

The wonders of STEAM

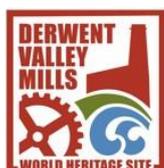
A Teachers Guide for a KS2 pick and mix day of self-led and guided activities along Cromford Canal and at High Peak Junction



This inspiring STEAM themed day allows your pupils to discover the history, engineering and science behind the world's first long distance horse drawn railway. There are opportunities to take a ride on an historic narrow boat and to explore High Peak Junction, one of the oldest remaining railway workshops in the world.

Sitting within the Derwent Valley Mills World Heritage Site the northern part of Cromford Canal near to Cromford Mills has so much to offer you and your class.

This guide aims to give you a sample 'timetable' for a day's visit with suggested activities either self-led or with a third party provider. Where the activities are self-led we have given basic information to help with planning in addition to the downloadable 'Activity Guides' and resources needed to complete them, where the activity is provided by a third party, we have included brief descriptions of the suggested activity along with contact details and prices, where applicable.



Sample timetable for a day visit

This guide has brought together a selection of activities that we believe will make the most out of a visit to this special place.

All the activities are designed to be mixed and matched and could fit into 1 hour sessions and 3 sessions would fit into the sample timetable below.

10.00	Arrive at Cromford Wharf or High Peak Junction (public toilets are available at both sites)
10.15	Session 1
11.15	Break at High Peak Junction (toilets, picnic facilities and limited indoor space available)
11.30	Session 2
12.30	Lunch at High Peak Junction (toilets, picnic facilities and limited indoor space available)
1.15	Session 3
2.15	Conclude the day and prepare to leave
2.30	Depart Cromford Wharf or High Peak Junction

Getting to and from Cromford Canal or High Peak Junction

There is a great opportunity to travel either to or from Cromford Canal by train as Cromford Railway Station is only a short 10-15 minute walk from Cromford Canal Wharf.

Alternatively, there is a large car park suitable for coaches at Cromford Canal Wharf and another car park within 5 minutes walk from High Peak Junction.

For information about train opportunities including discounted group rates and this great Activity Book follow this link



<https://www.eastmidlandsrailway.co.uk/routes-destinations/community-rail-lines/derwent-valley-line>

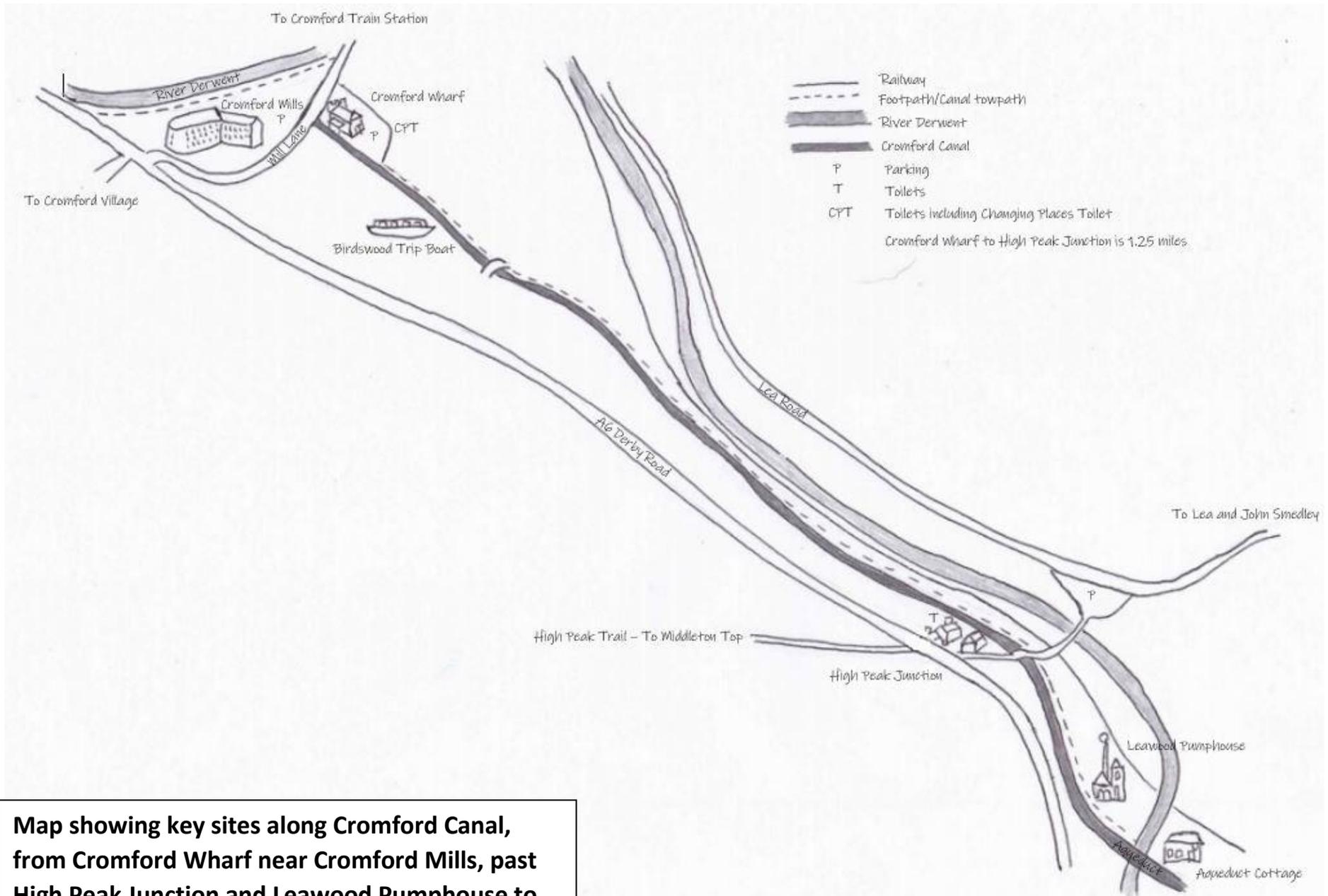
About the sites

Birdswood Historic Canal Boat is a 72ft long narrow boat that is fully insured for 40 passengers and is ideal for carrying a full class of pupils and their accompanying adults.

High Peak Junction Workshops were built in 1825 to serve the Cromford and High Peak Railway, the buildings were last used in 1967. They have been preserved in their original state and have lots to offer the inquisitive visitor, including a working forge.

Cromford Canal was built in 1794 and was once a buzzing transport hub of Derbyshire, its construction displayed many feats of engineering and hydraulics. These days it's more known for its picturesque walks along the towpath where there is a wide range of wildlife, including water voles, ducks and dragonflies.

Leewood Pumphouse was built in 1849 to top up the canal with water from the River Derwent following a water shortage in 1844. The restored steam engine can lift 4 tonnes of water each minute up to a height of 30 metres. There are 'in steam' days open to the public throughout the year.



Map showing key sites along Cromford Canal, from Cromford Wharf near Cromford Mills, past High Peak Junction and Leawood Pumphouse to Aqueduct Cottage

General Activity Ideas and Information

Birdswood Historic Canal Boat		
Activity - A guided canal boat trip.	Contact / Booking details	Cost
A magical and exciting opportunity for all, take Birdswood from Cromford Wharf to its turning point at Leawood Pump House, a short walk from High Peak Junction (it is also possible do the journey in reverse). Many aspects of the National Curriculum can be covered during the trip, the focus of which can be discussed on booking.	https://www.birdswood.org/	On request
High Peak Junction		
Activity - Self-led variety to choose from.	Contact / Booking details	Cost
Choose from a selection of activities to make the most of your time here; from discovering the everyday science that made the Railway function, to using photography as an art form or how about completing a practical scientific investigation. See below for more information.	To book the resource box and / or to notify of your planned visit contact: dvmwhs@derbyshire.gov.uk	Free
Activity - A guided firing up of The Forge and the making of a class poker.	Contact / Booking details	Cost
Have-a-go at being a blacksmith on the historic forge and make a class poker to take back to school and keep.	Mark.Brailsford@derbyshire.gov.uk	£144
Cromford Canal		
Activity - Self-led 'engineers' walk along Cromford Canal.	Contact / Booking details	Cost
Take a walk from High Peak Junction to Aqueduct Cottage and back (3/4 mile). Pause to discuss and learn about engineering wonders along the way. See below for more information.	To book the resource box and / or to notify of your planned visit contact: dvmwhs@derbyshire.gov.uk	Free
Leawood Pumphouse		
Activity – Self-led 3D sketching.	Contact / Booking details	Cost
Learn about and use top tips to make a 3D sketch of Leawood Pumphouse. See below for more information.	To book the resource box and / or to notify of your planned visit contact: dvmwhs@derbyshire.gov.uk	Free

Self-led activity ideas for High Peak Junction

The activity ideas below have been designed to complement each other and can be mixed and matched, lengthened or shortened to suit the needs of your group.

There are detailed downloadable 'Activity Guides' with associated resources for each activity. A resource box containing laminated copies of the 'Activity Guides' and most resources needed to complete the activities is available to borrow from High Peak Junction (HPJ). It is indicated where you need to bring additional equipment or resources from school to complete the activities.

Activity	Purpose	Time	Resources
Investigate science in action	To practically carry out an investigation into how the wagons were counter balanced and hauled up and lowered down the inclines.	30 mins	<ul style="list-style-type: none"> Experiment box
Science Spotters	To learn about the different aspects of science focussing on everyday materials, sound, states of matter and forces that were being used to make the Cromford and High Peak Railway function.	45 mins	<ul style="list-style-type: none"> Recording sheets printed in advance with clip board and pencil for each (from school) Set of supporting old photos
Industrial Art	To use photography to capture the bygone industry of High Peak Junction. An activity that could lead to the making and curating of an art gallery back at school.	30 mins	<ul style="list-style-type: none"> Digital cameras or tablets (from school) Various photo examples

Self-led activity ideas for Cromford Canal

There is a detailed downloadable 'Activity Guide' with associated resources for this activity. A resource box containing laminated copies of the 'Activity Guide' and most resources needed to complete the activity is available to borrow from High Peak Junction (HPJ). It is indicated where you need to bring additional equipment or resources from school to complete the activities.

Activity	Purpose	Time	Resources
Transport Engineers	To understand that engineers use their skills to design and make everything from complex machinery to large structures. On this walk from High Peak Junction to Aqueduct Cottage and back you will discover amazing engineering, including Leewood Pumphouse, Cromford Canal aqueduct where the canal crosses the river Derwent, small moveable swing bridges and a huge metal railway bridge which crosses the river Derwent. At these different places there is the opportunity to	60 mins	<ul style="list-style-type: none"> Digital cameras or tablets (from school) 'Engineers guide' and map 'How to Brace a Square' kit

	discuss some of the science behind the different structures.		
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Self-led activity ideas for Leawood Pumphouse

There is a detailed downloadable 'Activity Guide' with associated resources for this activity. A resource box containing laminated copies of the 'Activity Guide' and most resources needed to complete the activity is available to borrow from High Peak Junction (HPJ). It is indicated where you need to bring additional equipment or resources from school to complete the activities.

Activity	Purpose	Time	Resources
3D Sketching	By breaking down a complex building into simple shapes pupils can follow a step by step guide on how to make a 3D sketch of Leawood Pumphouse.	30 mins	<ul style="list-style-type: none"> • Clip board, plain paper and pencil for each pupil (from School) • Laminated step by step example sheets

Additional resources and useful websites

[Leawood Pumphouse - Derbyshire County Council](#)

[High Peak Junction Visitor Centre - Derbyshire County Council](#)

[Cromford Canal - Derbyshire County Council](#)

[Home - Derwent Valley Mills](#)

[Birdswood Historic Canal Boat, Cromford Canal, Matlock, Derbyshire](#)

Books available from Birdswood shop,

[Products Shop | Birdswood](#)

