THE INDUSTRY ACTIVITY DAY, IF CHOSEN.

WHAT ARE THE JUDGING CRITERIA?

All entries will be assessed on the following criteria:

Why did you choose this product?

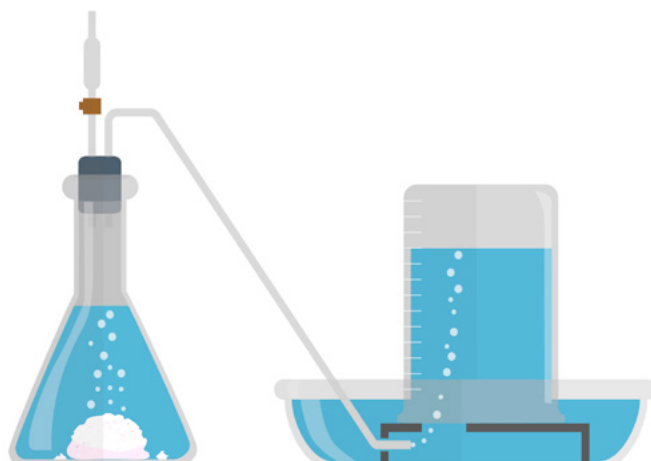
Provide a clear rationale.

Excellence of scientific method

Good scientific method and approach to the task.

What ingredients have you chosen and why?

Explanation of the science behind the product you have chosen to make (and a hypothesis for KS4/S3-4 students).



Evidence showing how you fairly tested your finished product: what was your method and how did you ensure it was a fair test that others could reproduce?

Evidence of market research having been carried out.

Great application of scientific thinking, creativity and application – it doesn't matter whether you got everything 100% correct!

Communication skills

Have you explained your work clearly and concisely?

Have you delivered an engaging and original video or PowerPoint?

Creativity

How does your chosen product appeal to your intended customers?

What do you want your consumers to feel when using the product?

How do you achieve this with the product?

What claims can you make about your product?

Have you come up with some great creative ideas?

Passion for science

Does your enthusiasm for science shine through?

TEACHER FAQs

How many students can enter from my class?

As many as you like, but each group must be in groups of 2–4 students.

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

Any one school can submit up to three entries. However, no more than two teams from the same school will be allowed in the final.

What age do my students have to be?

Students must be 11 or over on 1 October 2019 and they must be 16 or under on 24th April, 2020.

Can we make more than one product?

Each team can only choose one product, 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 some products.

Where can I get surfactant to make bubble bath?

You can order FREE surfactant to help you if you want to run a bubble bath experiment by emailing edcoms@education.co.uk

When do I need to submit entries by?

24th April, 2020

We have entered before – does this matter?

No! A team or school can enter as many times as they like from year to year, and especially this year, as the competition is changing.



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.

KEY DATES

Competition closes: 24th April, 2020

Schools informed if they have been shortlisted: w/c 11th May, 2020

Finalists Industry Activity Day (and five-minute presentation): 24th June, 2020

GOOD LUCK WITH THE COMPETITION. WE LOOK FORWARD TO RECEIVING YOUR ENTRIES!

How do I send in entries?

Only teachers can submit entries on behalf of their students. First, please 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 last year. Remember to upload your files in good time, especially if you have a few to do as teachers tell us it always takes a little longer than planned! The closing date is **24th April, 2020!** 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.

