



In this activity students collect data and then use statistical methods to analyse the results. They choose from the following investigations:

- compare the recommended five portions of fruit and vegetables a day with the number of portions eaten
- investigate whether diet varies according to age or gender
- investigate whether people have changed their eating habits since the 'five a day' campaign started.

### Suitability

Level 2 (Intermediate/Higher)

### Time

2–3 hours

### Resources and equipment

Information sheet and worksheet

Calculators or computers, graph paper or spreadsheet

Optional: slideshow

### Key mathematical language

Sample, data collection sheet, measures of location and spread, statistical diagram

### Notes on the activity

*You may need to tell students what a portion of fruit and vegetables is.*

The student sheet has a summary; further information is given on a slide.

For more information see

<http://www.nhs.uk/livewell/5aday/pages/5adayhome.aspx>

The information sheet refers to NHS action to reduce fat and salt in the diet.

See

<http://www.nhs.uk/LiveWell/Goodfood/Pages/Goodfoodhome.aspx>

The worksheet suggests three investigations in which students

- compare the number of portions eaten per day with the recommended five
- compare the number of portions of fruit and vegetables people eat by age or gender
- investigate how/if diet has changed since the introduction of the five a day campaign.

## During the activity

Students could work individually or in pairs to collect their own data on eating five a day. They will need to collect sufficient data for the investigations, so if possible complete the activity over two sessions.

Use the first session for planning and designing data collection sheets, and the second session for analysing the data which is collected between the sessions.

You may decide to advise students to choose one of the three investigations as a whole group activity. Alternatively students can use secondary data for the third investigation, such as:

<http://archive.defra.gov.uk/evidence/statistics/foodfarm/food/familyfood/index.htm>

## Points for discussion

As well as discussing the results of the investigation, ask whether students think the sample they have used was biased in any way. Also ask if they consider it was large enough for them to draw conclusions. Discuss the advantages and disadvantages of the different statistical methods and diagrams students used. Include reasons why it is advisable to check that work makes sense.

## Extensions

More able students may want to decide on their own investigation, such as looking at the consumption of fat and salt in the diet, in addition to five portions of fruit and vegetables a day.