

MALT EDUCATIONAL RESOURCES

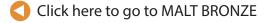
The MALT Trail and The MALT Experience in Halesworth is a fascinating subject for study, whether you're interested in local history, the development of industry in East Anglia or the history of the malting industry itself.

It is also a great subject for Key Stage 2 cross curriculum study – See separate 'EDUCATION – MALT CURRICULUM ACTIVITIES' Information.

We offer three levels of educational resources:

BRONZE

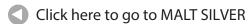
A selection of information sheets and sample activities down-loadable from our website free of charge



SILVER

A Guided Tour of the Halesworth MALT Trail and The MALT Experience (located at The Cut Arts Centre)

Perfect for groups interested in the local history of Halesworth and its maltings industry and an ideal subject for the Key Stage 2 History Curriculum requirement to teach a local history project; "a study of an aspect of history or a site dating from a period beyond 1066 that is significant in the locality".



GOLD

A fully interactive Day of Discovery based at The Cut Arts Centre

Perfect for groups interested in the local history of Halesworth and its maltings industry.

Designed to enhance the Key Stage 2 curriculum across a variety of subjects, to encourage hands-on learning and build confidence and communication skills.

Click here to go to MALT GOLD



We have put together some classroom based activities, linked to various aspects of the Key Stage 2 Curriculum in History, English, Science, Geography and Maths. All the information needed to complete these activities can be found on our separate 'Education – MALT Story' Information:

The MALT Story EDUCATIONAL ACTIVITIES FOR KEY STAGE 2

The MALT Story 1. BACKGROUND INFORMATION

The MALT Story 2. A SHORT HISTORY OF THE NEW CUT MALTINGS

The MALT Story 3. INSIDE THE NEW CUT MALTINGS

The MALT Story 4. THE MEN BEHIND THE MALT

The MALT Story 5. WEIGHTS & MEASURES

The MALT Story 6. MAPS

The MALT Story 7. GERMINATION JARS EXPERIMENT

The MALT Story 8. USEFUL LINKS

Scroll down for the resources.



MALT SAMPLE ACTIVITIES FOR KEY STAGE 2

There are many ways in which the story of the New Cut Maltings can be used to help to inspire and educate primary school children. Below are just a few sample activities that we hope you'll find useful. We've given examples of how they meet some of the core learning objectives of the Key Stage 2 curriculum, but these are just starting points, they're not exhaustive.

TASK	CORE LEARNING OBJECTIVE Taken from Key Stage 2 Curriculum			
BUILD A FACT FILE Read the Information Sheets and pull out the information you find the most interesting and relevant to build a FACT FILE about The New Cut Maltings. Your fact file should include key dates and why the building is significant both locally and nationally.	HISTORY Effectively using secondary evidence (core skill). Thoughtful selection and organisation of relevant historical information. ENGLISH Identifying main ideas drawn from more than 1 paragraph and summarising these. Retrieving and recording information from non-fiction.			
LETTER FROM A MALTSTER Imagine you work in the New Cut Maltings in the early 1900s. Write a letter to a friend or family member who lives away from Halesworth describing a day at work.	ENGLISH Identifying the audience for and purpose of the writing, selecting the appropriate form and using other similar writing as models for their own. Noting and developing initial ideas, drawing on reading and research where necessary.			
LOCATION, LOCATION Think about the location of the New Cut Maltings. What is it near? Why is this such a good location for a maltings? Draw a map or diagram that shows the different local features and how they are linked to the Maltings.	GEOGRAPHY Describe and understand key aspects of: human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water. 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 Communicate geographical information in a variety of ways, including through maps, numerical and quantitative skills and writing at length.			

TASK CORE LEARNING OBJECTIVE Taken from Key Stage 2 Curriculum **MALT ART ART & DESIGN** Create a drawing, painting or collage about Produce creative work, explore ideas and record malting - it might be a realistic sketch of experiences become proficient in drawing, one of the rooms or an 'abstract' piece of art painting, sculpture and other art, craft and reflecting the emotions and feelings associated design techniques. with working in a maltings. Think about the hard work involved and the environment of a maltings including the very high temperatures. For help visualising the layout of the building itself see the 3-D revolving image at https://vimeo.com/233853601 **MALT MATHS MATHS** Using the data in the Information Sheets solve Divide numbers up to 4 digits by a one-digit the following problems: number using the formal written method of short division and interpret remainders Four malt workers all work together and each appropriately for the context one carries one sack at a time; how many trips would each one have to make for them to fill Solve problems involving number up to three decimal places both the steeps at the New Cut Maltings? At its peak, if the New Cut Maltings produced Round any whole number to a required degree malt for 9 months of the year (being closed of accuracy during the Summer) and produced the same amount every month it was open, how many Interpret and present discrete and continuous "Quarters" of malt did it produce each month? data using appropriate graphical methods, including bar charts and time graphs. Rounding your answer to the nearest whole number, how many "Quarters" are in 3 tonnes of Barley? It took 12 hours for the maltsters to steadily fill a steep with 80 combs of Barley. The Barley remained in the steep for 72 hours before being released to be germinated. It took 3 hours to fully empty the steep. Create a line graph showing the movement of the Barley into and out of the steep. Create a line graph to show how the amount of malt transported by river and the 'Blyth Navigation' declined during the mid nineteenth

century.

Find the table which shows how much barley local parishes produced in the 1840s. Present this information in a graph. Think carefully about what sort of graph would be most effective.

TASK

CORE LEARNING OBJECTIVE

Taken from Key Stage 2 Curriculum

GERMINATION JARS

One of the key processes for the maltings industry is GERMINATION - which means the start of growth inside a grain or seed. Malsters had to monitor grains of barley and. To watch the process of germination create 'germination jars' (see separate instructions) and put them in different places around your class room. Each morning and afternoon record how the seeds are changing in each jar. Do some seeds change more quickly than others? Why might that be? Record your findings.

SCIENCE: Working Scientifically (core skill) Living Things:

Observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests. Setting up simple practical enquiries, comparative and fair tests. Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

CHANGING TIMES

The site of the New Cut Maltings has gone through a lot of changes. Can you find out what was there before the current building? What about before that? Present the history of the site in a timeline, showing the most important dates and events. Use diagrams or pictures to bring your time line to life.

HISTORY

Thoughtful selection and organisation of relevant historical information.

ART & DESIGN

Become proficient in drawing, painting, sculpture and other art, craft and design techniques.

MAP READING

Compare the two maps of Halesworth. What differences can you see? Think about the changes in the style and detail of the maps as well as the changes they appear to show in the town itself. Identify as many things as you can.

How many malthouses can you find on the 1904 map? What makes them distinctive? Think particularly about their size, shape and location.

Are these maps primary or secondary sources of evidence?

Why are maps useful to us when we're studying the history of a specific industry or area?

GEOGRAPHY

Describe and understand key aspects of: human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water.

Interpret a range of sources of geographical information, including maps, diagrams, globes, aerial photographs and Geographical Information Systems (GIS)

TASK

CORE LEARNING OBJECTIVE

Taken from Key Stage 2 Curriculum

AN EXCITING WORLD

The Maltings industry is an example of early capitalism. The boom of the maltings was part of what's known as the 'industrial revolution'. Which other industries and methods of transport took off in the late 19th and early 20th century? How are they linked to the Maltings Industry?

Use the 'useful links' sheet to find out more about Britain in the 19th and early 20th Centuries.

HISTORY

Understand historical concepts such as continuity and change, cause and consequence, similarity, difference and significance.

A study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066 eg. changes in an aspect of social history, such as leisure and entertainment in the 20th Century or a significant turning point in British history, for example, the first railways.

COMPUTING

Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

INSPIRING ENTREPRENEURS

How do you think the 'Men Behind The Malt' in the 1800s were different from the landowning classes of 100 years before?

What need were these entrepreneurs meeting?

What do you think these men would have done when they weren't working, what sort of leisure activities might have interested them?

Choose one of the 'Men Behind The Malt' and write a diary entry or a letter to a friend including references to your daily life and work.

Imagine you want to find an entrepreneur to work with you. Write a 'Job Advert' explaining which skills and attributes you think they need to have.

If you were an entrepreneur today what need would you meet and how would you go about working out how to do it?

HISTORY

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ENGLISH

Identifying the audience for and purpose of the writing, selecting the appropriate form and using other similar writing as models for their own. Noting and developing initial ideas, drawing on reading and research where necessary.



MALT 1. BACKGROUND INFORMATION

What is Malting?

Malting means turning a grain, usually barley, into malt which is then used to make various food and drink products, particularly beer.

Traditionally malt was produced in a 'floor maltings' and there were three key stages in the process:

- **1. Steeping** the grain is soaked, that is 'steeped' in water for about 3 days.
- 2. **Germinating** the grain is laid out on 'germinating floors' where it is regularly raked and turned in a carefully controlled environment until it is just beginning to germinate, this takes up to 8 days.
- 3. **Kilning** the grain is blasted with increasingly high heat in order to stop the germination process at just the right time. This takes between 3 and 5 days depending on the needs of the brewer buying the malt (different types of beer require malt baked for different lengths of time).



Germinating floor

Why was Halesworth a good place for malting?

In the 1800s and early 1900s Halesworth was a busy centre for the maltings industry and there were lots of maltings in the town. Halesworth was surrounded by land well suited to the growing of barley and there had been small scale malting going on in the town at least as far back as the 16th Century.

In the 1750s the River Blyth, which linked Halesworth to the sea at Southwold, was dredged and widened and locks were built to make it possible for wherries to sail all the way up into the town. The resulting navigable waterway was known as the 'Blyth Navigation'. It meant that for the first time malt produced in Halesworth could be transported far afield - first by river and then by sea.

In 1854 the railway arrived in Halesworth. The line originally just linked the town with Beccles and Haddiscoe but in 1859 it was extended to reach London in the South and Great Yarmouth in the North. Good rail links with London were essential for the growth of the maltings industry in the town.

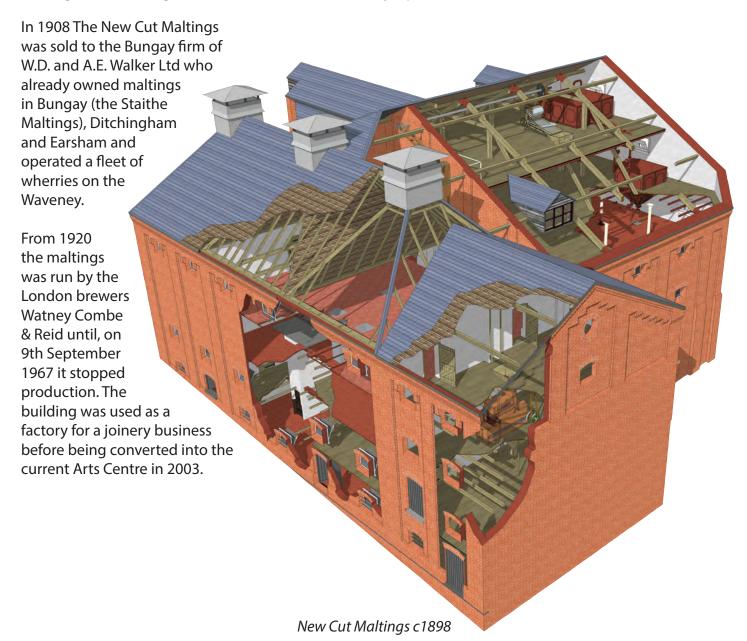


2. A SHORT HISTORY OF THE NEW CUT MALTINGS

In 1837 a builder called Edward Prime bought a plot of land near to the road to Bungay and built a 'malt office' with an adjoining brewery and house. About ten years later he built a road to make it easier to access his business. This road was (and still is) called New Cut. At the same time he built some cottages on the road to provide housing for his workers.

In 1851 Farley Brisbane Strathern (formerly a clerk to another local maltings owner, Patrick Stead) took on the New Cut Maltings. Strathern also ran a smaller malthouse on Soap House Hill (now London Road) and in 1861 he bought the freehold to the New Cut site so that he now owned it outright.

By 1880 the building was owned by Strathern's nephew Frank Kendall-Chapman and he commissioned the industrial architects Martin and Hardy of Nottingham to design a much larger, more efficient maltings, built of brick on a skeleton of iron girders to minimise the risk of fire - a constant problem in maltings. This building, much of which still stands today, opened in 1898.





MALT 3. INSIDE THE NEW CUT MALTINGS

In the early 1900s the New Cut Maltings was a cutting edge 'modern' maltings. It was powered by a gas engine, with gas piped in from the nearby gasworks. It had four germinating floors and at any one time it would have been contained more than 16,000 kilos of barley.

There would have been at most six men working in the building, one of them being the highly skilled foreman maltster. A foreman maltster was responsible for judging the quality of the barley coming in, knowing just how long to steep it for, adjusting the atmosphere and environment of the germinating floor and ensuring that the kiln was at just the right temperature. Being a maltster was a very skilled job. A Master Maltster could judge the quality of barley by looking at it and biting it (to see how starchy it was) and he could tell when the 'green malt' was ready to move on from the germinating floor to the kiln just by rubbing the grains between his thumb and finger, using the so-called 'maltster's thumb'. In short he was in charge and he told the others exactly what to do.

The other malt workers had to carry all the sacks, load and empty the steep, rake and turn the grains on the germinating floors, stoke the furnaces and sack up the malt when it was ready. It was hard, manual work and they could be called out at any time, day or night, if the maltster judged there was an urgent need to turn, thicken or move the malt because of changes in the weather and conditions. The work was seasonal too. There tended to be no work in the maltings in the summer because it was too hot and dry for the barley to germinate. During the summer the malt workers had to find other work such as helping with the harvest or fishing.

Barley was loaded in to the maltings through 'taking in doors' high up on the top floor of the building. From there it would be stored until ready to be dropped into the steep. When it came out of the steep it was laid out on the germinating floor for up to 8 days until it was considered to be ready to be sent to the kiln. The kiln was a like a giant oven, heated by big furnaces on the ground floor at the front of the building. The heat from the furnaces reached the kiln through a hot air chamber and specially perforated tiles (these were thick heavy floor tiles with lots of tiny holes which let the heat through).

The design and layout of the building was integral to the process of malting. To help you visualise it there's a 3-D revolving image of The New Cut Maltings at https://vimeo.com/233853601 (lasts approx 3 minutes)





MALT 4. MALTSTERS: A FEW MEN OF NOTE

The Men who built, owned and managed the maltings in Halesworth in the 19th century, were part of a new 'middle' class; below the aristocracy but above everyday workers. They were also 'entrepreneurs' who had vision and were willing to take risks and do things differently. At that time there was a lot of money to be made from the malt industry so it attracted interest from men from a range of backgrounds. Whatever their original trade these 'men behind the malt' all shared the ability to see the potential for profit and more they were all willing to look beyond their everyday work to seize new opportunities.

Three of the most significant maltings 'entrepreneurs' in 19th century Halesworth were:

Edward Prime

Prime was born in Halesworth in 1787, married Elizabeth Ray from nearby Cookley in 1826 and by 1832 was living with her in Holton. At that time he was described as a bricklayer, but we would probably think of him as a builder. There's evidence to suggest he built several properties in Halesworth before building the maltings and brewery which came to be known as The New Cut Maltings in the late 1830s.

Edward built and owned the maltings but was not a maltster himself, he employed someone else to run the business on a day to day basis. However he did



get involved in the brewery and by 1845 he was calling himself a "brewer and bricklayer". He built the cottages next to the chapel that is now the United Reformed Church, he built the row of cottages next to the New Cut Maltings and he built at least one of the houses on what is now Station Road. By 1851 he was calling himself a "proprietor of houses" - today we'd probably call him a property developer. He died in Halesworth in 1866, aged 78.

Thompson George

Thompson George was born in 1806, the son of a wealthy Halesworth farmer who owned lots of land near to the river. Thompson and his brother Martin were general merchants dealing in lime, coal, corn and malt - all of which were transported via the Blyth navigation. Thompson married Margaret Reeve, the daughter of a merchant from Frostenden, near Beccles. The Reeve family owned various properties in Halesworth including breweries and maltings.

Thompson's brother developed the maltings now known as the George Maltings and Thompson took over responsibility for that business when his brother died



in 1841. In 1847 he extended the maltings, in 1848 he bought the impressive Gothic House opposite the church in Halesworth and in 1855 he bought the Three Tuns, with its brewery and maltings, on the Market Place - a business once owned by his wife's family, the Reeves. The 1861 census described him as a "brewer and corn merchant", employing sixteen men. He died in 1874, aged 69.

Patrick Stead

The son of a merchant and card manufacturer, Patrick Stead was born in Edinburgh in 1787. He worked for the big London brewers Truman Hanbury & Co before moving to East Anglia. By the 1820s he'd set up business with a fellow Scotsman, John Robinson. He owned the Bridge Street Maltings in Halesworth and ran several maltings throughout Norfolk and Suffolk. He became a River Commissioner for the Blyth Navigation and campaigned in parliament to protect the waterway from the land 'embankment' carried out by local landowners. By 1837 Stead owned 4 maltings in Halesworth as well as malting offices and other buildings. He settled in the town, served as 'overseer of the poor' and regularly



attended parish meetings. He had singled out Halesworth due to the excellent quality of the water and local barley, he said "it is so good I cannot find any so good anywhere else".

During the 1840s Stead was one of the largest suppliers of malt in the UK. Following a visit to Germany he developed a brand new steam malting process, which although eventually not successful, was the prototype of many later improvements to the malting process. By 1846 he employed 36 men in Halesworth and, frustrated by the ongoing problems with the Blyth Navigation, he started campaigning for a railway to reach the town. However he left before the railway came. In 1849 he sold all his Halesworth maltings businesses (by now he had seven maltings in the town) to Trumans for £18,000 and moved back to Scotland. When he died in 1869 his estate was worth more than £55,000 and he left £25,000 of it as a bequest to the town of Halesworth. The hospital bearing his name was built in the town in 1881.

*Please note, the portraits shown are taken from a dramatised film made for The Malt Experience at The Cut, Halesworth. They are images of actors, not original sketches.



5. WEIGHTS & MEASURES

Today we measure weight in kilograms and grams and we measure volume in litres and millilitres but in the maltings industry in the late 19th and early 20th century they used different units of measure.

Barley was measured in bushels:

- 1 bushel of barley = 25.4 kilograms
- 4 bushels of barley = 1 'comb' (101.6 kilograms / 16 stone)
- 2 combs of barley = 1 'quarter' (203 kilograms)

Barley was delivered to the maltings in sacks, which the malt workers carried around the building on their backs. Each sack weighed 1 comb (that's heavier than a grown man!)

There were 2 steeps in the New Cut Maltings, each one could hold 80 combs of barley.

Malt (the finished product) is lighter than barley (the original grain) because it contains less water. Consequently it was cheaper to transport malt rather than barley and therefore sensible to site maltings in areas such as Norfolk and Suffolk where barley grew best.

4.92 quarters of BARLEY (volume) = 1 tonne of Barley (weight)6.56 quarters of MALT (volume) = 1 tonne of Malt (weight)

At its peak the New Cut Maltings could produce 4,500 quarters of malt each year, which is

equivalent to 685,831 kilos, the same weight as 100 fully grown male African elephants!

The maltings in Halesworth were well provided for by the local farms. Barley was grown throughout the area and was of a very high quality. The table below shows how much barley was harvested from various parishes surrounding Halesworth in the 1840s.

Village	Barley (bushels: 1 bushel = 8 gall dry measure)
Peasenhall	947
Cratfield	874
Heveningham	808
Walpole	52
Huntingfield	906
Linstesd Parva	410
Linstead Magna	668
Withersdale	393
Cookley	682
Ubbeston	533
Chediston	410

Before the railways took over, malt was transported on wherries via the 'Blyth Navigation'. The table belowshows how the amount of malt transported in this way declined during the mid 19th century, as the railways became the favoured form of transport.

Halesworth Trade on the Navigation (Main cargoes to Sounthwold and back)								
	Malt (quarters)	Coal (tons)	Chalk (tons)	Guano (tons)	Porter (barrels)	Number of wherries	Wherry trips (weekly)	
1858–9	14,159	5,659	547	302	1,363	5	6	
1859–60	6,302	3,328	516	201	448	5	4	
1862–3	4,070	3,736	269	259	85	5	3	
1873–4	4,329	1,351	233	345	357	5	2	
1881–2	4,800	257			74	3	1	
1882–3	3,600			49	59	3	1	



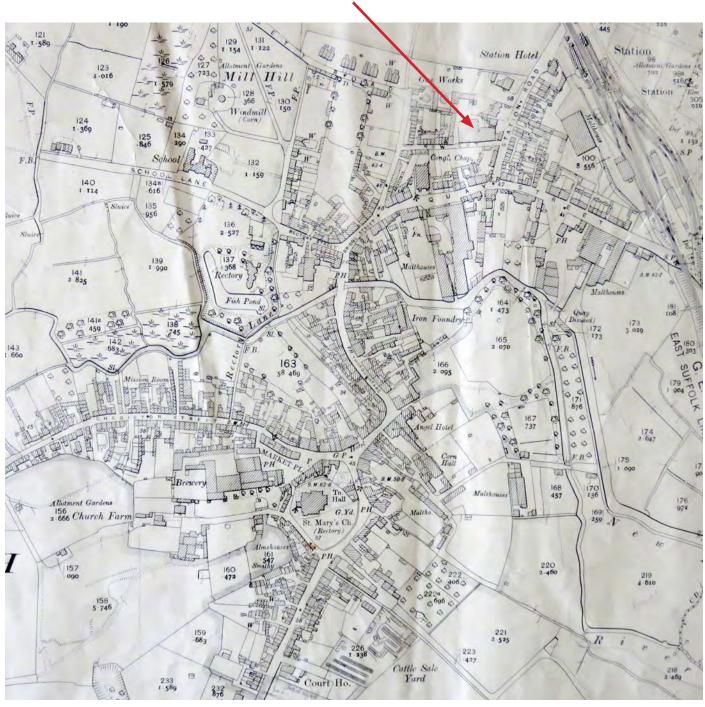
These maps of Halesworth show the town's key features including the main roads, rivers, railway line, farms, the gas works breweries and malthouses.

Original New Cut Maltings



Halesworth c1887

New New Cut Maltings



Halesworth c1904



MALT 7. GERMINATION JARS EXPERIMENT

This experiment could be carried out using beans, mustard or cress seeds

What you need

- Glass Jars
- Kitchen Towel
- Water
- Bean Seeds

What to do

- 1. Get a clean glass jar.
- 2. Fill it with folded kitchen towel.
- 3. Water it measure and record how much water you use & use different amounts indifferent jars.
- 4. Push the bean seeds down into the jar.
- 5. Put some jars in warm sunny places (windowsill) and some in cooler, darker places.
- Watch, monitor and record the changes that take place in the seeds. Maybe take a photo of each jar each day, maybe draw a diagram.





MALT 8. USEFUL LINKS

To find out more about the maltings industry

www.ukmalt.com/old-new-malt-production-methods

https://content.historicengland.org.uk/images-books/publications/maltings/maltings-pt1.pdf/

http://merryn.dineley.com/2014/07/where-have-all-malting-floors-gone.html

www.eafa.org.uk/catalogue/53

(A film made in 1947 showing the stages of traditional malting in a Suffolk maltings)

To find out more about industrialisation and the growth of the railways www.bbc.co.uk/history/british/victorians/

www.bbc.co.uk/history/british/victorians/workshop_of_the_world_01.shtml

www.bbc.co.uk/programmes/p0151t8r (BBC video clip)

Working Lives in the East of England

http://mediafiles.thedms.co.uk/Publication/EE-Ess/cms/pdf/The%20Industrious%20East%20 leaflet.pdf

To find out more about Halesworth and its maltings history:

Malting in Halesworth:

http://www.culturalecology.info/halesworth/halesworth_html/index.htm#_Toc152117905About

Patrick Stead and his Malting business

http://suffolkinstitute.pdfsrv.co.uk/customers/Suffolk%20Institute/2014/01/10/Volume%20 XXXVI%20Part%202%20(1986)_Early%20nineteenth%20century%20malting%20business%20 in%20East%20Suffolk%20R%20Lawrence_115%20to%20129.pdf

Halesworth & District Museum

http://halesworthmuseum.org.uk/wpress/wp-content/uploads/2016/02/Chris-version-Hals-Area-History-notes-650.pd

(Transport via the Blyth Navigation & local barley yield)

www.halesworth.net/history/Economic_and_Social_History_of_Halesworth.pdf (Economic & Social History of Halesworth (p49-52))

To find out more about the Victorian middle classes and entrepreneurs:

http://www.bbc.co.uk/history/british/victorians/middle_classes_01.shtml

http://www.paggu.com/entrepreneurship/lessons-from-entrepreneurs-of-the-19th-century/

http://www.bbc.co.uk/schools/primaryhistory/victorian britain/leisure/

To find out more about British political history from 1700s - 1800s

http://www.bbc.co.uk/bitesize/higher/history/democracy/changes/revision/1/

http://www.fsmitha.com/h3/h29-fr.htm



Recommended Format – although this is adaptable to your specific needs:

1. Your Guide will meet you in the Central Car Park at the start of the MALT Trail and walk with you around the trail, pointing out landmarks of interest.

(approx time 90 minutes)

The guided trail will end at The Cut Arts Centre (where we suggest a short break for refreshments at the Cut Café).

2. Your Guide will then take you to the MALT Experience where there is a superb array of information including a choice of 4 short films.

(approx time 30 minutes)

3. The final stage of your visit is a guided walk around The Cut itself, highlighting some of the building's original features using a "you are a heritage detective" format building on all the previous inputs.

(approx time 30 minutes)

Approx Total Time (excluding refreshment break): 2½ Hours - with the support of one MALT guide.

Cost £125



Recommended Format – although this is adaptable to your specific needs:

Your group will be met in The Cut Café where you will divide up into smaller working groups, to take part in this 'carousel' of activities, each lasting approximately 25 minutes:

- 1. Visit to The MALT Experience Room including viewing up to 4 short films (Teacher/self led)
- 2. Object-handling in the Hopper Room a chance to examine some MALT memorabilia (Facilitator led)
- 3. "Meet the Maltster" in the Theatre a question & answer session with a costumed 'time traveling' maltster (Performer led)
- 4. Visit to the 'Wherries' Information board on the MALT TRAIL (Teacher/self led)
- 5. Visit to the 'Quay Street' and 'Station' MALT Trail Information Panels using archive maps to spot the changes

We suggest combining this experience with a walk around the rest of the town's MALT TRAIL.

Approx Total Visit Time: 2½ Hours (4 Hours if including the whole Trail and picnic lunch) - with the support of 3 MALT facilitators/performers.

Cost £450