BBC BITESIZE

Merthyr Tydfil: The Industrial Revolution

Primary resources

Welcome to the BBC Bitesize educational resources pack Merthyr Tydfil: The Industrial Revolution

To coincide with the bicentenary of Cyfarthfa Castle, BBC Cymru Wales' Education Team has developed bilingual resources to celebrate the industrial history of Merthyr Tydfil. This pack is a collection of classroom-ready resources for teachers, designed to inspire pupils and bring the Industrial Revolution to life through engaging lessons and tasks.

Here you'll find fun activities—created by teachers—that are suitable for pupils in Years 4, 5, and 6. The activities have been designed to align with the Curriculum for Wales, offering rich opportunities for teachers to develop the Four Purposes and explore the Areas of Learning and Experience with their class. The activities offer flexibility, allowing teachers to tailor them to each pupil's unique learning pathway.

The pack presents the history of the people of Merthyr Tydfil in the 1820s and the content is relevant to pupils across Wales, covering themes such as work, migration, housing as well as health and well-being during the period. These themes provide an opportunity for pupils to develop a deeper understanding of the significant changes brought about by the Industrial Revolution.

Give your pupils the spotlight! Share their creativity and experiences with the Merthyr Tydfil resources pack on your social media. Use the hashtag #merthyrbitesizepack to join the conversation.

BBC BITESIZE

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Merthyr Tydfil: The Industrial Revolution

Primary resources
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Merthyr Tydfil

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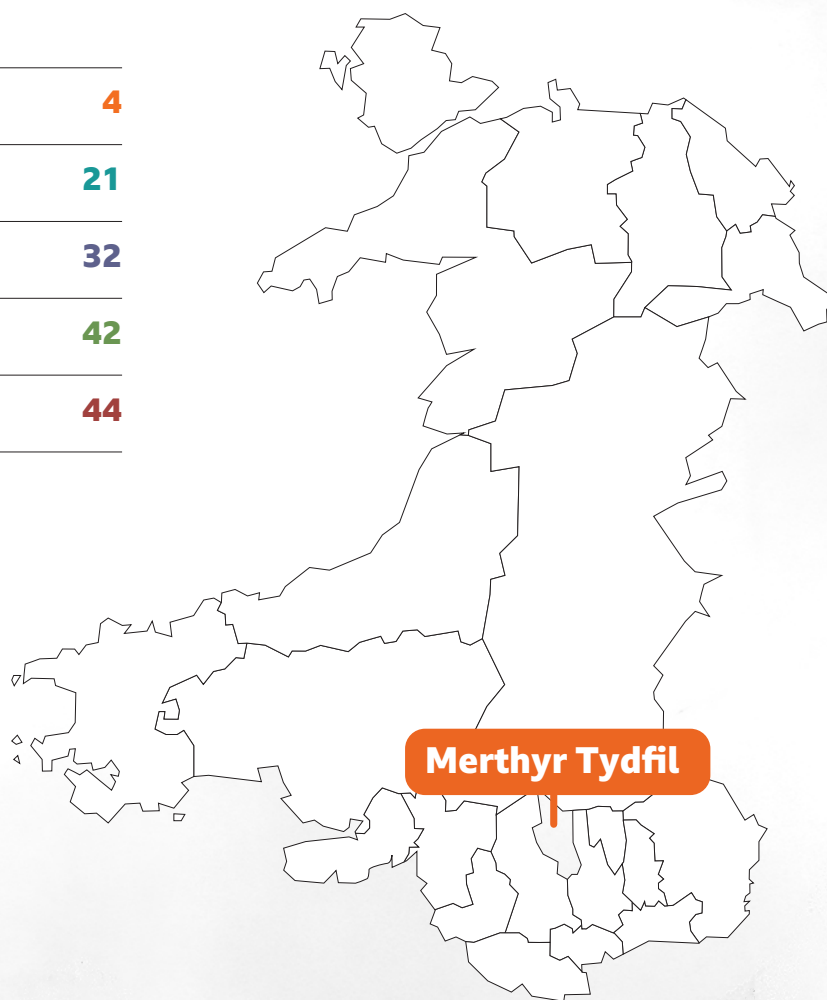
The growth of Merthyr Tydfil
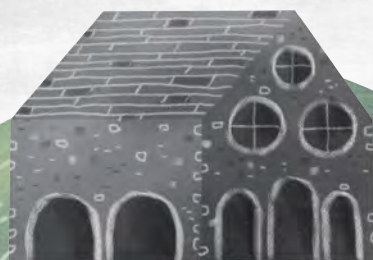
Merthyr Tydfil: a timeline

Educational aim
Explore events in Merthyr Tydfil's industrial past. Understand how important events and the growing population might have impacted people and their communities. Interpret data and create a graph.

Summary
Pupils will create a timeline of key events from Merthyr Tydfil's industrial past. They will explore Merthyr Tydfil's transformation during the Industrial Revolution by analysing historical population data, creating line graphs, and discussing the impacts of rapid urban growth on living conditions.

Areas of Learning and Experience
Humanities; Mathematics and Numeracy

Organisation
Group and individual work.

Equipment
Printed timeline fact cards, large pieces of paper / whiteboard space, scissors, glue, coloured pens or pencils. Graph paper or worksheets with pre-labeled axes, rulers, handouts or slides with population data, images of Merthyr Tydfil (see the Images section).

Social media
Use #merthyrbitesizepack to showcase your pupils' work and inspire others.

Context
Explain to the class that they will explore how Merthyr Tydfil was transformed from a small farming village into one of the largest towns in Wales. They will look at the key events and use census data to understand how Merthyr Tydfil's population changed.

Explain that the **Industrial Revolution** was a period of huge change for places like Merthyr Tydfil. Once a small village, Merthyr became one of the most important towns in the world for iron-making. The different materials needed to make iron (iron ore, coal and limestone) were nearby, so it became a booming industrial town with four huge ironworks. There were also coal mines and quarries in the surrounding area. Thousands of people moved there for work.

The building of factories, textile mills and railways created a demand for iron to make tools, machinery and rails. Coal was needed for making iron and as fuel for steam engines. It also meant that there was a need to build roads, canals and railways to move resources and products.
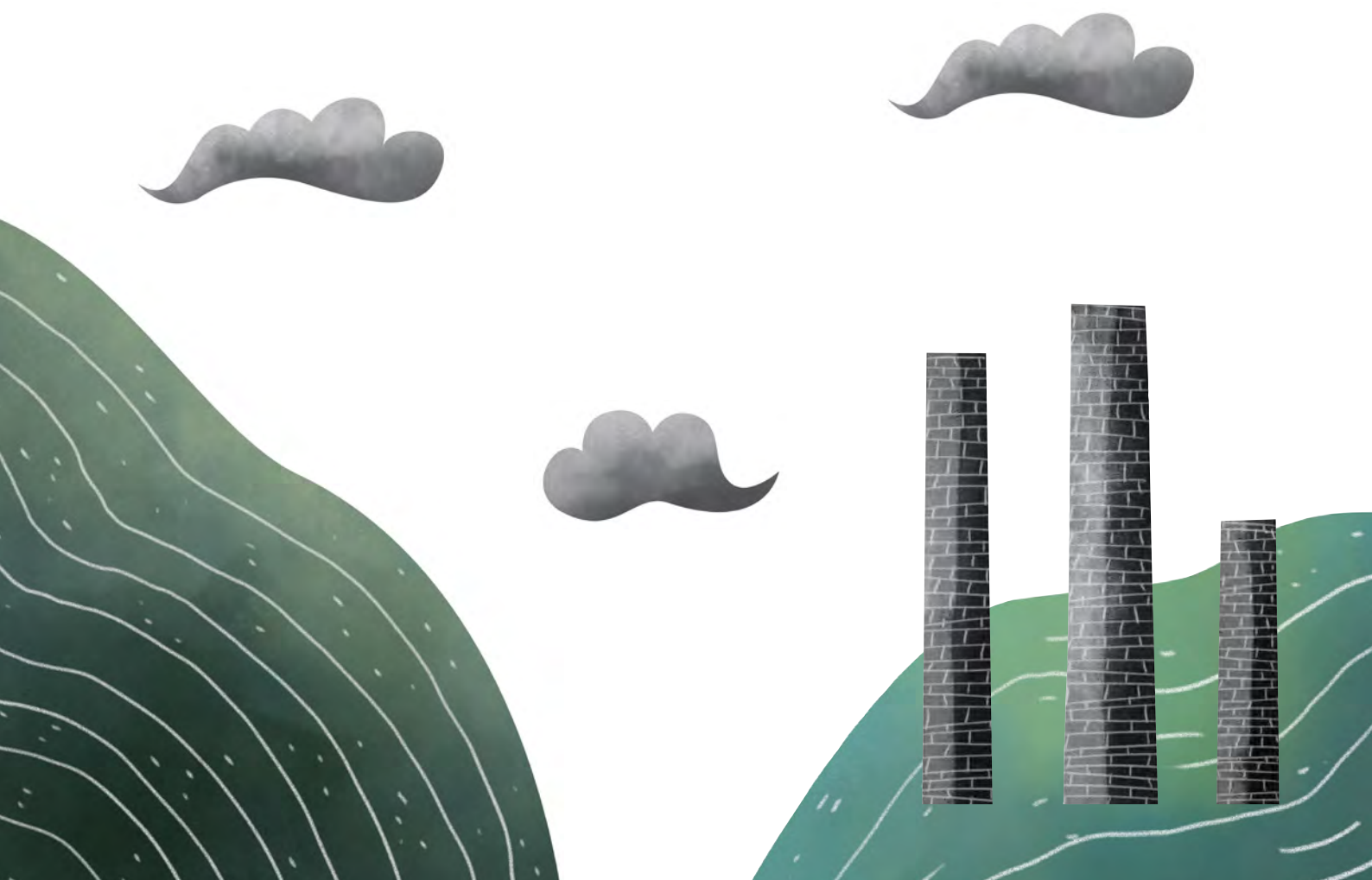
Martha: My town Merthyr Tydfil

Merthyr Tydfil has changed a lot even since I moved here from Carmarthenshire, and it's still changing all the time. It used to be a little village not so long ago. But since they started making iron here, it's grown into one of the largest towns in Wales. Thousands of people live here now, with more people arriving every day. You'll hear all kinds of accents in Merthyr, and you'll hear different languages too – Welsh, English and even Irish.

This has all happened because Merthyr is a very good place to make iron. All the things that you need to make it can be found here. There's the iron ore which lies underground here. This is the rock which has iron inside. There's also a lot of coal in the area, which is used to heat the furnaces. And there's limestone as well, which is needed to make the iron pure.

Merthyr is a noisy place with smoke puffing from the chimneys and carts rattling over the cobbles. The roar of the blast furnaces in the ironworks sounds like constant thunder. The sound of hammering is never ending. It's smelly too. There's always the stink of rotten eggs in the air. The stench from the tanneries, where they make leather aprons for the ironworkers, is awful. Ych a fi!

The people who work here do difficult and dangerous jobs. They don't get paid very well and they live in small, overcrowded houses. Sometimes, when they are very unhappy, they rise in protest against the ironmasters.

Everywhere you look, they're building rows of little homes. Our house is tiny. We call it a 'one-up, one-down'. That means there's just one room downstairs for cooking, eating, washing and sitting, and one room upstairs where all of us sleep. In some houses, as many as 10 people live in just one room. How on earth do they all fit in there?

The ironmasters are the very rich men who own the four huge ironworks in the town. Mr Crawshay, who owns the Cyfarthfa Ironworks, is so rich that he's just built a mansion that looks like a castle!

Activity 1: Key events

Timeline: Explain that a timeline is a diagram that shows events in their historic order. A timeline is presented in date order, and starts with the earliest event and then moves forward in time.

In groups: Ask pupils to create a timeline using large paper or the whiteboard. First, they should draw a long horizontal line and then label time periods (decades) clearly along the line, from left to right. Give each group the set of timeline cards. Pupils should sort them into order (using the dates provided).

Class discussion: Once the timeline is complete, discuss:

- which events changed Merthyr the most?

- how did people's lives improve or get worse after each change?

A quiet village

Date: Before 1750

- Merthyr Tydfil was a small village in south Wales, with only a few farms and cottages.

- The land was rich in coal, iron ore, and limestone — perfect for making iron, though few people knew it yet.

The start of industry

Date: 1759-1784

- The first ironworks was opened at Dowlais in Merthyr Tydfil by a group of businessmen in 1759.

- Other ironworks followed, like Plymouth in 1763, Cyfarthfa in 1765, and Penydarren in 1784.

- These became some of the biggest iron-making factories in the world. Merthyr Tydfil began growing quickly as people came to work in the furnaces and workshops.

The Glamorganshire Canal is built

Date: 1790–1794

- The Glamorganshire Canal was built to carry coal and iron from Merthyr Tydfil down to the port in Cardiff.

- Boats, called barges, floated along the waterway, pulled by horses walking beside the canal.

- This allowed the coal and iron from Merthyr Tydfil to be transported all over the world.

Steam power and railways

Date: 1804

- Richard Trevithick tested the world's first steam-powered railway engine at the Penydarren Ironworks.

- The engine pulled iron along rails, on a nine-mile journey from the ironworks at Penydarren to the Glamorganshire Canal.

- The steam engine showed how machines could replace horses and move heavy things more easily.

Cyfarthfa Castle is built

Date: 1825

- The powerful and rich Crawshay family built Cyfarthfa Castle, a large mansion, overlooking the Cyfarthfa Ironworks which they owned.

- It was a grand home that showed their wealth and power, while most of their workers lived in small, cramped cottages.

- Today, it's a museum where people can learn about Merthyr Tydfil's past.

The Merthyr Riots

Date: 1831

- People were angry about low pay, job losses, and unfair treatment.

- Thousands marched through the town in protest. Soldiers were sent in, and some of the protesters were killed.

- A man named Dic Penderyn was arrested and later hanged. Some people consider him to be a Welsh working-class martyr.

The steam whistle is invented

Date: 1833

- The steam whistle was invented at the Dowlais Ironworks in Merthyr Tydfil by an engineer named Adrian Stephens.

- It was first used as a device to keep workers safe. It warned them when the boilers that they were working with were close to exploding!

- The whistle made a loud, sharp sound that could be heard across the noisy ironworks. It was so useful that it saved many lives and soon spread to railways and factories all over the world!

The last ironworks closes

Date: 1920s

- The last ironworks in the town to close was Dowlais in the 1920s.

- The Cyfarthfa Ironworks, once one of the most powerful in the world, closed its furnaces for the last time in 1919. Other ironworks in Merthyr Tydfil, like Penydarren and Plymouth had already closed in 1854 and 1860.

- These events marked the end of Merthyr Tydfil's iron-making era, which had helped build railways, bridges, and cities across the world.

Activity 2: The growth of Merthyr

Class introduction: Begin by explaining that before the Industrial Revolution, Merthyr was a quiet rural village surrounded by farms and fields. Show pupils an image of Merthyr in the 19th century when it was a bustling industrial town full of chimneys, houses, and people (see the Images section). Why do they think so much had changed?

Census data: Ask pupils, what do we mean by population, what happened to the population of Merthyr and what challenges might have come with such rapid growth? Share the table of census data for Merthyr Tydfil from 1801 to 1901. Explain briefly what a census is/ does. Ask pupils to use the data in the table and the graph axes to answer the questions.

The growth of Merthyr

1. Using the graph axes, draw a line graph which shows the population data from the table.

2. What was the population of Merthyr Tydfil in 1801?

   _____

3. Which year had the biggest population during the 19th century?

   _____

4. Between which two dates did the population grow the most?

   _____

5. How many more people lived in Merthyr in 1851 compared to 1801?

   _____

6. Why do you think Merthyr's population grew so quickly from 1801 to 1831?

   _____

   _____

   _____

7. What problems do you think might have been caused by such a big population increase?

   _____

   _____

   _____

8. What is the population of Merthyr Tydfil today? Do some research to find out. What has happened to the number of people living in the town? Why do you think this is the case?
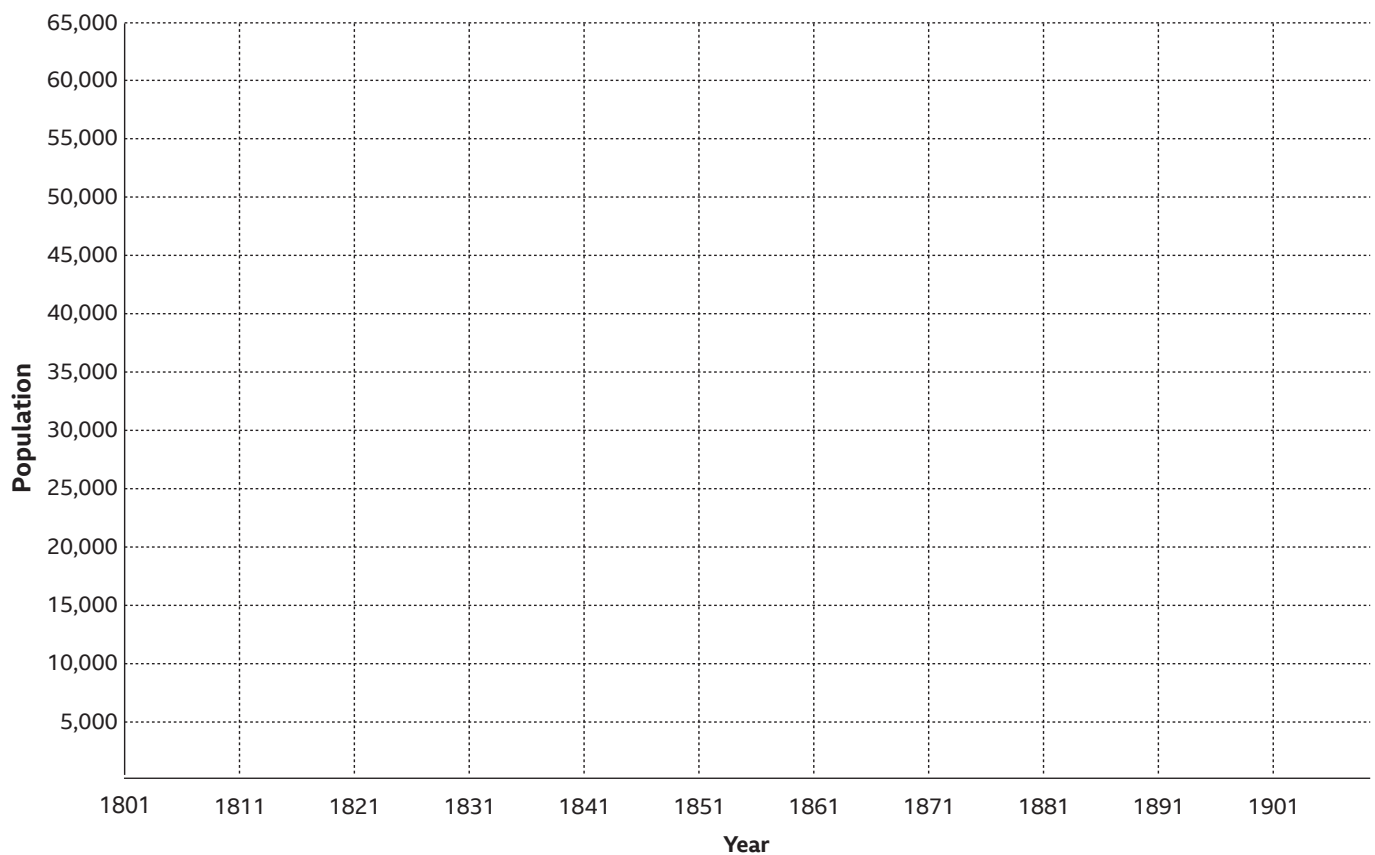
The growth of Merthyr

Merthyr Tydfil population by census year (1801 - 1901)

Year	Population
1801	7,705
1811	10,977
1821	13,309
1831	17,404
1841	34,977
1851	46,378
1861	49,794
1871	51,949
1881	48,861
1891	58,080
1901	62,509

Merthyr Tydfil population growth 1801-1901

A new life in Merthyr Tydfil

Educational aim
Use information to create an informative guide.

Summary
Pupils will explore the experience of 19th-century migration to Merthyr Tydfil and use facts to create a 'Welcome to Merthyr' guide from a migrant's perspective.

Areas of Learning and Experience
Humanities; Languages, Literacy and Communication

Organisation
Individual work

Equipment
Copies of Cian's story, copies of the planning sheet, digital devices, pencils, colouring pens / pencils, word bank of useful terms and sentence starters.

Social media
Use #merthyrbitesizepack to showcase your pupils' work and inspire others.

Context
Explain to the class that they are going to learn about how and why people moved to Merthyr and what life was like for them once they got there.

Martha's story – a new life in Merthyr Tydfil

Did you know, I wasn't always from Merthyr Tydfil? Like so many other people who live in the town, my family moved here from somewhere else. So, I know a little about what it feels like to arrive in a brand-new place, full of busy streets, noise, and excitement!

I was born in Carmarthenshire. Dad heard that there was money to be made in Merthyr because the ironworks needed more workers. He said that there would be plenty of opportunities here and better wages than he could get working on a farm at home. So, our family travelled all the way here to start a new life, and here I am.

I'd never been to as busy a place as Merthyr before. I'd never seen so many people or heard so many different accents.

Merthyr Tydfil is so different from quiet Carmarthenshire. It must be the noisiest place in the whole world! The deafening noise of the furnaces and the sound of metal being hammered never stops.

We travelled a long way to get to Merthyr but some people like our neighbour, Cian travelled even further. He came here all the way from Ireland. I enjoy listening to him describe what it was like back at home and the adventures he had getting here.

Where we live, everyone has come here from somewhere else like Carmarthenshire, Pembrokeshire or Ireland. The people who've moved to Merthyr tend to live alongside each other in the same area.

Life in Merthyr isn't easy. It's loud, smoky, and crowded, but it is also full of new opportunities. While the ironworks keep growing, new people will keep arriving from all over.

Activity 1: Migration

Introduce concept of migration
In this activity use **BBC Bitesize Humanities online content** to learn about migration and the reasons why people might migrate. After explaining the concept, go on to describe how migration contributed to the growth of Merthyr Tydfil during the Industrial Revolution as people moved there to find work.

Migration to Merthyr
Explain that in the 1820s, Merthyr Tydfil became one of the largest towns in Wales, as the ironworks increased in size and more and more people came to find work. Most came from other parts of Wales, but some came from Ireland.

Activity 2: Cian's story

Discuss
Why did Cian leave Ireland? What were his first impressions of Merthyr Tydfil? What were the challenges that he faced and what he might say to other new arrivals? Write any key points on the board, eg smoke, furnaces, noise, jobs, homesickness, crowded streets.

Cian's story: My journey to Merthyr Tydfil

My name is Cian, and I'm 17 years old. I came to Merthyr Tydfil from a small village in County Mayo, Ireland, with my older brother, Liam, who's 19. We left because times are hard at home. The crops aren't growing, and there isn't enough food. So, we packed up what little we had and set off for Wales, hoping to find work and a new life.

We travelled for days. First, we walked many miles to the coast. Then we got on a boat to cross the sea to Wales. We're not the first to make this journey. Word has spread quickly that there is work to be found in industrial towns like Merthyr Tydfil.

When we first saw Merthyr Tydfil, I couldn't believe my eyes. The furnaces roar like dragons, and sparks fly through the air at night. It looks like the sky is on fire. Huge chimneys reach into the sky, puffing out thick smoke that makes the air smell like coal and fire.

The smell in the air is not just smoke but rubbish, dogs, and sometimes worse. Dogs are everywhere with no leads, no collars, and no homes. Even worse are the rats who run through the alleys.

You have to be careful with some of the people too. One new trick I've learned since coming here is to hide my money in my shoe when I'm walking through certain parts of the town.

The houses are close together, and many are falling apart. Some families live ten to a room. Finding a place to sleep wasn't easy. On the first night, we slept in a stable. Then we found a room to share with another family. It is cramped and noisy, but it is warm.

We didn't have any trouble finding work. The ironmasters need strong lads, and there is always something to be done. Liam got work as a cinder filler, shovelling hot cinders from the furnaces into drams so they can be taken away and dumped. It's back-breaking work, but it pays well enough.

I was lucky to get a job as a furnace boy, running to fetch tools and water for the men at the blast furnaces.

Merthyr Tydfil is not home, but it is where our new life begins.

Activity 3: Create a guide

Explain to pupils that they will be creating a guide with the title 'Everything you need to know about moving to Merthyr Tydfil (1820s Edition)'.

Pupils can use the **planning sheet, word bank** and **sentence starters** list to help them create the guide.

Planning sheet

Title

Opening welcome - Start with a friendly introduction welcoming new people to the town.

Sentence starter:
"Welcome to Merthyr Tydfil! If you've just arrived…"

What the town is like - Describe what Merthyr looks, smells, and sounds like. Think about the ironworks, streets, and housing.

Sentence starters:
"The first thing you'll notice is…"
"Everywhere you go, you'll hear…"
"The sky is often filled with…"

Jobs and work - Tell readers what types of jobs are available — and what dangers to look out for.

Sentence starters:
"You might find work as a…"
"The jobs are tough, and you'll need to be ready for…"
"One of the most dangerous tasks is…"

Top 3 tips for surviving in Merthyr - Give advice to help new arrivals settle in and stay safe.

Final thought - Finish your blog with a short note of encouragement or warning.

Sentence starter:
"Life here is hard, but if you're brave and strong…"

Sentence starters

"When you arrive in Merthyr, you will see…"

"The first thing you will notice is…"

"Be ready for the noise of…"

"Jobs here are hard, but you can work as a…"

"One thing you must be careful about is…"

"A good place to stay is…"

"Life here is very different from home because…"

"You will feel proud when you…"

Word bank

Places and buildings

Ironworks

Blast furnace

Slag heap

Lodging house

Streets

Marketplace

Sights, sounds and smells

Smoke

Sparks

Crowds

Soot

Noise

Shouting

Horses and carts

Smell of coal and fire

Feelings

Hopeful

Homesick

Tired

Proud

Excited

Nervous

Working life

Iron and industry

Educational aim
Develop an understanding of the working lives of men, women and children in the 19th century.

Summary
Explore the roles of men, women, and children in industry during this period by investigating job cards, comparing working conditions and considering the advantages and disadvantages of each job.

Areas of Learning and Experience
Humanities; Languages, Literacy and Communication

Organisation
Group work with individual and collaborative tasks.

Equipment
A set of printed job cards per group, job fact file sheet, paper, pens, large sheet for group display.

Social media
Use #merthyrbitesizepack to showcase your pupils' work and inspire others.

Context
Explain to the class that they are going to find out more about the type of work some people did 200 years ago – and how the kinds of jobs that existed and the way we work have changed over time.

Show pupils the images of **ironworks** (see the Images section). Explain that **ironworks** are huge factories where workers use enormous hot ovens, called furnaces, to help take out iron from rocks (called iron ore). Say that thousands and thousands of people moved to Merthyr Tydfil in the late 18th century and in the 19th century to work in the ironworks and in the coal mines.
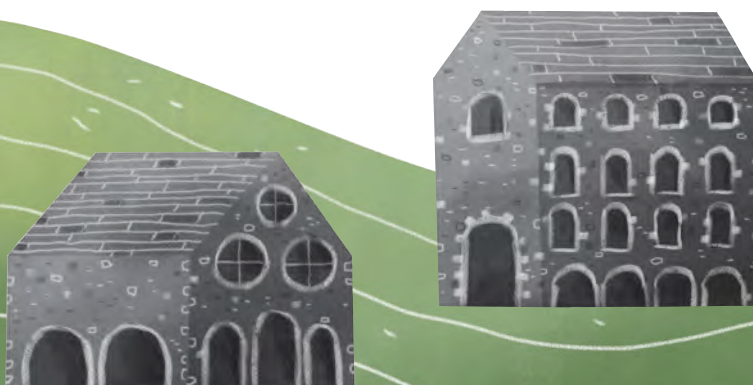
Activity 1: Name that job!

Ask pupils to think about jobs that people do today. How many jobs can they think of and list in just one minute?

Explain that the kinds of jobs people had in Merthyr Tydfil 200 years ago would have been very different to the jobs that exist today. Display the portraits of ironworkers (see the Images section). Then, read Martha's description of her and her family's jobs.

Martha's story: My family and our jobs

People come to Merthyr Tydfil because there's work for them here in the ironworks and the mines. There are all sorts of jobs to do and none of them are easy. Some are dangerous, some are dirty, and most don't pay much at all.

How much you get paid depends on the ironmasters, the men who own the ironworks and employ thousands of people. This can change from week to week. When the price of iron goes down, your pay can go down too. If you're too slow, you earn less. If you're sick, you get no wages at all. We don't get any holidays, and no one pays you if you get hurt.

My father works at the Cyfarthfa Ironworks in Merthyr. He works at least 12 hours a day in the heat and smoke. Evan, my big brother who's 12 years old, works with him. Lifting, carrying and shovelling all day has made him strong.

Sometimes there's no work for my father to do. This is why the rest of my family have to work too.

Mam washes clothes for other families, scrubbing and boiling until her hands are raw. And me? I'm a tip girl at the ironworks. My job is to take the waste from the furnaces, which are huge and very hot ovens where the iron is made, and put it on to large piles. These piles are called tips. I wear a flat straw bonnet so that I can carry the waste on my head.

I do this whatever the weather – in the sun or in the snow. The dress I wear is made from a thin canvas material. It doesn't become heavy when it's raining, but it doesn't keep me warm either. I feel so cold in the winter!

The ironworks and coal mines are dangerous places to work. People get hurt – all the time. Some people who work in the furnaces go blind from staring at the fire all day. Once you're injured, that's it. There's no help, and no doctor.
If you can't work anymore, there's no money either.
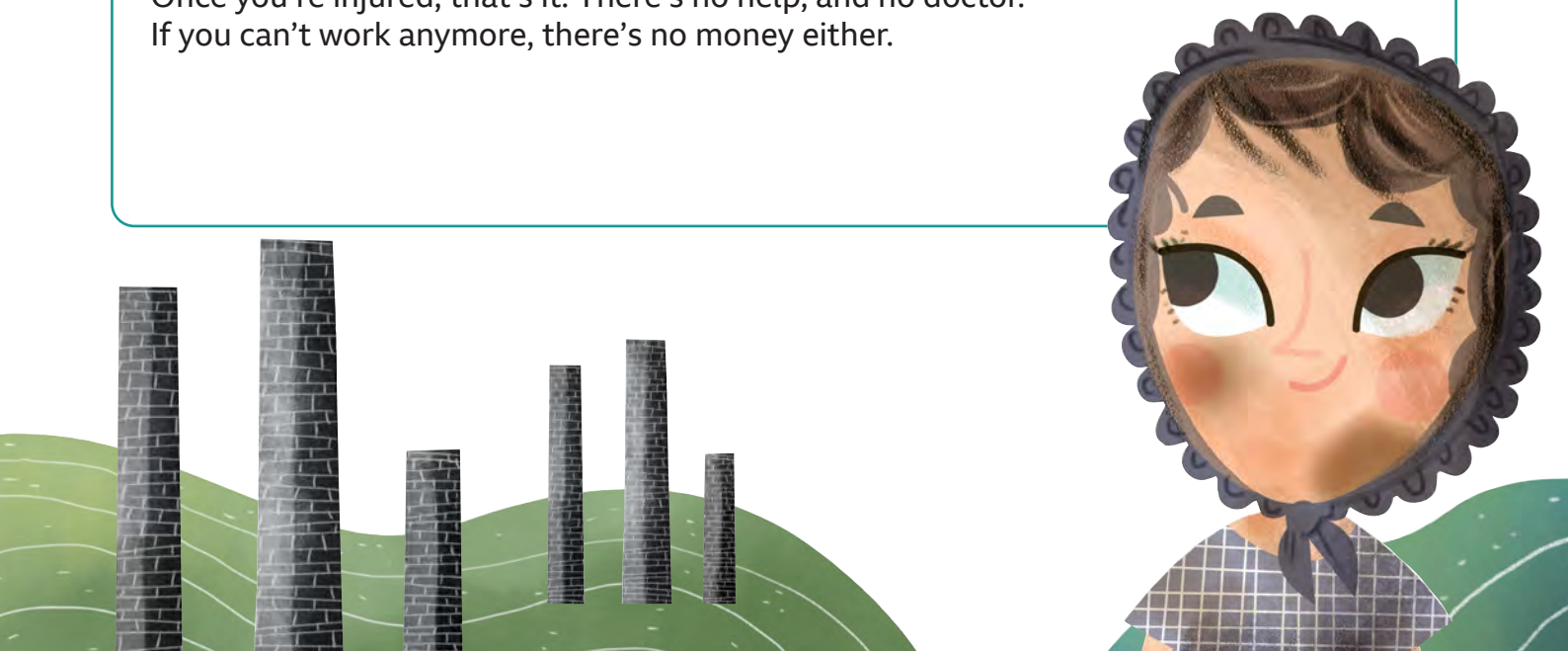
Activity 2: Jobs card game

In groups: each pupil in the group should be given a different job card. The job card gives the pupil the following information:

- the job title
- who usually did the job (man, woman or child)
- where they worked
- what they did
- the clothes they wore
- the skill level
- the dangers they faced

Each job is given a rating out of 10 for these different categories (1 the lowest, 10 the highest).

Ask the pupils to keep their job card hidden. Pupils then take it in turn to choose a category from their card (eg, danger level) and ask everyone in the group to share their score for that category. The pupil with the highest score for that category wins that round. The first pupil to reach three points wins the game.

Once the game is over, ask the group to look at all the jobs on the cards and discuss which one is the best in their opinion. Once they have made their selection, ask them to fill in the job fact file.
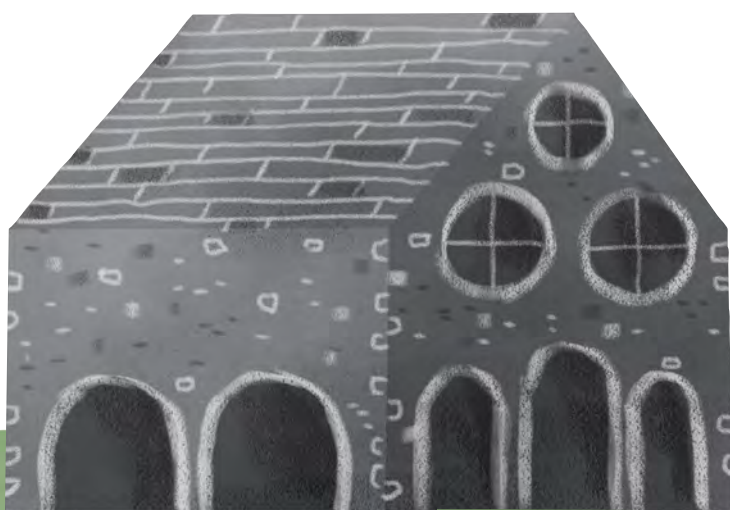
Job title:

What is the work?

Advantages (What might be good about this job)

Disadvantages (What might be bad about this job)

Would you want this job?
(Why/Why not?)

Sketch of worker

Puddler (man)

Where you work: In a huge, hot factory called an ironworks where iron is made.	10
What you do: Stir melted iron inside a big fiery oven (called a furnace) using a long metal rod. This helps clean the iron and make it strong.	10
Clothes: A thick leather apron, heavy boots, a cloth around your face to protect you from smoke and heat.	7
Dangers: It's very hot. You can get burnt, feel sick from the heat, or even go blind from working near fire and smoke all day.	10
Skill level: You need to be very strong and know exactly how to stir the hot iron at the right speed and for the correct time.	9
Interesting fact: Puddlers are some of the strongest men around. Their job is like rowing a boat in a sauna all day!	

Coal miner (man)

Where you work: Deep underground in a dark coal mine.	9
What you do: Dig coal with mandrill (pickaxe), load it into carts, and then push the carts along tunnels.	8
Clothes: Old trousers and shirt, a candle on your cap.	5
Dangers: Explosions, the roof falling in, breathing in coal dust, getting squashed by carts.	9
Skill level: You need strength and experience to dig safely and find the best coal.	7
Interesting fact: Miners often have to crawl through small tunnels to get to where they dig out the coal.	

Navvy (man)

Where you work: Outside, wherever canals, railway lines and roads are being built.	9
What you do: Dig using shovels and picks, smash rocks, lay tracks.	7
Clothes: Old trousers, shirt with no sleeves, sometimes barefoot.	5
Dangers: Tunnels can collapse, rocks can fall, working in rain, wind and snow.	8
Skill level: You need to be strong and work hard, but the job doesn't need much training.	6
Interesting fact: Navvies live in tents and move to where the work is.	

Ironworks labourer (woman)

Where you work: Outside at the ironworks, near the furnaces, which are like big ovens where the iron is made.	8
What you do: Carry tools and metal, clean waste, and sort heavy loads.	5
Clothes: Long skirts tucked up, scarf over face, strong boots.	8
Dangers: Cuts, burns, breathing in smoke.	8
Skill level: You need to follow instructions and lift heavy things, but it's not a skilled job.	4
Interesting fact: Some women work during the night while their children sleep nearby!	

Washerwoman (woman)

Where you work: In your own home or in rich people's houses.	6
What you do: Scrub and boil clothes by hand for other families.	3
Clothes: Aprons, sleeves rolled up, scarf to keep your hair out of the way.	6
Dangers: Burns from hot water, sore hands from soap, aching back.	2
Skill level: You need to know how to clean clothes well and be able to do lots of hard work.	5
Interesting fact: Some washerwomen are paid with food or old clothes instead of money.	

Air-door boy (child – usually boys aged 6–10)

Where you work: Deep inside a coal mine, far underground.	8
What you do: Sit for hours in the dark, opening and closing a big wooden door to let fresh air in and to let carts pass through.	5
Clothes: Old rags, often barefoot, with a candle.	8
Dangers: Rats, falling asleep, getting hurt by carts in the dark.	8
Skill level: You only need to open and close the door.	4
Interesting fact: You have to stay awake and alert because if you fall asleep you might fall onto the track and get run over by a cart full of coal or even a horse!	

Drammer (child – usually aged 10–14)

Where you work: Underground in the coal mine.	10
What you do: Pull heavy carts called drams full of coal along tunnels.	3
Clothes: Shirt, trousers, often no shoes.	2
Dangers: Getting crushed, breathing in bad air and coal dust, tripping in the dark.	8
Skill level: You need strength and to stay on the right path, but the job itself is simple.	3
Interesting fact: Some children pull coal carts while crawling on their hands and knees.	

Blacksmith (man)

Where you work: In a small workshop called a forge near the mine or village.	5
What you do: Make tools, horseshoes and machines out of hot metal.	5
Clothes: Leather apron, thick sleeves.	6
Dangers: Burns, flying sparks, heavy lifting.	6
Skill level: You need lots of skill to shape hot metal, use tools safely, and make useful items.	9
Interesting fact: Blacksmiths are very important - everyone needs blacksmiths to make and fix things.	

Tip girl (child – usually girls aged 8–14)

Where you work: Outside at the ironworks.	7
What you do: Carry waste from the furnaces up to a waste heap called a tip.	4
Clothes: Thick apron, scarf and a flat-topped hat.	5
Dangers: Hurting your hands, working in all weather even in snow and rain, breathing in dust.	4
Skill Level: You need to carry heavy loads, but the job doesn't need training.	3
Interesting Fact: Tip girls wear flat straw hats so that they can carry baskets of waste on their heads.	

Domestic servant (woman)

|	
Where you work: In someone's house.	6
What you do: Clean rooms, carry water, wash dishes, and help with cooking.	7
Clothes: Simple dress, apron, cap.	3
Dangers: Tiredness, injuries from lifting or lighting fires, no time off.	2
Skill level: You need to remember lots of different tasks and follow strict rules, but you learn as you go.	5
Interesting fact: Some girls start as servants when they are just 12 years old.	

Activity 3: Talking about jobs and work in the past

Lead a class discussion: ask pupils to discuss the following giving reasons for their answers:

- which of the jobs available at this time were the most dangerous?

- which were the most difficult to do?

- would children be allowed to do these jobs today?

- what kinds of jobs did women have?
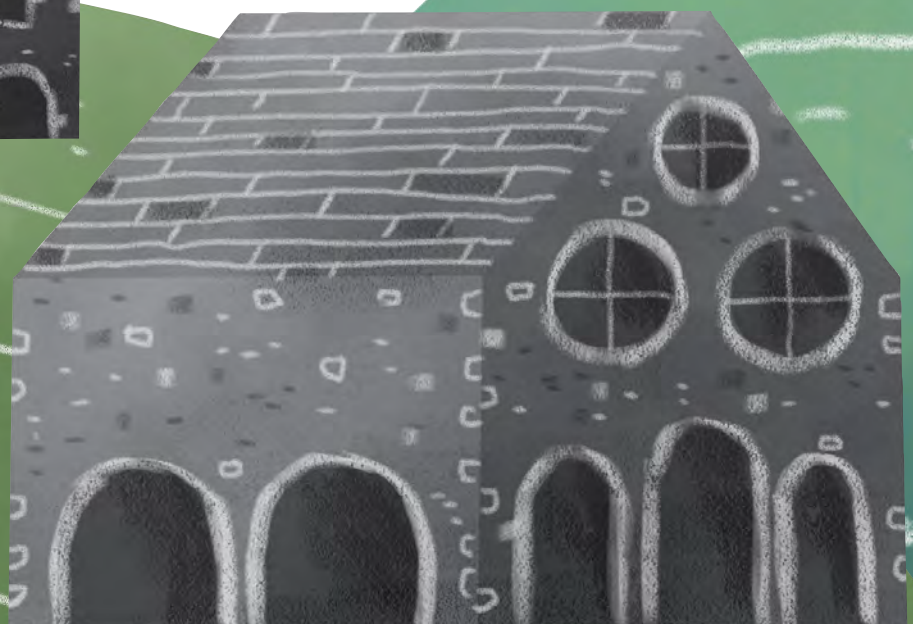
Homes and health

Cottages and castles

Educational aim
Develop an understanding of the living conditions of families who lived and worked in Merthyr Tydfil during the Industrial Revolution.

Summary
Pupils will learn about the cramped and often challenging living conditions in 19th-century industrial towns such as Merthyr and compare them with Cyfarthfa Castle. They will create a 3D model of a cottage typical of this period.

Areas of Learning and Experience
Humanities; Languages, Literacy and Communication; Expressive Arts

Organisation
Individual or paired work, depending on age group.

Equipment
A range of materials to create a 3D model or modelling software, images of Rhyd-y-car cottages and Cyfarthfa Castle (see the Images section).

Social media
Use #merthyrbitesizepack to showcase your pupils' work and inspire others.

Context
Tell pupils that they'll explore how workers in Merthyr Tydfil lived 200 years ago. They'll discover what their homes were like and what challenges they faced there.

Martha's story: My home

We live in a worker's cottage in Merthyr in a place called Williamstown. It is squashed tight between rows of others just like it, not far from the Cyfarthfa Ironworks.

I live here with Mam, Dad, my brother Evan, and my two little sisters, Ann and Gwen. That means that there's six of us, all in one tiny house.

When we first moved in, I remember thinking, where will we all fit? There's just one room downstairs. That's where we cook, eat, wash, and try to keep warm by the fire. It's also where Mam does all the washing and where Ann and Gwen sometimes play when the weather's bad.

Upstairs there are two beds. Mam and Dad sleep in one, and the four of us children squash into the other. I sleep next to Gwen who wriggles like a worm in her sleep!

When we need water, Mam has to go and get it from the pump down the street. The toilet's out the back, across the yard. In winter, it's freezing cold.

We all wash in the downstairs room. On Saturdays, Mam heats water on the fire and we all take turns getting clean, eldest to youngest in a big metal tub. I'm in the middle so the water's not too dirty or cold by the time it's my turn.

We don't have much furniture, just a wooden table, a few chairs and one cupboard for food. Mam keeps a candle stub on the mantlepiece above the fire for when we need light, and a Bible on the shelf.

But it's not all bad. Sometimes, when the fire's lit and we're all home together, it feels warm and safe. We tell stories, or Dad sings songs he learnt when he was a boy.

Not far from our cottage, high on the hill, stands Cyfarthfa Castle. It was built by Mr Crawshay, the ironmaster who owns the Cyfarthfa Ironworks where Dad, Evan and I work. The house is enormous, with towers and grand rooms, and it's surrounded by a huge park. The Crawshays live there in luxury, with servants and fine clothes. Sometimes, I wonder what it's like inside that castle, and if the children there ever think about girls like me.

Activity 1: A workers' cottage

Show the photograph of one of the **Rhyd-y-car worker's cottages** (see the Images section) and images from **the virtual tour of the cottages**.

Ask pupils the following questions about the cottage.

- How many rooms are there?
- Is there a bathroom?
- Is there a kitchen?
- What type of furniture can they see?
- Is there a television?
- Which materials have been used to make the furniture?

You could also show pupils images of **workers' cottages in the National Slate Museum**.

Activity 2: Designing a model of a worker's cottage from 1820

- Using the answers to the questions in Activity 1, ask pupils to create a list of the features they will need to include in their model of the cottage.
- Ask pupils to draw a basic floor plan of their cottage. Then, ask them to sketch what their model will look like from the front and the side.
- Once their floor plan drawing of the cottage is complete, show the pupils an image and floor plan of Cyfarthfa Castle *(see Images section)*. This was the mansion home of the Crawshay family who owned Cyfarthfa Ironworks. How does the mansion floor plan compare with the floor plan of the cottage?

Activity 3: Building the cottage

- Ask pupils to build their cottage using their floor plans (3D model, or digital 3D model).
- Give pupils the opportunity to paint the interiors and exteriors and build model furniture. Ask pupils to think about and research the materials used to build the cottage and encourage them to try to represent / recreate the look and feel of these materials.

Death and dirty water

Educational aim
Extract and use information from different sources.

Areas of Learning and Experience
Humanities; Health and Well-being; Numeracy

Summary
Pupils will use a health report and data to investigate living conditions in Merthyr Tydfil in 1854. Pupils will also learn how diseases spread and look at ways to improve health in towns.

Organisation
Group discussion and individual work.

Equipment
Copies of the health report extract, cholera poster (see Images section), worksheet, writing equipment.

Context
Tell pupils that they are going to learn why diseases like cholera would break out in places such as Merthyr Tydfil in the 19th century.

Martha's story: I see a lot of ill people

Merthyr Tydfil is packed with people. The town has grown very quickly because so many have come here to find jobs in the ironworks. Workers in Merthyr live in small, crowded houses which are cold and damp. I don't know how so many people fit into some of them!

There are six of us in our family, and we all live together in a little cottage near Cyfarthfa Ironworks. There's only one room downstairs and we all sleep in the one room upstairs.

Lots of people in Merthyr are ill, and because people live so close to each other, when one person in a house gets sick everyone else does too.

Consumption is a very common illness here, but no one knows what causes it. Morgan, one of the boys who lives next door and is the same age as me, is ill with it again. He looks thin and he's always tired. He has to stay in bed and I can hear him coughing all the time. His mother looks after him. She says that she hopes he'll get better. I'm not so sure that he will.

When we need water, Mam has to go and get it from the pump on the corner. Some days the water smells really bad and I don't think that it's very clean. The streets here are very dirty. Every morning, when I walk to the ironworks with my brother Evan, the streets are muddy and they stink of waste from the outside toilets. I don't think that the water we drink and the dirty streets do our health much good.
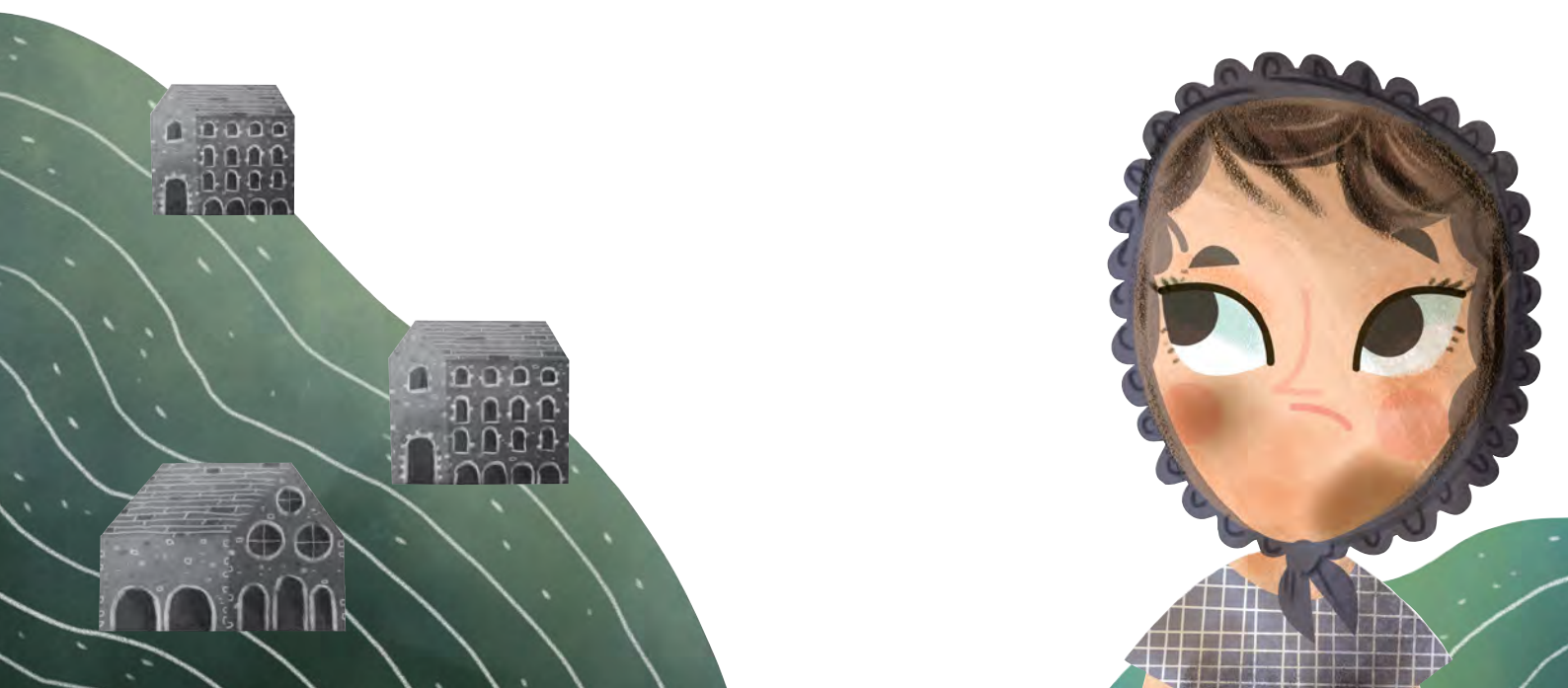
Activity 1: Cholera poster

Explain to the pupils that they will look at information from different years in the 19th century to help them find out:

- why so many people became ill

- what the conditions were like in the town at the time

- what could have been done to help stop the spread of disease

Look at the cholera poster for Merthyr Tydfil from 1849. Ask pupils to use the data on the poster to come up with two headlines about the cholera outbreak in Merthyr Tydfil.

Activity 2: 1854 Health Officer's Report

Sanitation in Merthyr
Explain that in Merthyr Tydfil, many families lived in very crowded houses. Sometimes 10 people lived in just one room. There were no proper drains or toilets inside, and people collected drinking water from pumps in the street. But some of these pumps were too close to smelly cesspits (holes in the ground used to collect toilet waste) or leaking toilets, which made the drinking water dirty. The dirty water ran downhill through the town, spreading diseases like cholera, typhoid, and dysentery.

Explain key terms

Cholera - A disease caused by drinking dirty water. It causes severe diarrhoea and dehydration.

Typhoid - An illness spread through food or water with germs in it. It causes fever and stomach pain.

Dysentery - A serious infection causing diarrhoea. It spreads through poor hygiene and dirty water.

Cesspit - A deep hole used to collect toilet waste. They would often leak and pollute nearby water.

Privy - An outdoor toilet, usually a small shed. Shared by many families and often very basic.

Introduce health officer's report
Read the short 1854 Health Officer's Report and the table of data. Two versions of the extract from the report are included, one with the original wording and a simplified version. Ask the pupils to work individually to complete the questions that accompany the report.

The following adapted extract is from the Report of the Sanitary Condition of Merthyr Tydfil written by **Dr. William Kay in 1854**.

Simplified version

"The town of Merthyr Tydfil is chiefly composed of small cottages, lacking proper water supply, drainage, or cleansing. Slops and refuse are thrown onto the streets, and privies are scarce.

The unhealthiness of Merthyr Tydfil is attributed to local and self-created conditions: the vicious construction of houses, inadequate water supply, absence of drainage, and consequent accumulations of filth."

"Most people in Merthyr Tydfil live in small, crowded houses. There are no proper pipes to bring in clean water, and no good drains to carry away dirty water. People throw their waste and dirty water into the streets, and there aren't many toilets.

The people who live in the town are unhealthy because of the conditions there. The houses have been built badly and there is no clean water or drainage. Rubbish and waste build up everywhere."

Sanitation in Merthyr Tydfil

Deaths due to waterborne diseases during a two month period

Disease	Deaths in poorer area	Deaths in wealthier area
Cholera	455	38
Typhoid	212	26
Dysentery	147	14
Total	**814**	**78**

1. What were three big problems with how clean or dirty Merthyr was in 1854?

2. Why was it dangerous to get water from the pumps in the street?

3. Which group of people got sick the most in Merthyr, and why?

4. Which illness caused the most deaths in the poorer area?

5. How many more people died from cholera in the poor area than in the richer area?

6. What do you notice when you compare the number of deaths in the two areas?

7. Why do you think rich people didn't get as sick as poor people?

8. What can we learn today from what happened in Merthyr a long time ago?

Sanitation in Merthyr Tydfil

Glossary

Term	Definition
apron	An item of clothing worn over other clothes to keep them clean or for protection.
ash	The soft, grey material that is left after something has been burned.
barge	A long, narrow type of boat used on a canal.
blast furnace	A huge oven where iron is made by blowing air through a mixture of iron ore, limestone and coal.
boiler	The part of a steam engine that heats water to produce steam.
cinder filler	The job of a cinder filler was to shovel the hot cinders from the furnaces into drams so they could be taken and dumped. Cinder is the material that is left over after rocks have been heated to get metal out of them.
consumption	A disease now known as tuberculosis. It is an infection in the lungs.
drainage	How water and waste flows from somewhere down pipes or into the ground.
dram	A small cart.
fever	When the temperature of the body is higher than usual when someone is ill.
forge	A place where metal is heated and then hammered into different shapes.
furnace boy	A boy whose job was helping the men who worked in the blast furnaces by running to fetch tools and water.
hygiene	Keeping you and your surroundings clean.
Industrial Revolution	A time of huge change that happened in Britain in the 18th and 19th centuries. Instead of making everything by hand, things were made by machines powered by steam-powered engines in factories.
industrial	Having a lot of industry, with factories making goods out of raw materials.
iron ore	A type of rock that contains a lot of the metal iron.
ironmaster	The owner of the ironworks.
ironworks	A large factory where iron is produced.
limestone	A type of rock that was used in the iron-making process to make the iron pure.
mansion	A big, expensive house.
martyr	Someone who is killed because of what they believe.
sanitation	Things that help keep places clean.
slag heap	A large pile of material that is left over after rocks have been heated to get metal out of them.
soot	Black powder produced when things like coal and wood are burnt.
wage	The money paid to people for doing a job.
water supply	How water is provided to houses, usually through pipes.

Images

Dowlais Ironworks, 1840 – George Childs.

By permission of Amgueddfa Cymru - Museum Wales

More images like this one can be seen on the **Museum Wales website**.

Penydarren Ironworks – Unknown artist, 19th century.

By permission of Amgueddfa Cymru - Museum Wales

Pig iron bar recovered from Swansea Canal.

By permission of Amgueddfa Cymru - Museum Wales

Original steam whistle invented by Adrian Stephens, Iron worker in 1833.

Cyfarthfa Castle Museum & Art Gallery, Merthyr Tydfil.

Sackcloth and Ashes: Tip Girls Leaving Work – Thomas Henry Thomas, 1879.

Cyfarthfa Castle Museum & Art Gallery, Merthyr Tydfil.

David Davies, Fineries, Hirwaun – attributed to J.W. Chapman.

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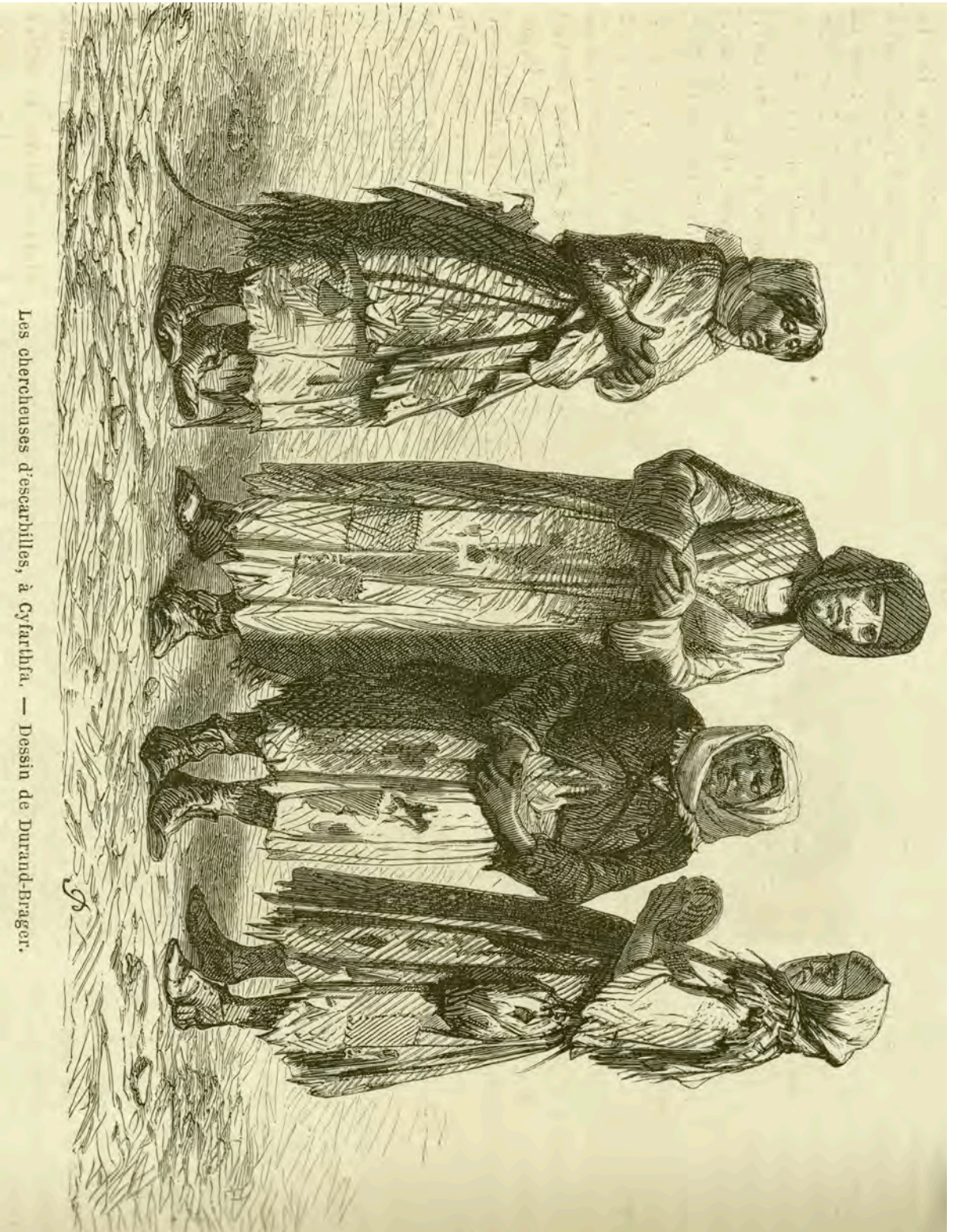More images like this one can be seen on the **Museum Wales website**.

David Davies, Cinder Filler, Hirwaun – attributed to J.W. Chapman.

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More images like this one can be seen on the **Museum Wales website**.

Les chercheuses d'escarbilles, à Cyfarthfa. — Dessin de Durand-Brager.

Les chercheuses d'escarbilles, à Cyfarthfa, 1867 (The Ember Seekers at Cyfarthfa, 1867) - Jean-Baptiste Durand-Brager.

By permission of Amgueddfa Cymru - Museum Wales

Interior view of living room of No 2 Rhyd-y-car, at St Fagans National Museum of History.

By permission of Amgueddfa Cymru - Museum Wales

**Villa Architecture: A Collection of Views, with Plans.
(London: J. Taylor, 1828) – Robert Lugar.**

Cyfarthfa Castle Museum & Art Gallery, Merthyr Tydfil.

Cyfarthfa-Castle-Glamorganshire.

London Pub.^d by J. Taylor, 59 High Holborn.

Watercolour of Cyfarthfa Castle – Penry Williams.

Cyfarthfa Castle Museum & Art Gallery, Merthyr Tydfil.

CHOLERA AT MERTHYR-TYDFIL.

RETURN OF CASES,

Saturday, September 22, 1849.

	ATTACKED.	DEAD.
MERTHYR. Total from commencement (May 25th), as per last Report, corrected by Registration Returns up to 10 A. M., Yesterday	1779	745
New Cases, up to 10 A. M., To-day	1	1
PENYDARRAN. Total from commencement (June 5th), up to 10 A. M., Yesterday	272	170
New Cases, up to 10 A. M., To-day	0	0
DOWLAIS. Total from commencement (June 10th), up to 10 A. M., Yesterday	1196	499
New Cases, up to 10 A. M., To-day	0	1
ABERDARE. Total from commencement (June 24th), up to 10 A. M., Yesterday	364	104
New Cases, up to 10 A. M., To-day	0	0
TOTAL	3612	1520

FRANK JAMES,

Clerk to the Guardians.

H. W. WHITE, PRINTER, MERTHYR. U/MT1/6.

**Printed form showing the number of cholera cases
in Merthyr Tydfil, 22 September 1849.**

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Acknowledgements

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Elfen