



FENISCOWLES PRIMARY SCHOOL

Striving for Excellence

Why was Feniscowles once world famous for making long elephants?

Medium Term Plan - Summer Term

Key Question:

Why was Feniscowles once world famous for making long elephants?

Learning objectives

During the enquiry pupils will:

- Using a range of sources identify and describe what used to happen at the Star Mill factory in Feniscowles.
- Explain why the local rock and nearby canal and railway station were important reasons why the Star Paper Mill was built in Feniscowles.
- Explain what has happened to Star Mill and the railway station in recent years.
- Through fieldwork identify, record, describe and explain what evidence of Star Mill, its canal workings and the railway remains in Feniscowles.

Important vocabulary

Factory, mill, manufacturing, sources, location, site, canal, annotate, canal, barge, reservoir, stream, river, smoke stack, raw material, traction engine, machinery, unpolluted, millstone grit, quarry, boiler, pressurised, adjacent, esparto, bleached, wood pulp, bale, conveyor, steam engine, furnace, transport, goods, docks, hauled, tow path, siding, viaduct, filter, aerial, satellite, wharf.

History National Curriculum Coverage

Pupils should be taught about:

- a local history study

Examples (non-statutory)

a study of an aspect of history or a site dating from a period beyond 1066 that is significant in the locality.

Connections to the subject content of other curriculum areas

Geography

Geographical skills and fieldwork

- use maps, atlases, globes and digital/computer mapping
- use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world
- use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.

Learning and teaching activities

Ancillary Question 1: What used to happen at the Star Mill factory?

Explain to the children that in the past there used to be a very large factory in Feniscowles where at one hundreds of local people used to work. It was located not very far from the school. Explore with the pupils what they understand a factory to be and what happens in one? Are there any factories in Feniscowles today? A factory is a building or a group of buildings where goods (items and products that we use in everyday life) are manufactured (made) or assembled (put together). The factory was called Star Mill and it was built in 1875 and closed in 2008 after which it was demolished and so no longer exists. All we have left is a range of sources or evidence including photographs and oral and written accounts produced in the past from which we can find out what went on there. The factory was famous all around the country for manufacturing the best long elephants anywhere. What could a long elephant be?

Divide the children into pairs and give each a copy of the photograph of Star Mill taken in 1961 in **Resource 1**. Encourage them to identify and describe as many features of the factory buildings and the surrounding area as possible and begin to suggest reasons for what their purpose may have been. The pupils can now stick the photograph into the middle of a larger A3 piece of plain paper and annotate (join up with arrows from around the edge of the image) the following labels:

- Long narrow factory buildings.
- Chimney.
- Woodland screening the factory.
- Canal
- Canal barge
- Lower reservoir (artificial lake used as a source of water supply).

- Housing.

Draw the attention of the pupils, if they haven't already noticed, to what appears to be a small bridge across the canal and the smaller rectangular building beyond it on the left bank of the canal. What purpose might these have served?

Encourage discussion with the pupils as to what they think the Star Mill factory might have been used for. What clues might there be:

- What does the smoke stack chimney suggest is happening at the factory – something being burnt to create the smoke?
- Why might a supply of water be needed?
- What role could the canal and barges have played – what might the barges have brought to and carried away from the factory?
- What could have been manufactured that needed such long narrow factory buildings?
- Who might have lived in the surrounding areas of housing?

Develop thinking amongst the pupils by next giving out sets of the images of the factory and its outbuildings in **Resource 2**. All of these were taken over a hundred years ago. Things to consider and questions to ask perhaps:

- Why was so much coal and water needed at the factory – we now know that there was a second larger reservoir supplying the factory as well?
- What is being burnt to create so much smoke from the chimney?
- If the coal was being burnt to create heat, then what for?
- Why has the chimney been built so high?
- What was a traction engine and how did it work?

Finally tell the pupils that they are now going to look at some very old photographs (again taken over 100 years ago **Resource 3**) of the inside of the factory. Most of the pictures show machinery manufacturing something. Is it possible to work out what is being made? The last photograph in **Resource 4** tells all!

Background notes

The Star Paper Mill at Feniscowles opened in 1875. It was supplied with water from a large reservoir containing nearly 30 million litres, constructed above the mill at Withell from which water flowed down to by gravity via a tunnel. Unpolluted water, in this case running off of the millstone grit hills and collected in the reservoir, is essential for paper manufacture. A nearby millstone grit quarry supplied the stone for the mill and its outbuildings.

Burning coal (later in the 21st century replaced by oil) provided the heat that was used by the boilers to create pressurised steam that was then fed along a network of pipes to the engines driving the paper making machines. Coal was delivered by horse-drawn barges on the Leeds to Liverpool canal to a site adjacent to the mill close to Stanworth Bridge. Originally the coal was unloaded by shovel and wheelbarrow but in 1899 a steam driven dredger coal handling bucket grab with a one ton lifting capacity was installed to remove the coal from the barges. The coal was then placed into small trolleys running upon double tracks controlled by wire rope and brake pulleys which took it direct to the firing floor of the boiler house. The descending full trolleys of coal pulled the empty ones back up again.

For seventy years horse drawn lorries and carts carried finished paper to the railway goods yard at Feniscowles railway station, bringing back wood pulp which arrived in wired bales on the return journey. By 1896 two modern steam powered traction engines had replaced the horse drawn vehicles.

Originally the raw materials for making paper were cotton rags (waste from Lancashire cotton mills), straw and esparto grass (a coarse grass from Spain and North Africa). These raw materials had to be washed, bleached, boiled and beaten before paper making could begin, a process requiring huge quantities of water. However, in 1899 wood pulp was introduced and quickly replaced the original raw materials. As well as barges pulp bales also arrived at the mill by road and conveyor belts then took them to the pulper or 'beater'. Once wet and bleached the pulp could then be used by one of the many paper making machines at the mill.

At its peak in 1961 a staff of over 1000 were employed by Star Mill with most living locally and travelling to and from the factory either by bus or on foot. Star paper Mill was a leader in its field having at one time the widest and fastest paper machines in the world. These machines produced high quality newsprint paper, cartridge and packing papers and 'long elephants' the base paper for wallpaper printing.

Ancillary Question 2: Why was the local rock and nearby canal and railway station so important to Star Mill?

Divide the pupils into small groups and explain that there were three main reasons why Star Paper Mill was built in Feniscowles in 1875:

- The rock called Millstone Grit which forms the surrounding hills;
- The Liverpool to Leeds canal;
- Feniscowles railway station.

Now print off and distribute the sources of evidence to the groups in **Resource 5**, **Resource 6** and **Resource 7**. Can they discuss and agree amongst themselves why each of these three factors was so important? What did each of these things provide for the factory? It was essential to have very clean water in the process of making paper (otherwise the mill would have the expensive job of filtering it itself) and the millstone grit of the surrounding hills did this for them. What the mill did was to channel stream and river water into two reservoirs where it was constantly topped up for use in the factory. Barges on the Leeds to

Liverpool canal brought coal for the furnaces in the mill that heated the water to create the steam that powered the engines in the paper making machines. Goods trains from Feniscowles railway station then transported the finished paper away to customers in Britain and to the docks at Liverpool for distribution all over the world.

Activities linked to the sources

Using a copy of the Ordnance survey map from 1900 in **Resource 8** support the pupils to shade in the route taken by the traction engines carrying the finished paper from the mill to the railway station, reminding them of the visit report from 1907: *'The finished paper is taken out in the same way and hauled along an excellent private road across the Company's property to the main road, and thence to the Feniscowles railway station.'*

Provide the pupils with a piece of larger A3 and stick their map in the middle. Can the pupils now shade in and label with arrows from around the outside the following features:

- Star Paper Mill
- The upper and lower reservoirs
- The Leeds to Liverpool Canal and the towing path for the horses alongside it
- Original quarry for building stone (now overgrown with trees)
- Stanworth Bridge over the canal
- Railway line
- Feniscowles Station
- Goods shed at the railway station where the paper was stored if necessary, before collection by the goods trains
- Railway goods sidings.
- Railway viaduct over Livesey Branch Road
- River Roddlesworth
- Location of bucket crane for unloading coal barges (adjacent to Stamworth Bridge which can be seen in the background of the photograph of the empty coal barge in **Resource 7**)

What would the 'filter bed' at the mill have been used for? What does the word filter mean? This is where water polluted with chemicals such as bleach and chlorine during the paper making process was allowed to settle, so that after a time impurities could be removed before the water was released back into the River Roddlesworth.

The railway network map in **Resource 9** shows that Feniscowles Station was on the Cherry Tree to Chorley branch line of the Balckburn to Chorley railway and opened in 1869. How many different works and factories are named along the branch line? What would the goods trains have done when they reached each of these factories – either delivered raw materials the factories needed or taken away finished products for sale – just as at Star Mill.

Ancillary Question 3: What happened to Star Mill and the railway station?

Divide the pupils up into small groups and give each a set of images in **Resource 10**. This includes a base Ordnance Survey map of 1901 together with a sequence of *Google Earth* satellite photographs taken in 2000, 2009, 2017 and 2020. Encourage the pupils to scrutinise the map and images carefully and make a note of the changes they observe occurring over the years – not only what disappears but also things that appear. What remains constant and unchanged e.g. the canal, Stanworth Bridge, most of the woodland, the roads, part of the large reservoir? What are the main changes e.g. The Star Paper Mill and its outbuildings, the filter bed and small reservoir etc. And there is the new factory building which appears on the 2000 image but is not on the map and yet this factory changes again by 2009 and is in fact the only building remaining in 2020!

Resource 11 is a 1901 Ordnance Survey map of Feniscowles Station together with an aerial photograph of the station south of the viaduct over Livesey Branch Road that existed then, from 1962 and a Google Earth satellite image taken in 2020. Explain that a wharf is a place where a boat or barge can moor or tie up to load and unload. What clues are there on the map what the goods trains were bringing in to the station for the barges to load up and then take down the canal to Star Mill? In the aerial photograph of 1962 a barge can be seen beside the wharf together with a larger goods shed. By then the railway station had been closed for passengers since 1960 and then closed completely in 1966. Encourage the pupils to examine the 2020 satellite image carefully. Is there any evidence here of the railway station buildings, the viaduct over the road and the railway line itself? What has replaced the railway station and the wharves and goods buildings?

Ancillary Question 4: What evidence remains today of Star Mill, its canal workings and the railway?

Formative assessment to inform judgement against Lower Key Stage 2 performance descriptor

Ancillary Question	Learning objective	Evidence
1	Using a range of sources identify and describe what used to happen at the Star Mill factory in Feniscowles.	Discussion, feedback and summarising. Annotated 1901 OS Map.
2	Explain why the local rock and nearby canal and railway station were important reasons why the Star Paper Mill was built in Feniscowles.	Short piece of explanatory writing. Annotated 1901 OS Map.
3	Explain what has happened to Star Mill and the railway station in recent years.	Observation and discussion of a range of sources. Group summative bullet points on board.
4	Through fieldwork identify, record, describe and explain what evidence of Star Mill, its canal workings and the railway remains in Feniscowles.	Observation of pupil fieldwork and associated discussion. Photographs and labelled map. Class display. Short written report of fieldwork – objectives, methods used, findings etc.