



2. surveys should be made in areas where particular points could be illustrated and wildlife observed in its natural environment.

e.g. stream surveys should be made where a pollution hazard is known to exist, or at different points on the same watercourse. insects surveys should be made in different habitats and at different times of year if possible.

This would also offer an opportunity to introduce safe laboratory practice and some simple techniques.

3. weather records for making predictions should include:

rainfall;  
maximum and minimum temperatures;  
wet and dry bulb thermometers;  
soil temperatures;  
cloud cover and type.

Local records could be compared with published data, and at the same time folk-lore forecasts could be evaluated.

#### Suggested Learning and Teaching Approaches

In general the learning approaches should be based on practical activity. Very little classroom work should be needed, and any work which cannot be carried out in the field should be done in a suitable laboratory.

The use of student record books should be an important part of both the learning and formative assessment strategies, especially as this module is being used to develop scientific skills.

Corresponding to the Learning Outcomes:

1. It is particularly important that the removal of specimens from any site for laboratory examination should be restricted to 1 or 2 examples and the reasons for this must be made clear to the students. The work for this Learning Outcome should be carried out by individuals, working in small groups.

The use of charts and graphs may be of particular relevance both here and in Learning Outcome 3, and these could be produced on an individual or group basis.

The student should be given a fairly free hand to develop their ecosystem, so that they can appreciate the effects which man's interference may have on natural systems, although guidelines will obviously be needed for its construction.

In small groups or individually, students should record the changes which take place whilst the ecosystem settles down. They should be able to identify the point at which the system becomes stable and should then continue to record what happens in the system on a periodic basis.

It should be possible to relate insect appearance to the habitat in which each specimen is found, and suitable survey techniques in which this is done are to be found in many standard textbooks.

2. Weather recording could be enhanced by the use of one of the proprietary home-computer-based recording systems (Spectrum/Griffin & George).

Daily records of weather parameters, comparisons with published data and with folklore observations should be kept for a suitable period of time.

3. Suitable exercises for data extraction and use could include graphs and charts constructed from weather records, wildlife sightings and other data, and plotting wildlife sightings on maps. Simple explanations only are required, commensurate with the student's general abilities.

#### Assessment Procedures

All Learning Outcomes must be validly assessed.

The student must be informed of the tasks which contribute to summative assessment. Any unsatisfactory aspects of performance should, if possible, be discussed with the student as and when they arise.

Acceptable performance in the module will be satisfactory achievement of the performance criteria specified for each Learning Outcome.

The following abbreviations are used below:

LO Learning Outcome  
 IA Instrument of Assessment  
 PC Performance Criteria

LO1 IA Written and verbal reports based on & 2 practical exercises.

PC The student:

- (a) keeps systematic and accurate records;
- (b) uses appropriate class and field procedures;
- (c) works safely and accurately in both field and laboratory situations;
- (d) extracts and collates information from suggested sources;
- (e) presents the information in appropriate terms;
- (f) draws valid conclusions.

LO3 IA Written or oral test consisting of 10 short answer questions.

PC The student explains observations, recordings and measurements in simple terms.