

The Industrial Revolution Comes to Life: Coalbrookdale's Interactive Census of 1861

A study unit based around the interactive application at
www.activehistory.co.uk

The approach to Coalbrookdale appeared to be a veritable descent to the infernal regions. A dense column of smoke arose from the earth; volumes of steam were ejected from the fire engines; a blacker cloud issued from a tower in which was a forge; and smoke arose from a mountain of burning coals which burst out into turbid flame. In the midst of this gloom I descended towards the Severn, which runs slowly between two high mountains, and after leaving which passed under a bridge, constructed entirely of iron. It appeared as a gate of mystery, and night already falling, added to the impressiveness of the scene”

Italian visitor, 1787, Wolverhampton Chronicle, 1790



Heaven?

“The flaming furnaces and smoking limekilns [which] form a spectacle horribly sublime, while the stupendous iron arch, striding over the chasm presents to the mind an idea of that fatal bridge made by sin and death over chaos, from the boundaries of hell to the wall of this now defenseless world.”

Charles Hulbert, A History and Description of the Country of Salop, 1837

or HELL?



The Coalbrookdale Interactive Census of 1861

History is all about bringing the past to life. This activity allows you to do this in an unusual and interesting way.

Coalbrookdale, a small town in Shropshire, England, was at the heart of the Industrial Revolution: a place of blast furnaces, roaring forges and busy factories. Its iron bridge (see cover) – the very first ever made – still attracts visitors from all over the world. Thomas Telford, Josiah Wedgwood, Richard Trevithick, James Watt, Matthew Boulton and John McAdam were just some of the British engineers and entrepreneurs who came to Coalbrookdale.



Was Coalbrookdale a hell on earth? Or was it an industrial wonderland?

You can decide for yourself by interacting with the 1861 Census (government survey). A search engine allows you to ask your own questions, rather than just read through sources in the textbook. What jobs did people have? Were houses overcrowded? Did many children go to school? You're the detective!

Your studies will be directed by a series of tasks listed below.

Task	Tick here when completed
Introduction: How the interactive census works	
Task 1: Who am I? [Finding your way around the database]	
Task 2: The Vital Statistics! [Gathering evidence about what life was like from the census]	
Task 3. True or False? [The strengths and weaknesses of the census as a historical source]	
Task 4. Classroom Debate [Conclusions on whether life was good or bad in Coalbrookdale]	
Your Report: What was Life like in Coalbrookdale during the Industrial Revolution?	

How the Interactive Census Works

The database works with a menu system that allows you to construct a question (or 'query') for the computer to answer.

1. A simple search

A simple search consists of three elements: the Variable, the Operator, and the Value.

Here are some examples.

Variable	Operator	Value	Result
Occupation	INCLUDES	Iron*	Gives an overview of all the people whose job title has the word "iron" in it.
Christian Name	=	Mary*	Provides a list of all people living in Coalbrookdale in 1851 whose Christian name is Mary
House Size	<	Family Size [^]	Will inform you how many people live in houses too small for the size of their family

* This is a "Typed Value" – in other words, it is typed in directly.

[^] The is a "2nd Variable" – in other words, another variable from the database.

2. A sophisticated search

It is then possible to narrow or broaden the search using the AND / OR functions:

Age > 12 AND Age < 20	Tells you about all the teenagers in the town by first listing all those people aged more than 12 years old, then searching within those results for people aged less than 20.
Town of Birth = Wellington OR Town of Birth = Madeley	Tells you how many people were born in two of Shropshire's largest districts by listing all those who were born in Wellington, then adding to those results with those born in Madeley.

3. The Graphing function

- When you are given the results of your search, you can organize the results using the "Draw Graph Based on" function.
- This is really useful when you have lots of results which you want "tidied up".

Example 1: What sorts of jobs did people do in the iron industry?

Search Results for "Occupation includes iron"

SEARCH QUERY: occupation includes iron
TOTAL NUMBER OF MATCHES FOR THIS SEARCH: 76 / 559 (14% of the total cens)

Address	Christian Name	Surname	Family Position	Marital Status	Sex	Age	House size	Family Size	Occupation	County of Birth	Address
Westgate cottages	Alfred	Harker	Son	Unmarried	Male	15	8	8	Assistant in iron foundry		
Coalbrookdale	Isaac	Toddington	Lodger	Married	Male	27	2	2	Brass iron founder		
Dale house cottage	William	Fot	Son	Unmarried	Male	33	2	2	Clerk in iron foundry		
Westgate cottages	William	Harker	Head	Married	Male	43	8	8	Clerk in iron foundry	Birmingham	Walswickshire
Coalbrookdale	Thomas	Boycott	Head	Widowed	Male	75	3	4	Clerk in iron works	Little wenlock	Salop
Hauleys row	John	Taylor	Head	Married	Male	52	7	7	Fitter in iron works	Madeley	Salop
Bandy bank	Thomas	Wilkes	b	Unmarried	Male	32	9	9	Fitter in iron works	Sheffield	Yorkshire
Lezamin cottage	George	Harker	Head	Married	Male	37	8	9	Fitter in iron works	Bradford	Nottinghamshire
Hailor row, coalbrookdale	George	Oakes	Son	Unmarried	Male	18	5	6	Fitter in iron works	Madeley	Salop
Forge	George	Humphries	Son	Unmarried	Male	31	4	4	Furnace fitter in iron works	Madeley	Salop
Forge	Isaac	Humphries	Son	Unmarried	Male	33	4	4	Grate fitter in iron works	Madeley	Salop
Coalbrookdale	Vincent	Aston	Head	Widowed	Male	56	2	2	Grate fitter in iron works	Madeley	Salop

"Create Graph of these results based on occupation"

Graph of: Christian Name
For the search query: SHOW WHOLE CENSUS

Christian Name	Figure / Percent
Mary	048 (9%)
Elizabeth	047 (8%)
John	040 (7%)
William	039 (7%)
Sarah	032 (6%)
Thomas	028 (5%)
Ann	025 (4%)
George	017 (3%)
Joseph	016 (3%)
Henry	016 (3%)
Hannah	015 (3%)
Ellen	014 (3%)

Example 2: What were the most common Christian names at that time?

Search Results = "Show Entire Census"

SEARCH QUERY: SHOW WHOLE CENSUS
TOTAL NUMBER OF MATCHES FOR THIS SEARCH: 559 / 559 (100% of the total cens)

Address	Christian Name	Surname	Family Position	Marital Status	Sex	Age	House size	Family Size	Occupation	County of Birth	Address
Westgate cottages	John	Harrison	Head	Married	Male	72	2	2	Accountant		
Coalbrookdale	Richard	Wilkinson	Head	Married	Male	38	4	4	Agricultural labourer		
Marnwood cottage	William	Hill	Head	Widowed	Male	89	3	3	Agricultural labourer		
Owens buildings	William	Gadsby	Head	Married	Male	23	3	3	Agricultural labourer		
Coalbrookdale	Henry	Wealmar	Lodger	Unmarried	Male	23	1	9	Artist	London	Middlesex
Westgate cottages	Alfred	Harker	Son	Unmarried	Male	15	8	8	Assistant in iron foundry	Madeley	Salop
Meadow cottage	Ada	Wyde	Daughter	Unmarried	Female	17	7	7	Assistant in mercers shop	Madeley	Salop
Infant school, coalbrookdale	Emily	Gallier	Servant	Unmarried	Female	23	1	2	Assistant school mistress	Ellerton	Staffordshire
Elmc, coalbrookdale	Henry	Dickinson	Head	Married	Male	83	2	4	Bank manager	Bolas	Salop
Coalbrookdale	Sarah	Sinkett	Daughter	Unmarried	Female	20	3	9	Barmaid	Madeley	Salop
Buildwas road, meadow inn	Hamet	Fewbill	Daughter	Unmarried	Female	20	4	6	Barmaid	Actley abbots	Salop
Hauleys row	Francis	Hauley	Head	Married	Male	88	3	3	Blacksmith	Madeley	Salop
Tea kettle row	Edward	Rodan	Head	Married	Male	80	8	8	Blacksmith	Madeley	Salop
Tea kettle row	John	Rodan	Son	Unmarried	Male	17	8	8	Blacksmith	Madeley	Salop
Tea kettle row	William	Hazeldine	Head	Married	Male	32	7	7	Blacksmith	Madeley	Salop
Earfield	John	Millward	Head	Married	Male	32	7	7	Blacksmith	Bridgnorth	Salop

"Create Graph of these results based on Christian name"

Graph of: Christian Name
For the search query: SHOW WHOLE CENSUS

Christian Name	Figure / Percent
Mary	048 (9%)
Elizabeth	047 (8%)
John	040 (7%)
William	039 (7%)
Sarah	032 (6%)
Thomas	028 (5%)
Ann	025 (4%)
George	017 (3%)
Joseph	016 (3%)
Henry	016 (3%)
Hannah	015 (3%)
Ellen	014 (3%)

Task 1: Who am I?

[Finding your way around the database]

Your teacher will allocate you with a number 1-4. Complete the table matching your number. Go through each table as a class when everyone has finished.

TIP: In the final box of the table, be as detailed as you can.

1	Search Term	How many people could it be?
I am widowed		
I am less than 40 years old		
I am male		
I am a tea dealer by trade		
Give some details about this person (occupation, age, who else lives with them etc):		

2	Search Term	How many people could it be?
My occupation has something to do with iron		
I was born in Madeley		
I am less than 16 years old		
I live with my uncle		
Give some details about this person (occupation, age, who else lives with them etc):		

3	Search Term	How many people could it be?
There are 6 people in my household		
I was born in Salop		
I am 30 years old		
I was born in Much Wenlock		
<p>Give some details about this person (occupation, age, who else lives with them etc):</p>		

4	Search Term	How many people could it be?
I am over 60 years of age		
I am still working		
I live in Tea Kettle Row		
I live in a two-bedroomed house		
<p>Give some details about this person (occupation, age, who else lives with them etc):</p>		

Who am I? - Captain Matthew Webb

Perhaps the most famous person in the entire database is a child called Matthew Webb. He grew up to be a famous man (pictured).

A. Do some research using the census about the young Matthew Webb (family, occupations and so on). List your findings here.



B. Do some research using the web about the man that Matthew Webb grew up to be (his life, achievements, death). List your findings here.

Task 2: The Vital Statistics!

[Gathering evidence about what life was like from the census]

Part 1: Working without the computers

1. Start by filling in all the "Search term" boxes in the tables. Your teacher may choose to do the first few as a class exercise, then ask you to work alone or in pairs to work out the rest.

2. Your teacher will now tell you the correct search term for each box. Award yourself a mark each time you get one absolutely right! Your teacher might give rewards for the highest scores!

Part 2: Working with the computers

3. Now, log on to the Coalbrookdale Interactive Database at www.activehistory.co.uk and proceed to complete the rest of the table. Your teacher may wish to allocate different parts of the table (A-G) to different members of the class to start with. Once you have finished your allocated part of the table, move on to another part of it.



Coalbrookdale in the Morning by William Williams

A. Marital Status		
<p>The Facts: Who is the youngest married person? How old is she?</p>	Search term:	Answer:
<p>Your Deduction: Why do you think she married so young?</p>	Answer:	
<p>The Facts: Who is the youngest widower?</p>	Search term:	Answer:
<p>Your Deduction: What could have happened to his partner?</p>	Answer:	

B. Address		
<p>The Facts: How many people lived in Tea Kettle Row?</p>	Search term:	Answer:
<p>Your Deduction: Was this one of the wealthier parts of town? How do you know?</p>	Answer:	
<p>The Facts: One family has 14 people in it. Give some details about them.</p>	Search term:	Answer:
<p>Your Deduction: Were these people quite wealthy? How do you know?</p>	Answer:	

C. Family position		
<p>The Facts: How many heads of family are there in total?</p>	Search term:	Answer:
<p>Your Deduction: Why are some women actually described as "head of family"?</p>		
<p>The Facts: How many lodgers are in the town?</p>	Search term:	Answer:
<p>Your Deduction: Do you think that these lodgers were having a good life? Use evidence.</p>		

D. Age		
<p>The Facts: Who was the youngest person in full time work?</p>	Search term:	Answer:
<p>Your Deduction: Why do you think they were working despite their young age?</p>		
<p>The Facts: Give the name and occupation of someone over the age of 70 who still works.</p>	Search term:	Answer:
<p>Your Deduction: Why do you think they continued to work despite their old age?</p>		

E. Sex / Occupation:		
<p>The Facts: List some jobs that people did that included the word "iron" in the job title.</p>	Search term:	Answer:
<p>Your Deduction: Do these jobs suggest life was good or bad for men?</p>		
<p>The Facts: What sorts of jobs did women have in Coalbrookdale?</p>	Search term:	Answer:
<p>Your Deduction: Do these jobs suggest life was good or bad for women?</p>		

F. Town / County of Birth:		
<p>The Facts: How many people were born in the town of Sheffield (Yorkshire)?</p>	Search term:	Answer:
<p>Your Deduction: Why do you think they may have moved into Coalbrookdale?</p>		
<p>The Facts: What percentage of people were born locally (ie the county of Salop?)</p>	Search term:	Answer:
<p>Your Deduction: Is this lack of movement around the country a good thing or a bad thing for communities?</p>		

Task 3. True or False?

[The strengths and weaknesses of the census as a historical source]

Introduction

▪ History is all about bringing the past to life. Historians use sources for this, but sometimes fill gaps using their imagination. In this task, you will separate fact (what can be proven) from fiction (what has been invented).

Task 1: Verifying (=checking for truthfulness)

- Below are 4 accounts based around the evidence of the Coalbrookdale Census.
 - Your teacher will give each student a letter (A-D) corresponding to one account.
1. Highlight any facts in your account which you think can be checked.
 2. Use the database to correct any points which you find to be inaccurate.

A. Mary Sudrass

"I live at the parsonage in Coalbrookdale with the vicar, John Hayes, who comes from Bristol. I refused to tell those nosey census people whether I am married, and so rumours have started in Coalbrookdale that we are secret lovers. In fact, at my age (I'm 55) I'm really not interested in that sort of thing. I'm actually his housekeeper. There are two other servants at The Parsonage: Fanny (the cook) and Emily (the housemaid). Neither is married: in fact, there isn't a single servant in the town who is married. To be honest, neither of them is good-looking anyway. If they find themselves a husband they'll give up their job. But that's only if their husbands are able to get work – over the past 10 years lots of immigrants have come into the area from Yorkshire, taking our best jobs and breeding like rabbits. I don't know what the world's coming to!"

B. Joseph Fogherty

"I came here from my homeland of Ireland 2 years ago. At that time work was scarce in Ireland, and Coalbrookdale needed skilled civil engineers like me to build bridges and machinery. Most of the people here are really friendly, although some are a bit nasty to us "foreigners". There are over 70 other people who weren't born in the local county of Salop, which shows that people are using the new railways to move wherever they can find work. I can't afford a place of my own, so I lodge at the moment with the Beardshaw family. I live in a little outhouse with a friend of theirs, Laura Robbins. It's alright, I suppose, but I'm hoping to start my own business next year and find my own place. I certainly don't want to be a lodger when I'm 70 years old, like Ann Goodwin down the road. That would be too depressing!"

C. Henry Jones

"I'm 10 years old but I've already been working for 2 years! My dad, Richard, is an ironworker, and I'm working with him at his factory. It's tough work. Most boys my age go to school and I wish I could, but my family are too poor. I have seen several men killed at work and it gives me nightmares. One man, Benjamin Rowley, was burned alive when he fell into the molten iron earlier this year. My mother and sister don't have any paid work – a woman's place is in the home, after all. Women like that Sarah Webb, who go out to work each morning even though they are married, are a disgrace. Anyway, we earn enough to get by – our house is just the right size and we don't need to get lodgers in to cover the rent for Mr Owen, whose family has owned the street where we live for ages. He's a pretty decent chap – my dad gets on well with him because he's a brewer and like everyone here he likes a drink or two after a hard week's work!"

D. Sarah Rowlands

"I am a 19 year old governess – a private tutor – to the Webb family as the Eastfield Estate. Mr and Mrs. Webb are both doctors, and the wealthiest couple in Coalbrookdale. Apart from me, the Webbs have another three servants living with them: Sarah the cook, Esther the housemaid and Jane the scullery girl. We're all about the same age and we get on well together. Mr. and Mrs. Webb have 8 children – 5 sons and 3 daughters, and because they come from a wealthy family they all go to school. Most children have to go to work at a really young age. Altogether, then, there are 14 people in the family, making it the largest in town".

Task 2: Reflection (=thinking further)

1. What types of things cannot be verified (=checked for truth) using the census?

2. What other sorts of evidence could historians use to verify these points?

Type of Evidence	Useful for finding out...
Diaries	
Photographs	
Maps	
Doctor's Records	
Buildings	

3. What are the advantages and disadvantages of historians using their imagination to fill gaps in the evidence?

Advantages are...

Disadvantages are...

Homework / Extension Task

▪ Produce your own account of a person from Coalbrookdale that could be added to this worksheet.

Stage 1: Choose a person at random from the database and gathering as many "facts" about that person as you can.

Stage 2: Next, turn this into an account as if that person is speaking to the reader.

Stage 3: Next, change a few of these facts into deliberate mistakes.

Stage 4: Finally, try to add some of your own "fiction" to the account to bring it to life!



Task 4: Classroom Debate
"What was life like Coalbrookdale in 1861?"

Stage 1: Your teacher will organise the class into two groups: "GOOD!" and "BAD!". Work in pairs to produce 3 questions and supporting evidence for your opponents - ON SCRAP PAPER.

Stage 2: Your group leader will ask each pair to read out their questions. Then, the group will vote on the three best questions overall. Write these into the appropriate table.

Stage 3: Your teacher will ask each group leader to read out their three questions and supporting evidence. The opposing team should copy these into the correct table.

Stage 4: Each group now has to prepare responses to the questions they have been given. They have to decide how to best organise this task. At the end of this stage, each member of the group should have written responses in their table.

Stage 5: The teacher will now ask a random person from the "Good" group to answer the first question, then a random person from the "Bad" group to answer their question. The process is continued, with the rest of the class taking notes, until the discussion is completed.

• Your teacher might reward the best speakers or the best team based on quality of argument and evidence.

	A. Question from the "GOOD" Group	B. Response from the "BAD" group
1.	Is it not true that life for men was good? Our evidence for this is that...	
2.	Is it not true that life for women was good? Our evidence for this is that...	
3.	Is it not true that life for children was good? Our evidence for this is that...	

	A. Question from the "BAD" Group	B. Response from the "GOOD" group
1.	Is it not true that life for men was bad? Our evidence for this is that...	
2.	Is it not true that life for women was bad? Our evidence for this is that...	
3.	Is it not true that life for children was bad? Our evidence for this is that...	

Conclusions

1. What was the best argument suggesting that life in Coalbrookdale was bad?
2. What was the best argument suggesting that life in Coalbrookdale was good?
3. Could both arguments be correct? Explain your answer.
4. Who had the worst life: men, women or children? Explain.
5. Who had the best life: men, women or children? Explain.

Written Report "What was life like Coalbrookdale in 1861?"

Instructions

- You are now ready to write your report on Life in Coalbrookdale during the Industrial Revolution.
- The following writing frame can be used as a guide, but please feel free to change it if you like!
- Your teacher will give the best marks to students who (a) Include plenty of evidence from the census, (b) Present their work neatly, and (c) Make an effort to do some extra research about the Industrial Revolution in general, and Coalbrookdale in particular, using the internet and the library.

1. Introduction: The importance of Coalbrookdale and the Census

Coalbrookdale was important during the Industrial Revolution because...
The Census of 1861 does not tell us some things, for example...
For these things, historians would have to use other sources like...
However, it does provide us with lots of other information, for example...

Tip: Task 3 is particularly useful here – this is where you considered the strengths and weaknesses of the census as a source of information.

2. There were some good things about life in Coalbrookdale.

Firstly,...
Secondly,...
Thirdly,...
Fourthly,...
Finally,...

3. However, there were some bad things about life in Coalbrookdale too.

Firstly,...
Secondly,...
Thirdly,...
Fourthly,...
Finally,...

Tip: Try to cover a nice, wide range of themes here – jobs, living conditions, working conditions – both for men, women and children. Give specific examples of real people, families and jobs whenever you can to bring the census alive!

4. Overall, from the evidence of the census,

I think that [men / women / children] had the best life because...
I think that [men / women / children] had the worst life because...

Tip: Give a few examples here, don't just answer in single sentences!