



## Bread consumption: Teacher guidance

A level content	LDS skills	ICT skills
Interpret statistical diagrams in context	Understand how a time series graph can show trends over time	Copy data from one spreadsheet to another
Solve a statistical problem	Work with data to solve a problem in context	Draw a time series graph
Interpret outputs of a mathematical model		
Consider modelling assumptions		

### Three ways in which to use this lesson content

#### ***Teacher use of technology only***

Use the short PowerPoint to introduce the context.

Show how the relevant data can be copied to another sheet and a time series graph can be created.

Give students the Paper-based Worksheet and discuss answers and talk about the modelling assumptions.

#### ***Student use of technology takes place outside of lessons***

Use the longer PowerPoint with spreadsheet instructions to introduce the context and show students what is expected in terms of use of spreadsheets.

Students should have the worksheet and the spreadsheet instructions to work with.

You might ask them to bring their answers to task 1 and task 2 on the worksheet to the next lesson and discuss these and task 3.

#### ***Students have technology in the lesson***

Use the longer PowerPoint with spreadsheet instructions to introduce the context and show students what is expected in terms of spreadsheet use.

Students should have the worksheet and the spreadsheet instructions to work with.

Discuss answers to task 1 once most students have drawn the time series graph. Then ask them to work on task 2 - this might be done in their own time for the following lesson. Finish by discussing task 2 and task 3.

# Learning with large data sets: AQA

Some suggested answers to the tasks are given below.

The data and charts are given in the Answers spreadsheet.

## Task 1

- Total bread consumption has a decreasing trend over time
- White bread consumption has a decreasing trend, whereas both brown bread and other bread have slightly increasing trends
- In 2001 more than half of the bread consumed was white bread
- By 2014 total bread consumption became almost equally divided between the three types

## Task 2

- Total bread consumption has decreased in all areas
- In 2001, London had the lowest total bread consumption, with northern regions having higher total bread consumption than southern; this is in general still the case in 2014 but the differences are smaller
- In northern and Midland areas, white bread is still the most popular type of bread
- In London and other southern areas, other bread is slightly more popular than white bread
- Brown bread is the least popular in most regions for most of the time period being studied

## Task 3

- Bread consumption has decreased: this could be because of the greater variety of alternatives available, or for health reasons
- Consumption of white bread has decreased: this could be because of health considerations, or because of increasing availability of other breads
- Consumption of other breads is higher in the south and particularly in London: this could be due to the large number of working people who might buy takeaway sandwiches for lunch