

Fieldwork in the Forest

Resources for teaching Geography in Secondary Schools (England)

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Education and Skills Conference



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wood



science



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forestry

education

TIMBER!



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Why is there a need for resources for teaching about British woodlands and forestry at secondary level?

rain forest in Brazil 😊



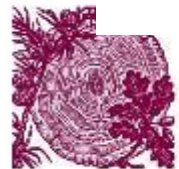
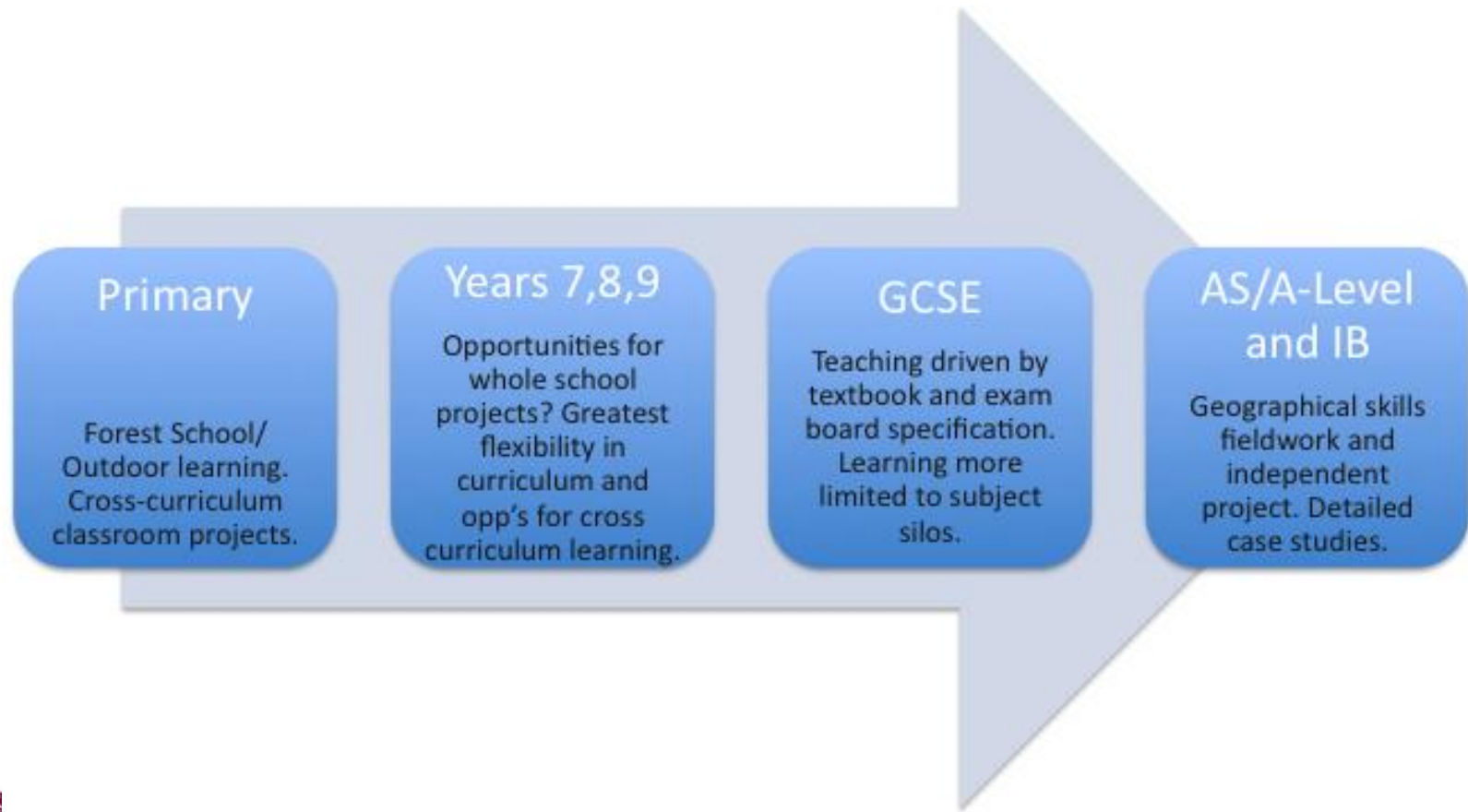
oak woodland in UK ☹️



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The opportunities to maintain and increase forest education vary at different ages and stages in schools in England:



What opportunities are there for forest education in England's secondary school curriculum?

- Research into the curriculum process in 2014 concluded we cannot change subject content until DfE changes it again.
- Teachers were consulted in 2015 and identified opportunities for forest education.
- Geography was chosen as a subject with the most opportunities.



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What are the opportunities for forest education in the new Geography GCSE and A Level in England?

GCSE

Practical: 2 fieldwork days in contrasting environments (eg one rural and one urban)

- exploring physical and human processes and the interactions between them.
- collecting primary physical and human data

Theory: Pupils assessed on their fieldwork experience in the GCSE exam. 15% of the total assessment weighting will be on fieldwork:

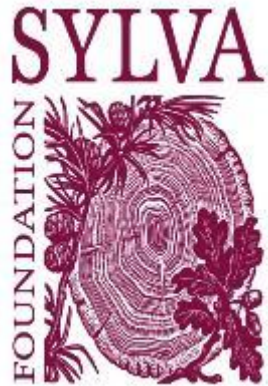
- 5% fieldwork skills and 10% fieldwork application

A Level

- The A Level **independent investigation is 20%** of the final A Level mark.
- AS and A level specifications require students to **undertake 2 days of fieldwork at AS, and 4 days of fieldwork for A level.**

A Level fieldwork demands a high degree of responsibility from students for **selecting research questions**, applying relevant techniques and skills, and identifying appropriate ways of analysing and communicating findings.





'Planning Geography Fieldwork' For Secondary Geography PGCE Interns

Tuesday 24th October 2017
at Combe Mill, Blenheim Estate



*Supported by individuals and organisations in the Evenlode
Catchment Partnership:*

ATKINS



Wild 
Oxfordshire



Teacher training pilots from 2015-2017 identified three challenges to Geography fieldwork in forests:

1. Access to local woodlands

- How can teachers find them? Permissions, access, health and safety, support of an 'expert'

2. Resources and fieldwork methodology

- There are a lack of resources on British woodlands at secondary level and forest fieldwork methodology

3. Training CPD and PGCE

- Some trainee teachers have not been in the woods! Need practical confidence and knowledge of them.



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Challenge 1. Access to local woodlands

How can teachers find local woodlands? Gaining permission, access and support.

- Large landowners may develop secondary school programmes eg Blenheim Estate...a friendly forester!
- Small woodland owners can let their local schools know their woodlands are available.
- Schools can contact organisations and charities like many of us here today.



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Challenge 1. continued Access to local woodlands

Health and safety considerations

- Tree safety checks
- Risk assessments
- Emergency procedures
- First Aid kits
- Insurance
- Safeguarding young people



LDA Lyme Disease Action
www.LymeDiseaseAction.org.uk

Wat ch out ! Ticks about !

risk zones

- Woods
- Long grass
- Undergrowth
- Moors and heaths

—across the UK – towns and country

Ticks are larger after feeding. Before that they can be as small as a full stop on this page.

Tick removal

- Do it as soon as possible
- **DO NOT** squish the tick or apply any creams, oils or heat to the tick (if you put a tick under pressure, you may pump its saliva and stomach contents into you!)
- Use a **tick removal tool** to ensure you remove all the tick.
- Dispose of the tick down the sink, avoiding getting any tick fluids on bare skin
- Remember if you have been bitten and see your doctor if you develop symptoms

Lyme disease

Some ticks carry Lyme disease and they can inject the bacteria into you when they take a meal of blood.

Symptoms may appear between 2 and 30 days after the bite and include

- Feeling unwell with 'flu-like symptoms
- Extreme fatigue
- Muscle, tendon or joint pain
- Muscle weakness
- Stiff neck
- Headache
- Disturbances of sight, hearing, digestive system or sleep
- A 'Bull's eye' rash. If you get a rash, photograph it for a record

Lyme disease is treatable with antibiotics: the sooner the better.

Stay safe

- Keep your legs and arms covered
- Try not to brush against vegetation
- Wear light clothing: ticks are easier to spot
- Check each others' skin for ticks after a walk: tick bites are painless and can go unnoticed
- Buy a tick remover from LDA, vet or pet shop

Lyme Disease Action
PO Box 235, Penryn, Cornwall TR10 8WZ, UK
Registered in England
Charity Number: 1150448, Company Number: 4839410

For more information and tick removers visit
www.LymeDiseaseAction.org.uk



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Challenge 2. Resources and fieldwork methodology for forests and woodlands

- Forest education resources and websites are listed on Sylva's TIMBER! directory
- Fieldwork methods to be launched in October 2018
- Field Studies Council has excellent identification materials for animals and plants.

Directory

Welcome to the directory which can help you find more resources on the topics of trees, woodland, forests, wood products and timber both in the UK and internationally. These resources are produced by other organisations and their websites are included. If you know of, or have, a resource that you think would be useful to include here please contact us.

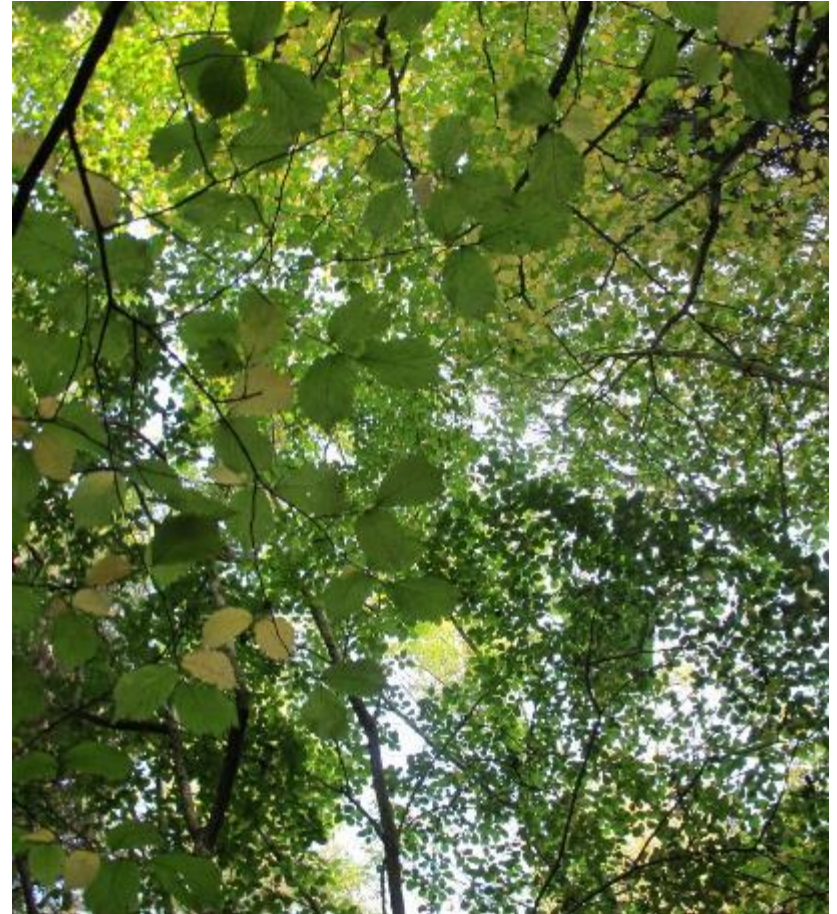
Resource	Organisation	Content/Key Stage
Forests for the Future	Crown Estate and partners supported by the Crown Estate and written by Waiselin Abanador, Forestry Commission, the Sylva Foundation and the Natural Route.	Key Stage 2 but the content can be used for KS3/PS4 A resource investigating trees, forests and climate change. Unit 1 contains information, activities, films, links and resources on sustainable forest management in the UK, and the many ways our woodlands and forests benefit us. Units 1-7 look at wider forestry issues of carbon, climate, renewable energy, materials.
Forest Education Network resources page	Forest Education Network (FEN) hosted by Council for Learning Outside the Classroom	Early Years Foundation Stage and Key stages 1 - 5 Forest education resources and links shared by many organisations and practitioners. Join the Forest Education Network and receive the regular FEN bulletin to keep up to date with events, resources and news across England.
Forestry Facts and Figures 2015	Forestry Commission	Key Stages 3-5 An annual publication giving an overview of UK forestry statistics such as forest industry employment, rotation to forests, planting and production in UK, comparisons with other countries, an annual archive of facts and figures back to 2000.
Learning in your Forest	Forestry Commission England	Early Years Foundation Stage and Key Stages 1, 2 and 3 Free downloadable lesson plans, resources and activity mats for schools and groups within forests.



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Fieldwork in the Forest example investigation: What is the impact of two different woodland management regimes on biodiversity?



Surveying invertebrates on the ground

Equipment

- Quadrats
- ID resources
- Map of site
- Tape measure

Method

- Random throws of quadrat
- Transect using tape measure and quadrat at intervals
- Find invertebrates within quadrat
- ID by name or type
- Tally and get an average per woodland



Surveying invertebrates living in the trees

Equipment:

- A stick!
- A white cloth
- ID resources

How:

- Tap tree branches
- Collect fallen invertebrates
- ID by name or type
- Tally to get an average per woodland
- Survey in same places as quadrats



Surveying ground flora

Equipment

- Quadrat
- ID resources

How:

- Percentage cover of plants by type
- Presence/absence of certain species
- Random or transect



Survey of tree canopy and light

Equipment

- Quadrat
- Tape measure
- Light meter

How

- Hold quadrat above head and estimate % canopy cover or light
- Light meter for more accurate readings
- Survey in same place as invert and plant quadrats/transects



Forestry methods: tree height, DBH, canopy area

Equipment

- Tape measure
- Clinometer
- DBH tapes

How

- Tree height trigonometry method
- DBH using tape
- Canopy mapping using measurements from trunk out to furthest branch
- In same places as other surveys



Challenge 3: Training and CPD for PGCE

Get trainee teachers into the woods!

- Training gives them confidence to go into woodlands.
- They learn about forestry and woodlands, and experience the potential of them for learning.



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Feedback

From the PGCE interns:

“I never knew there was so much geography in forests!”

“I hadn’t done this type of fieldwork before with trees – I enjoyed myself and remembered how fun fieldwork is”

“this was great, very interesting to be in a woodland and I learnt some very valuable techniques”

From the PGCE Tutor:

“The teachers were really interested in the techniques and possibilities and it was a brilliant opportunity for them to see what it might be like out in the field with a class.

Some of them have not done river or forest fieldwork before and the chance to have specialists talking through the investigation options and techniques was very beneficial for them.”



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What can we do as a sector? Suggestions for the Forestry Skills Action plan process.

- Open up our woodlands to secondary schools for fieldwork
- Give talks to secondary schools in classroom or in forests
- Mentor A Level students doing independent investigations on real life forestry issues
- Explore the other routes to engagement:
 - Vocational courses
 - Extra curricular activities
- Engage with national teaching bodies eg Geographical Association who are involved in curriculum development



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