



General Certificate of Education
Advanced Subsidiary Examination
June 2011

Biology

BIO3T/Q11/TN

Unit 3T AS Investigative Skills Assignment

Teachers' Notes

Confidential

**A copy should be given immediately to the teacher(s) responsible for
GCE Biology**

Teachers' Notes**CONFIDENTIAL**

These notes must be read in conjunction with *Instructions for the Administration of the Investigative Skills Assignment* for GCE Biology published on the AQA Website.

Investigation into the effect of a named environmental variable on leaf size

One aspect of leaf size in a particular species should be studied in two sites with an obvious difference in light intensity or trampling. Some examples of the species which can be investigated are suggested below.

Factor	Species
Light intensity	ivy, nettle, bramble, dog's mercury,
Trampling	plantain, daisy, dandelion

Candidates are required to measure the lengths of leaves of one species at both sites.

Materials

Each candidate needs

- random number table or calculator with a random number function
- ruler to measure in millimetres
- two metre rules or lengths of wood with marks at 10 cm intervals.

Managing the investigation

In this investigation you should tell your candidates

- what environmental variable is being investigated
- from which two sites to take the samples
- which species to investigate
- how to obtain random numbers
- **not** to remove the leaves (unless the species being investigated is abundant).

The task(s) must be trialled before use.

Candidates **must not** be given information about an ISA assessment until one week before Stage 1. One week before Stage 1 candidates should be given the following information.

You will investigate variation. In addition, you will need to understand the following topics

- the causes and consequences of genetic diversity
- immunology

There **must** be no further discussion and candidates **must not** be given any further resources to prepare for the assessment.

In this investigation, teachers must not give candidates the following information.

- the sample size to use.