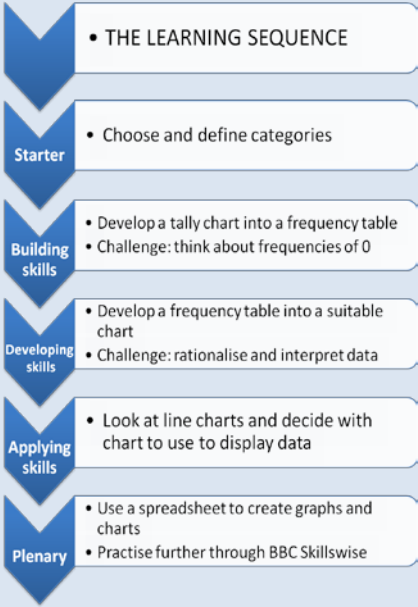


DELIVERY PLAN

COLLECT, ORGANISE AND REPRESENT INFORMATION

LEARNING OUTCOMES	BRIEF DESCRIPTION OF TAUGHT SESSION
ALL learners will be able to: • Make observations and record numerical information using a tally [HD1 / E3.3] • Organise and represent information in different ways so it makes sense to others [HD1 / E3.4] MOST learners will be able to: • Collect, organise and represent discrete data, eg in tables, charts, diagrams and line graphs [HD1 / L1.2]	Learners will develop their skills to represent data so that it makes sense to others. The session develops from grouping data to creating graphs using a spreadsheet.  • THE LEARNING SEQUENCE • Choose and define categories • Develop a tally chart into a frequency table • Challenge: think about frequencies of 0 • Develop a frequency table into a suitable chart • Challenge: rationalise and interpret data • Look at line charts and decide with chart to use to display data • Use a spreadsheet to create graphs and charts • Practise further through BBC Skillswise
RELATED FUNCTIONAL SKILLS	TO BE SUCCESSFUL ...
Coverage and range: • Extract, use and compare information from lists, tables, simple charts and simple graphs [E3] • Extract and interpret information from tables, diagrams, charts and graphs [L1] • Collect and record discrete data and organise and represent information in different ways [L1]	A learner will need to be familiar with simple lists, classifications and charts.

Stages of session / What to teach

1 Introduction and context

Starter / Ice-breaker

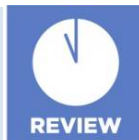
- 1 Explain to learners that this session is about choosing and creating graphs that show information in a way that makes sense to others.
- 2 Explain to learners that the first activity builds on work from Entry 1 and 2 on sorting data into categories, but that this level requires them to look at numerical grouping.
- 3 Tell learners that they will be planning to interview some shoppers to find out which shops they visit in a shopping centre.
- 4 Flag that the shops will be listed on the sheet already, and that learners will need to keep a tally as those shops are mentioned and will also need to find out the age range of people who are visiting the shopping centre.

Top class teaching tip

You could explain to learners that, in real life, shopping centre owners might do this, so that they can find out about which shops attract which age groups and work out which shops they want to keep or replace.

- 5 Ask for suggestions for how the data could be grouped, having explained that it would be pointless to collect separate data for every age.
- 6 Acknowledge that there is no 'right' answer, but that the groupings must be big enough to have sensible amounts in each one, but small enough to be meaningful – ie 'under 40' and 'over 40' would not be very helpful.
- 7 Discuss also how the data is to be collected: do we ask people and risk causing offence, guess (in which case we may be wrong) or ask people to identify to which age group they belong?
- 8 Model the example in **Delivery Plan: resource 1** by asking several of the group to identify to which age group they belong. The resource may be handed out or displayed on-screen.

Although this is 'only' a discussion, the data collection sheet will be used later for other activities, so it is important that learners become familiar with it.



Resources and references

[Delivery Plan: resource 1](#)

2 Building the skills

- 1 Tell learners that now, in **Activity 1**, they are going to use a selection of data sheets to create a tally chart, which will then be turned into a frequency table.

[Activity 1](#)

[Activity 1: resource 1](#)

- 2 Each learner will need a set of filled-in data sheets (**Activity 1: resource 2**), which data they will carefully record using tally marks on the summary sheet (**Activity 1: resource 1**).
- 3 Learners should complete the summary sheet, including the frequency column, before checking their results with those of other learners. The correct solution is available to tutors as **Activity 1: resource 3**.

Watch for errors in counting. Encourage learners to be systematic in how they ensure that they use every data sheet only once.



You could ask more confident learners why they think some frequencies are zero? (It could be, for example, that nobody has come by, train.)



3 Developing the skills

- 1 Say that, now that learners have collected the data for the shopping centre, they need to find a way of displaying it, so that it makes sense to other people.
- 2 Show the learners **Delivery Plan: resource 2**, which features three different pairs of graphs showing the same data. (This is not the data from the previous activity, although the transport categories are the same.)
- 3 Start a discussion about which is the best.
- 4 Make the following points.
 - The line graphs are meaningless, because they should be used to show only change.
 - The bar charts are good for displaying the numbers of people who used different transport, but because the scale is different for the two days, comparisons are not easy.
 - The pie charts allow us to compare proportions easily, but do not contain the numbers of people, so we would not know whether 30 or 300 people had been asked.
- 5 Give learners access to **Activity 2**, which features another set of data from a shopping centre survey – this time, a record kept over several Saturdays of how many people parked in the car park at the centre. The activity sheet contains instructions on how to create a line graph, using **Activity 2: resource 1**, to show the trend changing over time.

When learners have created their graphs, ensure that there is time to show them a good example. The line graph is a relatively new type of graph. Stress that it is good to show changes and trends quickly.



Resources and references

[Activity 1: resource 2](#)

[Activity 1: resource 3](#)

[Delivery Plan: resource 2](#)

[Activity 2](#)

[Activity 2: resource 1](#)

Any learners who finish quickly should be challenged to think of a reason why the number of cars is increasing. What do they think the graph would look like one month later?



Resources and references

4 Applying the skills

- 1 Remind learners that they have already looked at bar charts, line graphs and pie charts as possible ways of displaying information.
- 2 Explain that the interactive activity they are about to try will ask them to decide which graph would be the best one to use in a variety of circumstances.
- 3 Explain that bar charts are useful for comparing two or more values with a small numbers of results, line graphs are useful for showing changes and trends, and pie charts, for comparing proportions.
- 4 Now ask learners to open and complete **Interactive Activity 1**.

[Interactive Activity 1](#)

5 Plenary and further work

- 1 Explain to learners that many graphs can be drawn for us automatically by using a spreadsheet. Although spreadsheets can produce attractive, but poor, graphs, they do have the property of being created quickly and easily changed.
- 2 Give learners **Activity 3**, which shows learners how to create graphs in Excel.

[PC or tablet access per learner](#)

[Spreadsheet software, such as Microsoft Excel](#)

[Activity 3](#)

Allow learners to create as many graphs as time will allow, asking them to be critical of the graphs and reminding them that the idea of a graph is to display the data in an easily readable form.



Further work

Have a look at www.bbc.co.uk/skillswise for revision and practice. Search for 'Graphs and charts'.