

SEVEN SISTERS SCHOOL PROGRAMMES

‘A’ LEVEL BIOLOGY COURSES

The Seven Sisters Country Park together with Friston Forest is an ideal location for teaching relevant sections of the Biology A level syllabus. There are a variety of habitats to study including the rocky shore, lagoon, salt marsh, dew ponds, mixed woodland and chalk grassland. Each of the days can be tailored to meet AQA, OCR or Edexcel specifications.

Choose from the following sessions:

- **The rocky shore zonation** (*full day*)

The aim of this session is to investigate inter-tidal zonation. After a general introduction into tidal environment students will be introduced to the plants and animals that live on the rocky shore. They will then use cross-staffs and quadrats to complete an interrupted belt transect up the shore, recording the distribution and abundance of the organisms found there. Students will be shown how to use the data to produce kite diagrams.

(Check tide times when booking)

- **The rocky shore** (*full day*)

Students will identify a range of habitats on the shore, then collect and identify the snails that live there. The class data will then be used for statistical analysis (Chi squared) back at the Pump Barn.

Adaptations to life on the rocky shore will be considered when students sample limpets in various locations. Analysis of the results includes the Students test.

(Check tide times when booking)

- **Grassland ecology** (*full day*)

Students will sample two contrasting areas of grassland (e.g. mown vs. grazed or slope vs. flat) using quadrats. The students will employ a wide range of techniques to measure edaphic factors (soil pH, soil moisture, and soil structure) and other abiotic factors. Analysis will include the Simpson's diversity index and the Mann Whitney U test.

- **Woodland population study** (*full day*)

Different sampling techniques such as sweep netting, pooters, tree beating, pit fall traps, leaf litter searches and small mammal traps will be tested and evaluated by the students. Mark, release and recapture methods will be used to estimate population sizes of mobile organisms (e.g. woodlice) using the Lincoln index.

- **Woodland flora** (*full day*)

A comparison will be made between the abundance and diversity of woodland plants under various stands of tree. The techniques that will be used include the use of light meters, soil testing (pH, moisture, texture and type) and the random sampling of ground flora using frame quadrats. Students could also examine the effect of light intensity on ground flora. Analysis of the results would include Spearman's rank.

- **Saltmarsh ecology** (*full day*)

After a general introduction to the site and the ecology of saltmarsh plants and animals the students will use interrupted belt transects to investigate the vegetation patterns. A range of abiotic factors will be taken into account and recorded such as soil salinity, moisture, pH and organic content. Data analysis back at the Pump Barn will include Spearman's rank.

- **Aquatic invertebrate study (seasonal)** (*full day*)

This study covers a broad range of aquatic habitats. The invertebrates will be collected from around the lagoon, the meanders, dewponds and creeks. The organisms are identified with keys. Abiotics such a depth, temperature, salinity and oxygen can be measured. Analysis of the data could include Simpson's diversity index, pyramids of number and biomass.

- **Ecological sampling techniques** (*full day*)

This day is designed for students that want to gain experience of using as many techniques as possible before undertaking an individual project but are unable to take any of the ecology sessions. The techniques will include using quadrats, belt transects, grid sampling (random and systematic), sweep netting, stream dipping, leaf litter collection and tree beating. Project ideas will be introduced and help provided with statistical analysis.

- **Individual projects** (*full day*)

Equipment and support will be provided to enable students to carry out individual field based projects.