



School resources

These free resources enable KS2 teachers to link the Blackdown Hills' heritage of iron working to wider learning about British history, technology, science and geography and to use the topic as a cross-curricular theme, for example in English, maths and art.

The topic covers four key historical periods: Iron Age; Roman Britain; late Anglo-Saxon/early Medieval; and modern day archaeology. For each period we have suggested one way to plan a lesson and highlighted curriculum areas to which it could be linked.

The online resources include four short, light-hearted films to show in class. Each film was written, acted and produced by children at All Saints Primary School near Axminster as part of the Blackdowns Metal Makers project in 2015.

Lesson 1 - Iron Age technology

Key learning

Everything needed to make iron (clay, wood and iron ore) can be found right here in the Blackdown Hills.

The unusual geology of the Blackdown Hills created a landscape that provided everything necessary to produce iron in close proximity, making it a centre for iron production. Iron ore is found in the ground, but also clay which is needed to build furnaces. Local woodland provided wood for charcoal, to heat the furnaces.

We think that iron smelters worked close to the raw materials, probably away from settlements as it was dirty, smoky work. Iron ore dug from the ground was heated in clay furnaces to 1250 degrees centigrade, at which point it coagulated into a 'bloom' of metal which could later be reheated and beaten into shape.

Background

For more in-depth information on the iron working process, see:

- Ancient iron working fact sheet <http://tinyurl.com/ktk8m56>
- Meeting the Blackdowns Metal Makers film <http://tinyurl.com/ksdu8xb>

Online film sketch

Iron Age Cookery Show – a fun look at how to make iron in the format of a modern cookery TV show. Watch our two Iron Age presenters 'cooking' iron in a miniature furnace.

Lesson idea

Cross curricular – English/history/geography/science

Writing instructions for making iron

- Video clip - Are these a good set of instructions? Why? (Book talk)
- Grammar and Punctuation:
- Revise the function of a verb. Retell the video asking the children to do an action every time they hear a verb. List them.
- Introduce the term command and explain that when we write a command it comes first in the sentence. Give some commands to the children and ask them to follow exactly. In pairs, children give each other commands to take their jumper or shoes and socks off.
- Are all the verbs at the beginning of the sentences in the instructions?
- What comes before them? Put the words on cards (lightly, firmly but gently, now) and ask the children what they notice about them? What other words do they know like this? Give the children three headings how, when, where and ask the children to put the words under the correct heading. So what is the job of these words? Explain that they tell us how to do the verb.
- Focus on the time connectives needed.
- Write the instructions.
- Model writing the text over three sessions – opening and ingredients, setting the scene and the instructions. Focus on the elements of the must, should and could through shared and guided work. Encourage more able writers to add extra ideas. The instructions could be extended to an explanation and would create a hybrid text.
- Children read their work in pairs, discussing how effective the instructions are.
- Model making improvements.
- Proof-read instructions for punctuation and spelling.
- Present instructions to make a little booklet .

With thanks to Rob Giffard at All Saints Church of England Primary School near Axminster

You will need

- Internet access

Curriculum areas

KS2 English

- Discussing writing similar to that which they are planning to write
- Discussing and recording ideas
- In non-narrative material, using simple organisational devices
- Using conjunctions adverbs and prepositions to express time and cause

KS2 History

- Changes in Britain from the Stone Age to the Iron Age
- A local history study

KS2 Geography

- Human geography including the distribution of natural resources including minerals
- Basic geographical vocabulary and key physical features

Science LKS2 (Yr 3)

- Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. (Statutory)
- Explore different kinds of rocks and soils, including those in the local environment. (Non-statutory)

Extension activities

- Handling samples of clay, iron ore and charcoal
- Visiting an Iron Age hill fort in the Blackdown Hills (see places to visit leaflet on website)
- Group art work: give each small group a giant piece of paper and art/collage materials. Ask them to collaborate to create a picture of a perfect iron-producing landscape using the following three pieces of information. Compare the finished pieces of art with each other and with photographs of the Blackdown Hills.
 - To make iron, you need to find a naturally-occurring source of iron ore in the rocks. In this area, the iron ore that we know about it is found on the tops of hills.
 - You need to build your furnace from clay. Where rainwater meets a band of clay it will spring from the hillside and create streams and valleys - good places to look for clay.
 - To make your furnace hot enough, you need plenty of charcoal. You need lots of wood to make charcoal, so look for somewhere your wood supply won't run out.

See our website for more lesson ideas in this series:

Roman-British iron trade / Medieval Blackdowns blacksmiths / Archaeology today

www.blackdownhillsaonb.org.uk/metal-makers

Useful contacts

Blackdown Hills Area of Outstanding Natural Beauty (AONB) team

For information about all aspects of visiting and understanding the area.

See: www.blackdownhillsaonb.org.uk

The Carousel Project

Exeter-based social enterprise bringing creative learning, new experiences and outdoor adventure to early years children & their families. See: www.thecarouselproject.org.uk

South West Heritage Trust learning team

Loans for Learning and other education services for schools. See: www.swheritage.org.uk

This resource was produced in 2015 as part of *Blackdowns Metal Makers*, led by The Carousel Project and funded by the Heritage Lottery Fund and the Blackdown Hills AONB Partnership.