

Science

- **Physics, Geography, and Sustainable Development** students have a good range of options for studying energy in Cumbria. Many students have used our small scale hydro-electric scheme as a case study, comparing renewable energy schemes with the non-renewable schemes of past and present (such as coal mining in Cumbria). The west coast of Cumbria is associated with nuclear power, with a large nuclear re-processing plant at Sellafield, but many other areas of Cumbria have been drawn into debates about storing nuclear waste. On a clear day, from the DIH terrace you can see the 8 wind turbines at Bothel. There are also large wind farms in the Barrow and Walney areas of south/south west Cumbria. There are lots of newspaper articles from 2013 about plans for the world's largest wind farm in Cumbria:
<http://www.telegraph.co.uk/earth/energy/windpower/9924233/Plans-for-worlds-largest-wind-farm-in-Cumbria.html>
- The Master Plan for West Cumbria is entitled *Britain's Energy Coast*. You can read the executive summary of the plan here:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/66717/3956211546.pdf
- If you would like a group tour of our hydro-electric scheme, please enquire in advance of your visit. The tour does not last more than 1 hour. We also have some information boards about the hydro-electric scheme, and a page of information on our website. The Blencathra Centre (3 miles east of Keswick, in Threlkeld) is powered entirely by a new hydro-electric plant and it may be possible to include this in a wider case study of hydro-power/renewable energy.
- Using our grounds, the hills, the lake, and adventurous activities, **Human Biology**, and **Sport and Exercise Science** students have a wealth of different study options.
- DIH is an excellent location for **Astronomy** studies. We have hosted school Astronomy workshops for many years, with professional Astronomers providing excellent tuition, equipment, and an inflatable indoor planetarium. Appleby Grammar School has visited DIH for several 2-day Astronomy master-classes with their Year 10 Physics students. The expert tuition and equipment is provided by <http://www.stardomeplanetarium.co.uk/>
- Our grounds provide a great starting point for studying plants, birds, and mini-beasts: we have Field Studies Council identification cards that you can borrow.
- Our *Flora of the Fells* guides are a useful resource for studying the plant-life of the local area, allowing you to compare the flora at different altitudes and aspects.
- Year 12 and 13 **Chemistry** groups staying at DIH have been on tours of Jennings Brewery: <http://www.jenningsbrewery.co.uk/tours/Default.aspx> Jennings Brewery is located in Cockermouth, about a 15 mile drive from DIH.
- Whinlatter Forest, owned by the Forestry Commission, offers excellent resources and workshops for Science topics. It is a 7 mile drive from the hostel. <http://www.forestry.gov.uk/forestry/infd-7cmgw6>.
- [Low Bridge End Farm](#), located in St John's in the Vale, is a Higher Level Stewardship farm, with a range of different habitats and numerous learning opportunities. As part of the Higher Level Stewardship scheme the farm offers free educational visits for groups of over 6 people. Visiting groups have

studied a range of subjects at the farm, from river ecology and forestry to animal husbandry and flood management. The farm is an 8 mile drive from DIH, or a 2-3 hour walk.

- Borrowdale and the local area are interesting places to study **weather and climate**, with the weather varying considerably along the Borrowdale Valley. [Low Bridge End Farm](#) provides an interesting case study of the effects of flooding, while Keswick School and local primary schools have weather stations with online data: <http://www.keswickweather.co.uk/>. These weather stations are part of the Keswick School Science Specialist Status programme.



A map of the local school weather station locations

- History of Science** in and around Keswick: in 1772 Benjamin Franklin and Brownrigg discovered that stormy water on Derwent Water could be calmed by pouring oil on to it.

Peter Crosthwaite, an ex-naval officer with a great interest in Science, opened a museum in Keswick in 1781. Crosthwaite was friends with the scientist John Dalton, and together they carried out experiments, such as the one explained in the journal for The Society of the History of Alchemy and Chemistry: <http://www.ingentaconnect.com/content/maney/amb/1991/00000038/00000001/art00002>.

There are some interesting science-related curiosities at Keswick Museum and Art Gallery on Station Road.

- Applied science: cutting edge science is being used to treat water at Force Crag Mine. [Force Crag Mine](#), now owned by the National Trust, was worked for zinc, lead and barytes from 1835 to 1991. It is located in Coledale, accessible from the village of Braithwaite (5 mile drive from the hostel). Subject to availability on specific dates, National Trust-led tours of the mine area can be arranged. Read about it here: <http://www.nationaltrust.org.uk/borrowdale/things-to-see-and-do/article-1355803983808/>