

# KS5: Environmental Science Day

This outline is a general guide for what to expect during your day with us. Activities and session structure may vary depending on weather conditions and other circumstances. Please discuss any specific requests and areas of focus with us prior to your session and we will do our best to accommodate them.

**Curriculum links:** Based on the AQA Environmental Science A Level Specification

- The importance of the conservation of biodiversity
- Ecosystem services and their interaction with each other
- How humans influence biodiversity
- Setting conservation priorities including legislation/protocols
- Habitat conservation
- The development of new technologies for ecological monitoring
- How adaptation to the environment affects species' habitat requirements and influences conservation decision-making
- How population control and the management of desired and undesired species affects the conservation of biodiversity
- Opportunities for skills development and independent thinking and working scientifically
- Opportunities to undertake experimental and investigative activities, including appropriate risk management, knowing how to safely and correctly use a range of practical equipment and materials with consideration of their environmental impacts and how these can be minimised.

## Overview of the day

## Opportunities for evaluation of Learners progress

### **Introduction 9:15-9:30**

The group will have a brief welcome and introduction to The Parks Trust and the work we do before heading outside to take the daily readings (temperature, wind speed, light levels) and discussion of abiotic factors that can affect results/

Observing student participation in activities.

### **Session 1 9:30-11:00 – Why is biodiversity important?**

- Talk and discussion around what 'biodiversity' means, why it is important and who benefits from biodiversity.
- Hands on task around biomimetics.
- Site walk to identify the work The Parks Trust has done to conserve and improving biodiversity on this site.

Discussion with students during and after the visit.

Photographs which you may take for post visit discussions, displays and activities.

### **Break 11:00-11:15**

### **Session 2 11:15-12:45 – Investigating biodiversity**

Depending on the group's requirements and the weather conditions, students will have the opportunity to undertake a range of investigations such as a butterfly or bee transect and small mammal survey or habitat development and monitoring including hedgerow surveying, coppicing and woodland management. We ask you to identify if there are specific research methods you would like to focus on from the following options (we will fit in as many as we can on the day!)

Group presentation material which you can take away with you for display at school.

- Quadrats – Wild flower ID
- Water turbidity using a Secchi disk
- Pond Net – Pond dipping and surveying
- Kick Sampling – River bed
- Sweep nets – Bug ID
- Pitfall trap – Bug ID
- Beating Trays – Bug ID
- Light traps – Moth Trap at LLNR
- Tullgren Funnel

Follow up survey – we will send a review survey following your visit which will ask students to recall various pieces of information learnt on the day. We will share these responses with you.

- Soil flooding/Soil pit extraction – earth worm count
- Soil analysis
- Imagery – show trail cams and their footage
- Marking – explanation of bird ringing
- Auditory monitoring – demonstration of bat detectors
- Indirect evidence – tracks and poo

**Lunch 12:45-13:30**

**Session 3 13:30-14:30 – Analysis and Future Thinking.**

Working in groups students will analyse the data they have collected throughout the day and present their findings. What have they discovered about this site and its biodiversity? Taking on the role of The Parks Trust Biodiversity officer, each group will be required to present their site management plan to the group to explain what action they will take to conserve and improve the biodiversity of the site in the short, medium and long term. We will discuss the correct steps an ecologist would take to determine this/timelines.

**14:30-14:45 – Review of the day and close.**

<b>Pre Visit activities</b>	<b>Post Visit activities</b>
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Find out who The Parks Trust are and what they do

Look at the site you are visiting on TPT website and using online mapping tools – what do the students expect to find there from a biodiversity perspective?

Re visit the research methods used to analyse the relative strengths and limitations of each one and compare to other environmental research methods available.

Repeat investigations on school site and compare findings of different environments

Project Park life and or City planning activities on Teacher resources section of TPT website.