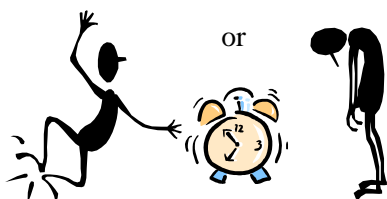


Larks and Owls

Are you

a *lark*

- eager to get up in the morning?
- ready to go?



an *owl*

- like to stay up late?
- find it hard to get up in the morning?

Recent research has suggested that teenagers need more sleep than pre-teens. Do you think this is true?

Carry out an investigation about sleep.

You might try to answer questions like those given below, or think of other questions of your own. (Discuss your plans with your teacher and ask for advice about how much to do.)

- What time do teenagers usually go to bed during the week and at weekends?
How does this compare with people in other age groups?
- How long does it normally take to get to sleep?
- What effect do television, work, social activities, the rest of the family, noise (etc) have on the time taken to get to sleep?
- What time do teenagers get up during the week and at weekends?
How does this compare with people in other age groups?
- Do teenagers get enough sleep?
- Are more teenagers owls than larks?
- Is there any difference between the sleep needed by boys and girls?
- When do people feel most mentally and physically alert? Does this depend on age?
- What effect does caffeine have on sleepiness?
- Which age groups need naps during the day?
- Would students like school to start later or earlier?

In the assignment you should:

- decide and state clearly the aims of your investigation
- use a suitable sample and method to collect the data you need
- use tables, statistical diagrams and measures to summarise and display your results
- check your work
- draw conclusions and summarise your findings.



Teacher Notes

Units Intermediate Level, Handling and interpreting data

Notes This 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 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

Students may like to use the internet to find out information about sleep that can contribute to this assignment. A lot of the available information is from the USA where there have been campaigns recently to change the early starting times used at most schools. Some websites have on-line chronotype tests that students can use to give a score indicating whether they are a lark or owl. There are also websites about shift workers and the problems they have. Some useful website addresses are given below, but note that websites are often updated and these addresses are likely to change. If you have any problems, use a search engine.

Sleep from A to Zzz

<http://library.thinkquest.org/25553/english/basics/index.shtml>

St Mary Medical Centre

<http://www.smmc.com/sleep/teen.html>

University of California, San Diego and VAMC

<http://bisleep.medsch.ucls.edu>

Round the Clock Systems

<http://roundtheclocksystems.com/workplace/learning/sw.mescale.html>

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