

STEM Challenge: All in a lather!

Recycle Week 21 - 27 September 2020

School: _____ Year/Class: _____

Group/Team Name: _____

Pupil Name: _____



Warning: Please conduct this activity under the supervision of an adult

Aim: To conduct a survey of the personal cleaning products, such as shower gel, at home in the bathroom.

1. How many people live in your home? _____

2. How many personal cleaning items did you find in your bathroom? Write the tally below:

Shower gel		Shampoo	
Hair Conditioner		Deodorant/Anti-perspirant	
Hand soap		Moisturisers	
Facial washes		Toothpaste	
Shaving foam		Other (please name them _____)	

Total: _____

3. What were the packages made out of? Write the tally for each package in the box below:

Plastic		Glass jar with a plastic lid	
Metal		Glass jar with a metal lid	
Other (please name them _____)			

4. Of the plastic containers, how many are made out of recyclable plastic?

Recyclable plastic _____ Non-recyclable plastic _____

5. Of the recyclable plastic containers, how many items are single use?

Single use (disposable) _____ Multi use (reusable/refillable) _____



6. What do you think could be done to change the amount of single-use plastic at home?

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Teacher Notes

Age group: 14 and under

Equipment:

Student Survey (one each)	Poster paper	Plain paper
Colouring pens	Ruler	Glue

Challenge: How many different ways could the team find to reduce packaging in the bathroom.

Aims of the challenge:

1. To inform students about the materials that are used to package personal cleaning products, such as shower gel. This is to promote discussion about what we can and should reduce, reuse and recycle.
2. To allow the students to conduct a small survey as well as analyse and present their findings.

Learning objectives:

1. Develop soft skills, such as teamwork and communication skills, by working in teams.
2. Develop analytical skills, such as quantitative analysis, by tallying up their numerical findings and presenting them as a table or a graph.

Steps:

At the start of the week

1. Organise your students into groups/teams of 3-5 pupils and hand out the surveys to each student.
2. Explain the survey (the students will identify what personal cleaning products are in their bathroom, what the product is packaged in, and if made of plastic, whether it could be recycled).
3. Warn younger students that they need to be supervised.
4. Check understanding.

Towards the end of the week

5. Ask the groups/teams collate their findings for survey questions 2-5. For example, Question 2 could be collated into one table and a bar graph with product names on the x-axis and the tally on the y-axis. Equally, Question 4 could be presented as a pie chart.
6. For Question 6, have the team discuss their ideas and put them into some sort of order (perhaps order of priority, perhaps categorise how easy the ideas could be implemented etc).
7. Ask the students to create a poster displaying their findings as summary/tables/graphs.
8. Ask the students to present what they have found.

Potential questions to ask the students about their presentation:

Was there a relationship between the amount of people in the household and the number of personal cleaning products? If so, what was the ratio?

How many different materials did you find were used in the packaging?

Were there any surprises in your findings?

What do you think we could do to change the amount of disposable plastic in the bathroom? Do the products need to be packaged in the first place? If it does, could the package be refillable?

Do you think your family would make these changes? How easy would it be to make these changes? What impact do you think this will have?