THE INDUSTRIAL REVOLUTION

Case File No: 12

HISTORY DETECTIVES
Lancaster Museums

What was the Industrial Revolution?

The industrial revolution began in the Georgian period, around the 1760s, and lasted right up until the late 1800s.

During the 1700s, there were lots of changes to life in Britain. Wealthy landowners took or 'enclosed' common land so that they could 'improve' it and grow more food. This made it hard for families to carry on living in the countryside.

Sugar was the big reason for the change at the beginning, with Britain acquiring a really sweet tooth. Other raw materials, such as cotton, were manufactured more cheaply as a result of the slave trade. Some people became rich because of these changes and wanted to invest in new ideas, technology, and factories.

Lots of people were needed to work in factories. As the production of goods became cheaper and faster, the rich people became richer (and the poor got poorer, but we will get to that!) and trade around the world increased. The Industrial Revolution was a revolution because it completely changed the way our country made and traded goods. It changed the economy and our way of life into a capitalist economy.

Before the industrial revolution, products like cloth were made using local materials, such as wool and flax which made linen. In villages there were farmers that had a few sheep for wool or grew a bit of flax. There might have been a **mill** to turn the flax into fibre, and there would have been people who processed the wool in their houses, cleaning and spinning it. There would also have been weavers who turned the threads into cloth. We call all this 'cottage' industry because it was done by lots of people on a small scale in their homes.

Because of the industrial revolution, the production process changed dramatically. People had to move from the beautiful countryside and into dark, cramped towns and cities. They couldn't survive now that they were not allowed to use the land, so they looked for work elsewhere. Factories sprang up that did the same jobs as the villagers, but on a really big scale.

There were factories that spun cotton into thread, and factories that turned the thread into cloth. These were called mills. All of the production process once done in homes was now done in factories.
In the Lancaster area there were even bobbin mills, that made the wooden reels (bobbins) that were used to hold thread!

All this was made possible because of advances in technology. Instead of the pedal-powered spinning wheels and hand powered weaving looms that people used in their homes, now there were enormous, noisy, and often dangerous machines. These could do the job of hundreds of spinners and weavers. One mechanised loom did the work of 40 individual people!

During the Industrial Revolution factories used steam power. Coal was used to create the steam, so coal mining also grew in Britain, and many towns and villages sprang up in areas where there was coal in the ground.

Children would work in mines too.
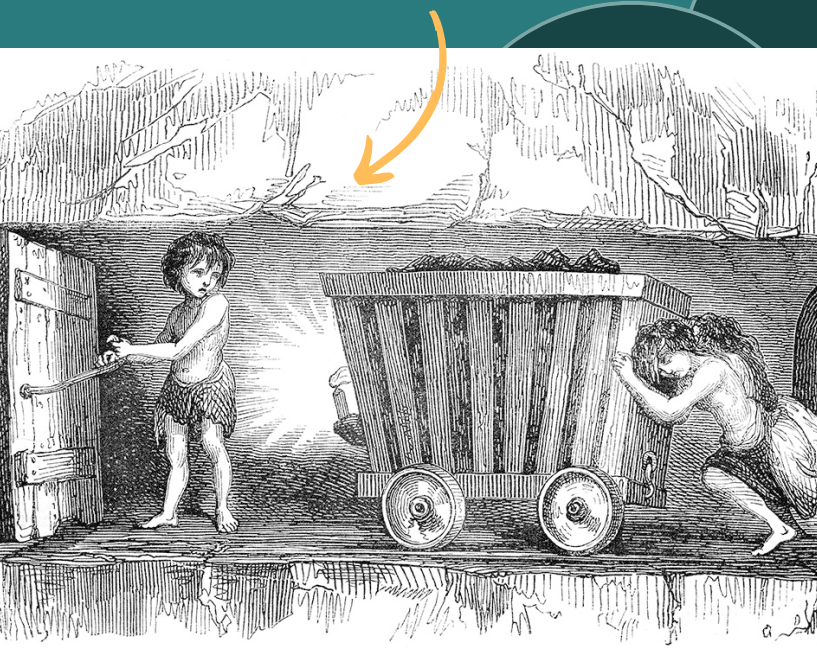
What did the cotton reel say to its friend?

Don't knock, just bobbin!

THE INDUSTRIAL REVOLUTION WAS PROBABLY WHEN OUR PLANET BEGAN TO SUFFER

There was a lot of pollution in towns and cities from burning all that coal. The Industrial Revolution couldn't have happened without coal, or without iron.

Advancements in technology meant we could make cast iron. This was used to make machines, boilers for steam engines, frames for buildings, and infrastructure like bridges and railways. These helped to transport goods and materials around the country. There were also important advances in cement making, glass making and gas lighting.

HOME IS WHERE THE HEARTH IS!

Things that were made in the mills and factories became cheaper. It was quicker and easier to make fine cotton cloth and other things like pottery and glassware.

People were buying more, and even though there were a lot of very poor people who had to work in terrible conditions, there were more people in the middle classes who could afford to spend money. There were also some very rich people who *really* benefitted from these changes and built grand homes in Lancaster along the Lune Valley. Many of these people did try to help poor people. This is called philanthropy.

Factory work is low paid. The conditions that people work in is also really terrible. The machines are so noisy that I don't hear well. Worse, you might lose a finger or even a hand in the machines!
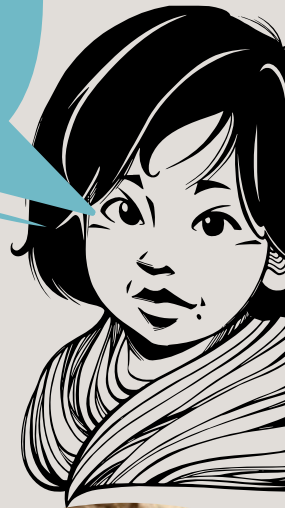
Hanging Out in Victorian cities

Many Victorian factory workers lived in slums. These were probably not nice places to live. The housing was poor quality and overcrowded. They may only live in one room with their whole family and have no proper toilet and no clean water.

The houses were small, and families were often large. These were specially built houses, often 'back-to-back' terraces with no gardens or even yards. Whole streets had to share one toilet, and there was no running water in the houses. Streets would share a water pump.

Towns were overcrowded and dirty, and disease was common. People had little money so couldn't afford good food, or a lot of it, especially if they were part of a large family. So, working in a factory meant poverty, long working hours, malnutrition or chronic hunger, poor housing, lack of sanitation, and no clean water supply. But, to be honest, you might choose this over the alternative...

You might want to give it a minute!

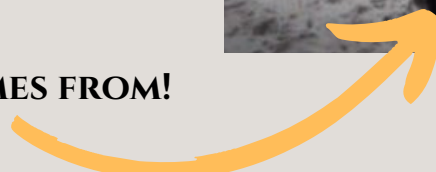The outhouse at the Lancaster City Museum

Many workers were of no fixed abode. This means that they had no home at all. These workers had to pay to sleep in common lodgings, often called a dosshouse. They would sleep in a room full of strangers every night on a hammock, a strip of canvas tied across beams, or worse just hang over a rope and sleep in a semi-upright position. Many men in this position spent a lot of their money drinking alcohol to forget about how awful their lives were. If you had worked 14 hours with only a bread crust to eat and then got very drunk, you would probably sleep anywhere!

That's where the term 'hungover' comes from!

EVIDENCE FROM OUR COLLECTION

These were taken in 1927 in Lancaster by a photographer called Sam Thompson.

They show some of the narrow back streets and yards of Lancaster that were built during the Industrial Revolution.

Can you spot the setts (like cobble stones). Why do you think that these were used?

What do you notice about the people in the photographs and where they live?

Very Top: Chancery Lane Lancaster May 7th 1927
Top: East Court, St Leonardgate, Lancaster June 20th 1927
Above: St Mary's Place, Lancaster, May 16th 1927
Right: Ross's Yard, Cheapside, Lancaster, May 20th 1927

If things were so bad, why did people do it?

Well, many people had no choice. Rural life was so poor and work in the mills was better paid. Sometimes though there was no work and this is when a lot of industrial workers would join the army.

There was no help from the government for people, even if you were old, ill, or disabled. There was the workhouse if you were desperate, run by the local Poor Law Unions. If you *could* work, and if there was a factory close by, then you would probably count yourself lucky to have a job.

In the Victorian period Lancaster had so many mills and factories. Gillows had a furniture factory near the Grand Theatre, and there was a factory on the Marsh that made linoleum (a kind of flooring). And there were eight textile mills! There were also many mills around Lancaster, in villages like Galgate and Caton.

Children were employed to do some of the most dangerous jobs, such as crawling under the moving machines to pick up bits of cotton off the floor. All workers, even children, had to work very long hours, sometimes 14 hours a day. The working week was 6 days long, so Sunday was the only time that people had to rest (or do overtime to boost their income).

Changes in children's lives

Children as young as 4 years old would work in factories and mines during the Industrial Revolution. Some of the jobs that children did were unpleasant and dangerous, sometimes even fatal. Because of their small size, children were perfect for squeezing into small places, down mines and under machines.

They would also do heavy and tiring work, such as carrying bricks at brickworks, or lugging wagons full of coal. These children didn't get the chance to go to school.

As the general public became aware of the awful conditions that children had to work in, worry about the welfare of children grew. Many people were angry and sad that children were stuck working hard in factories for little money.

I knew I should have worked-out more…

Go on mate, give it some welly!
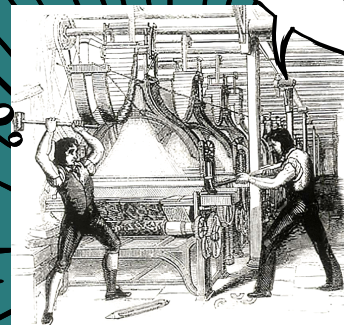
In 1811 a group of people who called themselves Luddites, started breaking factory machines in protest.

Unions began to be developed. These are groups of people within factories who worked to change conditions, how people could vote, and strikes (where all workers agree to stop working without pay) helped to push politicians to bring in laws to protect workers. These were illegal at first but made legal in 1871.
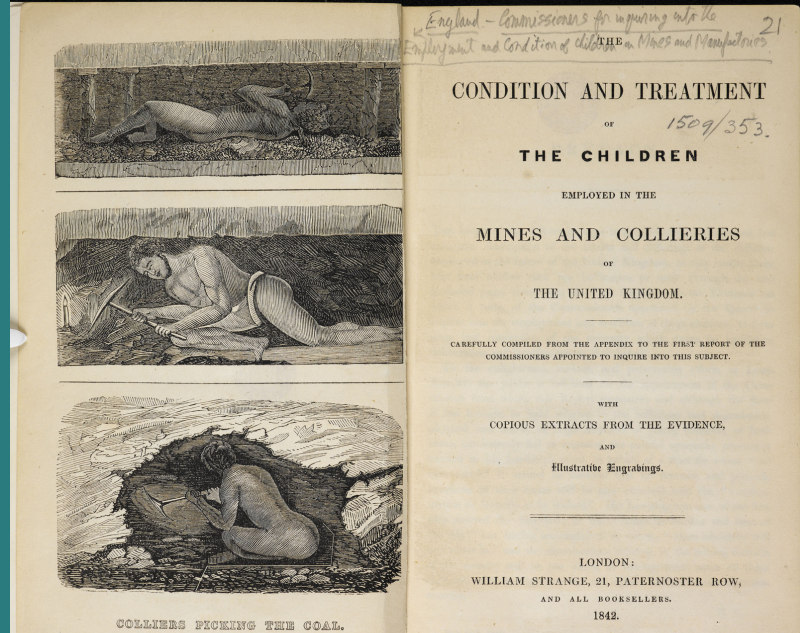
HERE ARE SOME OF THE MAIN CHANGES THAT MADE LIFE BETTER FOR CHILDREN:

- The Factory Act of 1833 stopped children under 9 years old working in textile mills, limited children 9-13 to only nine hours work a day and children 13-18 to 12 hours a day, and children under 11 had to attend school two days a week.
- In 1842, the Mines and Collieries Act stopped women and children working underground, and no child under 15 was allowed to work the winding gear in mines, which was very dangerous and led to a lot of accidents.
- The 1844 Factory Act stopped children under 8 working in any factories, 8–13 year olds could only work six and a half hours a day (and 6 hours on a Saturday), and safety guards were fitted to all machines.

Life was still hard for a lot of children, and families still relied on kids to help bring in money. Many families were forced to do extra work in their homes to make ends meet. This was low paid and the whole family might have to work all day, seven days a week, just to afford food.

England – Commissioners for inquiring into the Employment and Condition of children in Mines and Manufactures

21

THE CONDITION AND TREATMENT

OF

1509/353.

THE CHILDREN

EMPLOYED IN THE

MINES AND COLLIERIES

OF

THE UNITED KINGDOM.

CAREFULLY COMPILED FROM THE APPENDIX TO THE FIRST REPORT OF THE COMMISSIONERS APPOINTED TO INQUIRE INTO THIS SUBJECT.

WITH

COPIOUS EXTRACTS FROM THE EVIDENCE, AND Illustrative Engravings.

LONDON:
WILLIAM STRANGE, 21, PATERNOSTER ROW, AND ALL BOOKSELLERS.
1842.

COLLIERS PICKING THE COAL.

So, next time you feel like complaining about school on a Monday morning, or are asked to tidy your room, thank your lucky stars you live in 21st Century Britain!

Even though the reduction of working hours for women and children brought about the Factory Act of 1833, there were still dangers such as breathing in dust. Would fans be the answer?
Workers in cotton mills were worried about fans. In a book called North and South, a character called Bessy Higgins explains that some workers complained of hunger as a result of the improved ventilation, arguing that 'they'd been long used to swallowing fluff'.

EVIDENCE FROM OUR COLLECTION

These are a pair of safety goggles that date from just after the end of the Industrial Revolution. Conditions in factories were usually hot, dirty and cramped and little attention was paid to the safety of workers. The average worker worked 13 to 15 hours per day, in bad conditions doing boring tasks, six or sometimes seven days a week. For all these reasons, there were a lot of accidents in factories. There was a danger that bits of wood, fluff, or even machine could fly off and hit you in the eye.

Be a History Detective

During the Industrial Revolution towns like Lancaster were bigger and dirtier, and rows of new terraced housing was built to accommodate the workers. You can still see many clues about Lancaster's industrial heritage in and around the city. Have a look for the old factory buildings and mills. There are certain features that might help you spot them. They are usually several stories tall, with repeating patterns of windows. Sometimes they have chimney stacks.

Some old factories and mills have been torn down to make way for new buildings, and others have been converted and refurbished to be reused. How are some of the old factories and mills near where you live used?

You can still walk along the canal which was very important to the growth of Lancaster during the Industrial Revolution. It carried coal and lime, as well as cotton and other goods from Kendal to Preston. There are other clues about how people lived in Lancaster during the industrial revolution. Look for the drinking fountains dotted around the town. Drinking fountains were an important source of clean water.
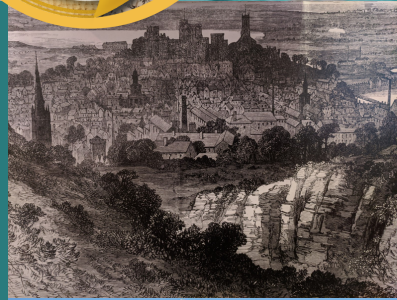
Sometimes you will see them at the top of hills, because walking up them would make people thirsty. Maybe you live in a terraced house that was built during the Industrial Revolution. These houses are now lovely, with indoor bathrooms but they weren't always comfortable. Imagine living without a toilet, or even a tap! Sometimes several families lived in one house. Nowadays, you might share a bedroom with your brother or sister but imagine sharing a bed with your whole family!

This month, visit Lancaster City Museum and have your History Detective Passport stamped. See if you can spot the plans for the Moorlands Estate of terrace houses that were built around Balmoral Road in the 1890s. You can see how the houses were built to make the most of the space. This meant that lots of families could move into Lancaster and work in all the mills and factories. Maybe you live in one of these houses today, or maybe you walk near here to get to school. You might also be able to spot a photo of the workers from Storey's Mill on Moor Lane, which is on the back cover of this case file.

YOUR MISSION...

...IS TO FIND OUT WHAT A 12-HOUR WORK-DAY FEELS LIKE.

Before the factory reforms, many children would have worked long hours with only short breaks. Maybe you wake up for school at 7am - if you went straight to work and worked for 12 hours, you wouldn't finish until 7pm!

Children who worked in factories did the same thing all day long; maybe they picked up bits of cotton off the floor; maybe they sat in the cold and dark at the entrance to a tunnel down in a mine waiting for wagons to come along; maybe they cleaned shavings out of the workings of dangerous machines; maybe they would dip matchsticks into toxic glue and flammable phosphorous. Some children may not have food to eat during the day. But, if they did, their breaks would be very short.

Of course, we don't expect you to go out and get a job, but noticing all the different things we do in our modern lives can help us appreciate how long, hard, and boring life was for factory workers.

FILL IN THE DIARY ON PAGE 9 AND SEE WHAT YOU MANAGE TO FIT INTO YOUR DAY!

HAVE A GO AT DOING SOME PIECE WORK...

Factory workers, especially children, didn't get paid much for their work. When they got home, some children had to do even more work to make a little bit extra for the family. This work was done by all the family in the home, so even the elderly and poorly members of the family could help.

It was called 'piecework'. Instead of being paid per hour, the family got paid for how much they produced. For example, a family who folded matchboxes would be paid for every 100 boxes they made. If they only made 100 boxes in an hour, they might not make enough to buy food for the day. If they became really quick and made 500 boxes, they could afford food for all the family. Why not see how good you would be at piecework? You will need:

- 50 small items, such as raisins, coins, or beads
- Clock or a timer

Your task is to sort these little items into piles of 5.
You have only 20 seconds to sort the items!
When the 20 seconds is up, see how well you have done using the table on the next page.

WHAT WOULD IT BE LIKE TO WORK A 12-HOUR DAY?

Noticing all the different things you do in your modern lives can help you appreciate how long, hard, and boring life was for us factory workers. Fill in this diary page and see what you manage to fit into your day!

Time		Time
7am-8am		1pm-2pm
8am-9am		2pm-3pm
9am-10am		3pm-4pm
10am-11am		4pm-5pm
11am-12pm		5pm-6pm
12pm-1pm		6pm-7pm

Use this table to measure your success at piecework. Where will you sleep tonight, and will you go to bed hungry?
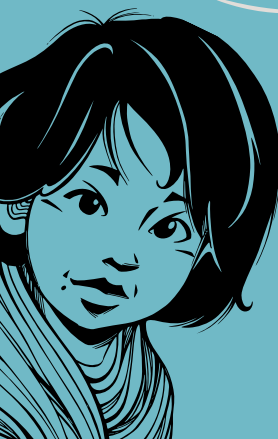
3-5 PILES OF 5 — You haven't earned enough to eat today. You will try to find somewhere safe and dry to sleep, but you'll be going hungry tonight.

5-8 PILES OF 5 — You can buy yourself somewhere to sleep, even though it'll just be space on a floor. And you can afford a hard bit of bread on your way there!

8-10 PILES OF 5 — Happy days! You've earned a box and a blanket in a dosshouse and a pretty decent tea – bread, cheese and some small ale!

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TOP SECRET
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