

5 a day



Government advice says that we should all eat 5 portions of fruit or vegetables every day. This investigation is about finding out to what extent people understand and follow this advice. Try to answer some of the questions given below, or think of questions or hypotheses of your own. (Discuss your plans with your teacher.)

- What is meant by a portion?
- Can everyone estimate the sizes of portions of different fruit and vegetables reasonably accurately?
- To what extent do people follow the government's advice?
- Does diet vary with age, gender or other characteristics?
- In what ways has a 'typical' diet changed in recent years?

In your assignment you should:

- decide and state clearly the aims of your investigation
- use a suitable sample and method to collect the data you need
- devise and use a suitable data collection form
- use a table or spreadsheet to record your results
- use statistical diagrams and measures to summarise and display your findings
- check your work
- summarise your findings and draw conclusions.

You may find the following websites useful (or search the internet to find others):

Dept of Health

<http://www.dh.gov.uk/en/Policyandguidance/Healthandsocialcaretopics/FiveADay/index.htm>

<http://www.5aday.nhs.uk/WhatCounts/PortionSizes.aspx>

Expenditure & Food Survey <http://statistics.defra.gov.uk/esg/publications/efs/default.asp>

UK household purchased quantities of food and drink 'Averages per person per week'

<http://statistics.defra.gov.uk/esg/publications/efs/datasets/UKHHcons.xls>



Teacher Notes

Unit Intermediate Level, Handling and interpreting data

Notes

The assignment is intended to provide some of the evidence listed in section 1 of the coursework portfolio requirements (reproduced below).

What you need to produce	You must:
<p>1</p> <p>Reports of at least two investigations you carry out into situations in which you show your use of statistical techniques, measures and diagrams.</p> <p>In the totality of your two reports you should :</p> <ul style="list-style-type: none"> • state clearly the aims of your investigation • choose a suitable sample for your investigation • select the most appropriate data you need to collect • devise and use an appropriate data collection form • use a spreadsheet to record the results of your data collection • use tables to present <ul style="list-style-type: none"> (i) raw data (ii) grouped data • use <ul style="list-style-type: none"> (i) measures of location and spread (ii) statistical diagrams to summarise and compare your raw and grouped data • use probability measures, if appropriate, to calculate, describe and explain the likelihood of an event(s) occurring for the sample of your investigation and project your findings to a larger sample • investigate the effect of using at least two different groupings of part of your data on diagrams and measures • draw conclusions and summarise your findings 	<ul style="list-style-type: none"> • include written evidence of all mathematical analysis and computation • show evidence that in places you have used both estimation and checking to ensure that your work is accurate. • present your hypothesis, raw and processed data clearly using tables where appropriate • if using a questionnaire, use questions that are relevant, not repetitive, clear and unbiased, with a sample of at least 25 • show that you only collected data which is meaningful to your investigation • present diagrams that are relevant, clear and accurate • express probabilities in appropriate forms • show an understanding of the limitations involved when you project your findings to a larger sample • draw conclusions that are valid and relevant in the light of your original hypothesis • make qualitative reference to the accuracy of your findings in the light of any errors that there may have been in your data and taking account of your sample size

These portfolio requirements should be discussed with students before they start this activity. You could also have a general discussion about hypotheses that could be tested. Asking students to plan an investigation would give an opportunity for them to produce some of the portfolio evidence they need, but you will obviously need to check that these plans are practical and will give the data they need before they proceed. You may decide to pick out just one or two of the best/most practical suggestions for use in the actual investigation. Students can pool data for analysis if they wish. So for example, students could collect information from different age groups and then compare their results. However they will need to draw their own statistical diagrams and write up their reports separately. It is also important that you can assess each student's input and to what extent they have worked independently.

