

Market researchers use **questionnaires** to assess people's opinions on a whole range of things.

If you were thinking of opening a new hair and beauty salon, you would want to know what your clients wanted – including how they felt about the use of chemicals.

There are lots of ways of asking questions.

Some need a **number** for their answer, some need **ticks**, some ask for your **opinion**.



Cut out the 14 question cards and the 14 response cards.

Match them up in pairs.

Gather together the responses to the **questionnaire** that your group has collected.

Cut out the fourteen **Q & As** and place them in the appropriate box.

Choose one of the Q & As that interests you.

Decide how to analyse the data.

Complete the analysis.

Find a suitable way to represent the data.

Repeat for some other **Q&As**.

working with chemicals

12
Estimate how many times you went to the hairdresser in the last year.

0 to 2
3 to 5
6 to 10
11 to 15
More than 15

1
How often do you use the following products?

	Never	Once a week or less	More than once a week
Foundation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lip gloss	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Eye liner	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Eye shadow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

7
What is your age?

34 years

How often do you use the following products? **1**

	Never	Once a week or less	More than once a week
Foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lip gloss	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eye liner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eye shadow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In order, would you choose a hairstyle, a manicure or a makeover as a treat? **2**

1 _____

2 _____

3 _____

Which of these have you purchased in the last three months? **3**

Nail varnish

Hair conditioner

Hair accessories

Deodorant

Perfume or body spray

Would you ever consider cosmetic surgery? **4**

Yes / No

Give your reasons.

How much do you spend on hair and beauty in a typical month? **5**

£0 £3 £6 £9 £12 £15

Mark a cross on the line above to show how much you spend.

More than £15 a week? About how much do you spend?

When you buy a beauty or health product, how likely are you to check which chemicals it contains? **6**

Very unlikely Very likely

1 2 3 4 5

Circle a number

What is your age? **7**

_____ years

Do you know what effect bleach has on the condition of your hair? **8**

Yes / No

Tick the statements you agree with: **9**

My hair needs washing daily.

It is vital to eat at least 5 portions of fruit and vegetables each day.

Regular exercise is essential.

It is important to me to sleep for at least 7 hours each night.

What is your favourite make of shampoo? **10**

£ _____

What is your height? **11**

_____ cm

Estimate how many times you went to the hairdresser in the last year. **12**

0 to 2

3 to 5

6 to 10

11 to 15

More than 15

What time do you usually get up in the morning? **13**

:

Please enter your email address below: **14**

_____ @ _____

Working with chemicals : Hair and beauty

Description

Hair and beauty professionals use a wide range of chemicals in their treatments. For example, minerals, bleaches and dyes are used to affect hair colour. Soaps, oils and emulsifiers are used to cleanse the skin. Chlorine or bromine is used in keep the water clean in spas and hot tubs. Their training includes understanding the reactions they might encounter among some clients as the result of the chemicals which some treatments contain.



Activity 1: Questionnaire questions

Activity 2: What do people think?

This topic is designed to help pupils develop their understanding of the data handling cycle. In **Questionnaire questions**, they consider how questions vary and the importance of providing a suitable format for the answers. Ideally, photocopy the **Questionnaire questions cut out sheet** onto card and cut up before the lesson. The pupils match each question card to a suitable response card. They will find that some answers could be used for several different questions but there is only one way to complete the task so that every card is paired.

They then take away copies of the **What do people think? questionnaire** and bring them back to the next lesson completed by family, friends and neighbours. Two questionnaires from each pupil is likely to provide sufficient data for the whole class to analyse in **What do people think?** Organise the pupils in groups of three or four for this activity. They cut out the Q&As from the completed questionnaires – the questions are numbered but it will be easier to sort if the questionnaires have been photocopied in colour. Each group puts their cut out Q&As in suitably labelled boxes at the front of the class. Once the Q&As are all sorted, each group takes a box, discusses how to analyse the data, completes the analysis and chooses how the data is best represented. You will want to review some different ways of representing data before asking the pupils to make their choice.

Resources

Scissors, 14 labelled boxes.

If appropriate, more explicit work on the varying nature of the data sets will provide a challenge. Data is often categorised as qualitative (non-numeric data) or quantitative (numeric data). Quantitative data is often further subdivided into nominal, ordinal, interval and ratio scales. Quantitative data may be continuous or discrete. This is a highly complex area with some genuinely problematic issues. For example, time and height are both continuous variables, yet they can only be recorded as discrete values! A search on the internet will reveal many useful (and sometimes contradictory) articles which can provide starting points for valuable discussions on the categorisation of data.

The Mathematics

This topic provides the opportunity to consider many aspects of the data handling cycle, from consideration of questions suitable for a questionnaire, through the collection and analysis of data to its representation in various forms.