



Crushing mineral samples prior to chemical analysis

Ecton Hill Field Studies Association
is offering an unusual and exciting opportunity for a

**One-Day INDUCTION Course for
Science Teachers at the
Ecton Copper Mine**

Priority given to science teachers who have not
experienced a day at Ecton before!

Teachers are welcome to visit this historic site in the Peak
District by prior arrangement. For information about
EHFSA courses, including optional activities, visit the
EHFSA website at www.ectonhillfsa.org.uk.
Enquiries about induction days to Eileen Barrett at
Eileen1Barrett@aol.com



Inspecting minerals in place inside the mine



*View of Ecton Hill. The Education Centre is situated next to the
prominent building to the right of centre of the picture.*

Who we are: EHFSA is a voluntary association providing motivating courses led by enthusiastic volunteer science teachers, both serving and retired. All hold current enhanced CRB clearance.

What we do: our one-day courses, aimed at motivating students through use of the context of a historic copper mine, are run from March to October, and are matched to GCSE and A level specifications. The copper mine is used to bring to life a variety of chemical, physical and geological topics in an exciting and memorable experience for students. Practical work out-of-doors is a feature of all courses.

Courses are aimed at A level and GCSE students, particularly in Chemistry and Geology, and we offer courses and visits for school pupils including Primary schools. More details of our courses will be available on the Teachers' Course.

What does a student course cost? £10 per student for a one day course, and £5 for a half day school visit. (Charges help to cover course/visit running costs).

Why is Ecton so important and historic? The historic copper mines, now owned by the Ecton Mine Educational Trust, made and lost fortunes for their owners. In the late 18th century, when owned by the Duke of Devonshire, this was probably the largest copper mine in Europe, and in the forefront of mining technology. Many famous scientists and engineers have links to Ecton – James Watt and Matthew Boulton provided the steam engine, Joseph Banks found new life forms in the depths of the mine, and Adam Sedgwick much admired the minerals collected by the mine manager! Learn more on the day!

Where we are: The G A Cox Educational Centre is situated at Ecton, in the Manifold Valley, in the Staffordshire Peak District., near the villages of Warslow and Hartington. For a general map showing roads to Ecton, go to our website: www.ectonhillfsa.org.uk ; a link to a more detailed 'Google' map is also given there. Parking is available in the lay-by at the side of the road, from where it is a short walk up to the Centre – follow the nearby track up the hill to the Centre, which lies just beyond the building with the copper spire.

Course details

The course will introduce local science teachers to a wealth of field opportunities for teaching chemistry, and geology topics at GCSE and A level, and how courses for students provided by EHFSA tutors at Ecton make use of some of these.

Clothing: sensible outdoor clothing, warm enough for an underground visit, temperature 11°C, waterproofs in case of wet weather. Substantial footwear for rough walking is essential – the walk up the hill is NOT safe in shoes or fashion trainers.

Lunch: bring a packed lunch; tea and coffee are supplied.

Outline: the day will include:

- a tour of the surface features of the mining activity, linked to topics such as the use of energy resources, water, environmental chemistry, and explosives!
- simple chemical analysis of minerals
- geological processes, mineralisation and investigation of some classic fold structures
- an underground visit into an early 19th century tramping level, linked to topics such as limestone chemistry and science and technology in a historical context.