A-level Environmental Science Induction






Welcome!

Should Britain bring back lynx?

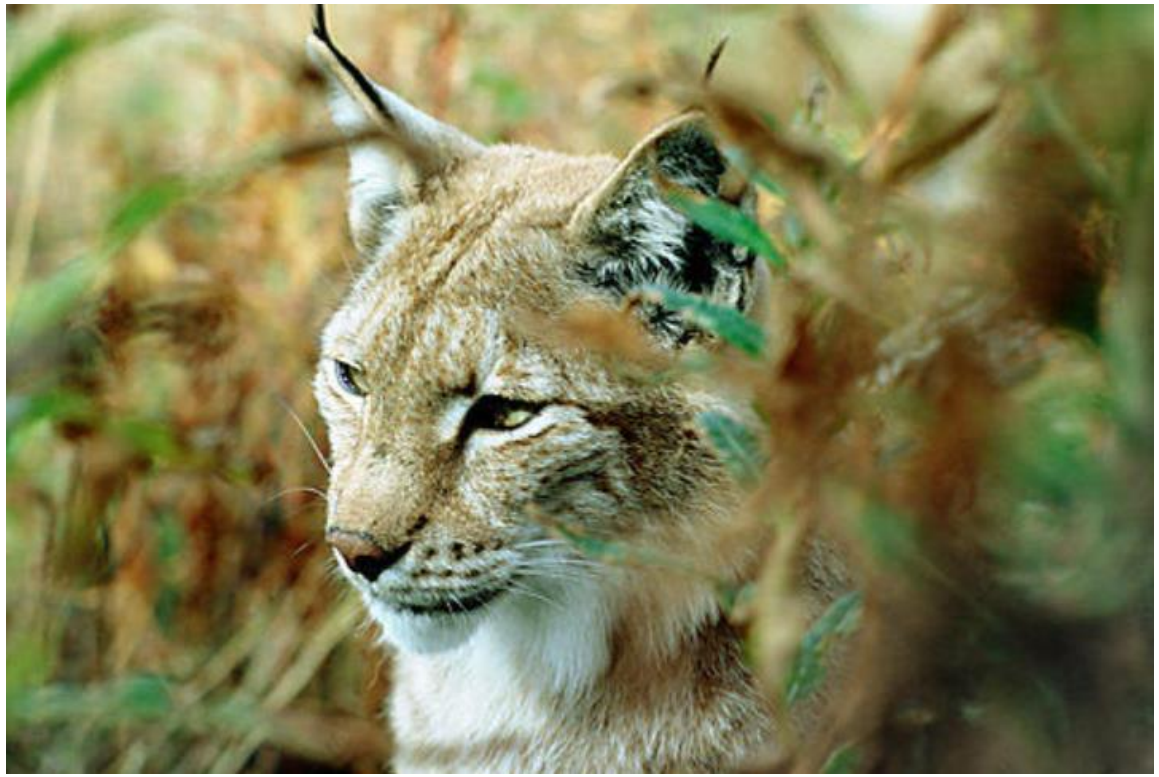
- Lynx used to live in Britain about 1000 years ago!
- Some conservation groups want to bring them back
- **Why might this be controversial?**

Current geographic range

Eurasian lynx

Information:

- about the size of a large dog
- shy and rarely seen
- mainly eats deer
- became extinct in Britain due to hunting and deforestation, but not endangered globally



Habitat

- forests and woodland
- needs large territories
- prefers areas with lots of prey

Possible benefits

- control deer populations
- help forests recover
- increase biodiversity
- boost eco-tourism

Possible concerns

- attacks on livestock
- expensive monitoring
- opposition from farmers
- fear of predators

Environmental scientists often have to balance environmental, social and economic impacts

Quick thinking task

- Should lynx be reintroduced to the UK?
- Who would support this idea?
- Who might oppose it?
- What evidence would scientists need before making a decision?

What do you think?

Support?

Oppose?

Unsure?

Why?

Today's Session

- Why Environmental Science?
- Options beyond LSST and A level
- Course Structure
- Transition for GCSE to A level
- Summer Preparations
- Resources

Why Environmental Science?

What A-levels have you chosen?

What do you want to do?

Why have you chosen Environmental Science?

Environmental Science and Beyond at LSST

Courses you may go on to do:

Biology
Conservation Biology
Marine Biology
Geography
Climate Science
Sustainability
Environmental Engineering

What courses are you interested in?

Some future career paths...

Wildlife & Conservation

- Ecologist
- Zoologist
- Wildlife Biologist
- Conservation Researcher
- Rewilding Officer
- Nature Reserve Manager
- Park Ranger
- Forestry Manager

Oceans & Earth Systems

- Marine Biologist
- Oceanographer
- Climate Scientist
- Water Quality Scientist

Sustainability & Environmental Management

- Environmental Consultant
- Sustainability Officer
- Environmental Scientist
- Environmental Health Officer
- Agricultural Scientist

Engineering & Solutions

- Renewable Energy Engineer
- Environmental Engineer

Education, Law & Communication

- Environmental Lawyer
- Environmental Educator

Course Outline

The modules studied over the two years are:

- *The Living Environment*
- *The Physical Environment*
- *Energy Resources*
- *Pollution*
- *Biological Resources*
- *Sustainability*

There is also an introduction to research methods studied through the two years, and the course is supported by both laboratory practical work and fieldwork.

Exam Outline

Paper 1

What's assessed

- The physical environment
- Energy resources
- Pollution
- Research methods

Students will be expected to draw on knowledge and understanding of the entire course of study to show a deeper understanding of the interconnections between topics.

How it's assessed

- Written exam: 3 hours
- 120 marks
- 50% of A-level

Questions

A combination of multiple choice, short answer and extended writing questions.

Exam Outline

Paper 2

What's assessed

- The living environment
- Biological resources
- Sustainability
- Research methods

Students will be expected to draw on knowledge and understanding of the entire course of study to show a deeper understanding of the interconnections between topics.

How it's assessed

- Written exam: 3 hours
- 120 marks
- 50% of A-level

Questions

A combination of multiple choice, short answer and extended writing questions.

As well as field work!

To include activities such as ...

🌿 **Habitat and biodiversity surveys**
– Identify plants and animals and measure biodiversity in different environments.

📏 **Sampling techniques**
– Use quadrats, transects and random sampling to collect reliable ecological data.

💧 **Water quality investigations**
– Measure factors such as pH, dissolved oxygen, turbidity and nitrate levels.

🌡️ **Environmental monitoring**
– Record abiotic factors including temperature, light intensity, soil moisture and wind speed.

As well as field work!

Land use and sustainability studies

– Investigate how people use environments and consider impacts on sustainability.

🌍 **Human impact investigations**

– Explore pollution, waste management, conservation and habitat change.

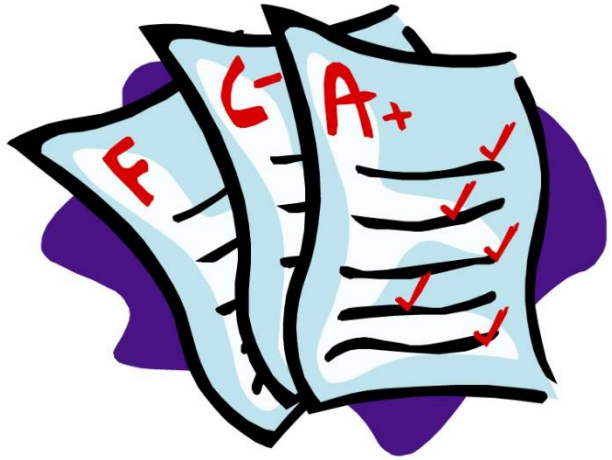
📊 **Data collection and analysis**

– Record field data, present results and draw evidence-based conclusions.

Final fieldwork plan TBC

Transition from GCSE

- Grade 6 in Science/Biology at GCSE, Grade 6 in Maths
- Demands at A-level are high and very skills based – like your GCSE (required practicals and data!)
- Maths demand – 10% (data, statistics, graphs, %s etc.)
- Independent learning, extra reading
- 4 periods + study time – where you are expected to complete set work!



Preparing Over Summer!

- Get equipped (we'll do checks so no excuses)!
- Revision guides bought need to be **'AQA'**
- **Transition work:**
  - Induction booklet and tasks
  - Reading list

The induction book can be found on the LSST website

It contains key information and tasks for you to complete at the back – you need to complete these by results day

4) Becoming an Environmental Scientist – tick these off once you have done them (OPTIONAL, BUT RECOMMENDED)	
Listened to a PODCAST	○ TED Climate ○ Outrage and Optimism ○ Climate Rising ○ Imagining Tomorrow ○ The Climate Briefing ○ Jane Goodall's Hopecast ○ NASA's Curious Universe ○ Sustainababble
Watched a TED Lecture on…	○ Michael Shellenberger: How fear of nuclear power is hurting the environment | TED Talk ○ Lessons Worth Sharing | TED-Ed – lots of videos in one place!
Read a book about…	○ Find an environment- based book and read it… ○ Or you can read one of these books that we recommend: 

Bring this sheet with you to your first Environmental Science Lesson in September

TOPIC 2 – The Living Environment

You will learn about the interaction of living organisms with each other and their surrounding environment, and how an understanding of this can inform decisions that lead to sustainable human activities such as conservation strategies. You will apply your understanding of these interactions in a wide range of contexts such as a British Woodland or even Antarctica.

1) TASK 1 Some key terms you will need to know: write out the word & definition + an example

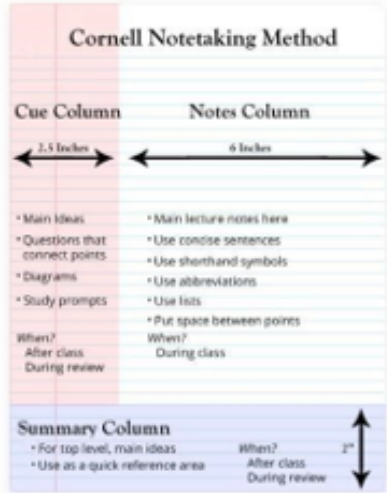
1	Biomimetics	
2	Vivilov Centres	
3	Crop Wild relatives	
4	Flagship Species	
5	EDGE Species	
6	Keystone Species	
7	Gene Pool	
8	Introduced/invasive species	
9	IUCN Red list	

TASK 2 – Reading skills

Read these 2 articles found through the weblinks on the crib sheet. For each one:

Summarise it using Cornell notetaking or through a mind map or a series of bullet points. Always write down the source, date, title and author of the article.

Cornell Note-Taking: A Quick Guide & Free Templates



TASK 3: Writing skills

Now answer the question:

How will the conservation of species and ecosystems benefit people?

You can present this through 500 words that can be written or typed.

Any Questions?

Quick WB Quiz

What term describes all the organisms living together in an ecosystem?

Quick WB Quiz

What is the name for the place where an organism lives?

Quick WB Quiz

What does the term biodiversity mean?

Quick WB Quiz

Name one abiotic factor that affects organisms in the ocean

Quick WB Quiz

Name one biotic factor that affects organisms in the ocean

Quick WB Quiz

Name one greenhouse gas

Quick WB Quiz

Name one human activity that reduces biodiversity

Quick WB Quiz

Name one renewable energy resource

Quick WB Quiz

What unit is energy measured in?

Quick WB Quiz

What is meant by extinction?