

Coal Mines in the Industrial Revolution

Coal was needed in vast quantities for the [Industrial Revolution](#). For centuries, people in Britain had made do with charcoal if they needed a cheap and easy to acquire fuel. What 'industry' that existed before 1700, did use coal but it came from coal mines that were near to the surface and the coal was relatively easy to get to. The [Industrial Revolution](#) changed all of this.

Before the Industrial Revolution, two types of mines existed : drift mines and bell pits. Both were small scale coal mines and the coal which came from these type of pits was used locally in homes and local industry.

However, as the country started to industrialise itself, more and more coal was needed to fuel steam engines and furnaces. The development of factories by [Arkwright](#) and the improvement of the steam engine by [Watt](#) further increased demand for coal. As a result coal mines got deeper and deeper and coal mining became more and more dangerous.

Coal shafts could go hundreds of feet into the ground. Once a coal seam was found, the miners dug horizontally. However, underground the miners faced very real and great dangers.

even with [Watt's](#) improved steam engine, flooding was a real problem in mine explosive gas (called fire damp) would be found the deeper the miners got. One spark from a digging miner's pick axe or candle could be disastrous poison gas was also found underground pit collapses were common; the sheer weight of the ground above a worked coal seam was colossal and mines were only held up by wooden beams called props.

Regardless of all these dangers, there was a huge increase in the production of coal in Britain. Very little coal was found in the south, but vast amounts were found in the Midlands, the north, the north-east and parts of Scotland. Because coal was so difficult and expensive to move, towns and other industries grew up around the coal mining areas so that the workers came to the coal regions. This in itself was to create problems as these towns grew without any obvious planning or thought given to the facilities the miners and their families would need.

The increase in coal production :

1700 : 2.7 million tonnes

1750 : 4.7 million tonnes

1800 : 10 million tonnes

1850 : 50 million tonnes

1900 : 250 million tonnes

How did the miners try to overcome the dangers they faced ?

to clear mines of gas - be it explosive or poisonous - a crude system of ventilation was used. To assist this, young children called trappers would sit underground opening and shutting trap doors which went across a mine. This allowed coal trucks through but it also created a draught and it could shift a cloud a gas. However, it was very ineffectual. It was also believed that a system of trap doors might help to stop the blast of an explosion damaging more of the coal mine.....It was not until **1807** when the problem was eased when **John Buddle** invented an air pump to be used in mines. flooding was a risk that was out of the control of the miners as even Watts steam engines could not cope if a mine had a serious flood. Likewise, pit props could only take a certain amount of strain. the risk of explosion was reduced by the invention by **Sir Humphrey Davy** of a **safety lamp** in **1815** which meant that a miner could have light underground but without having to use the exposed flame of a candle. The lamp became known as the "Miners Friend". It gave off light but a wire gauze acted as a barrier between the heat given off and any gas it might have had contact with.

Regardless of these developments, mining remained very dangerous. A report on deaths in coal mines to Parliament gave a list of ways miners could be killed :

falling down a mine shaft on the way down to the coal face falling out of the 'bucket' bringing you up after a shift being hit by a fall of dug coal falling down a mine shaft as it was lifted up drowning in the mine crushed to death killed by explosions suffocation by poisonous gas being run over by a tram carrying dug coal in the mine itself

In one unnamed coal mine, 58 deaths out of a total of 349 deaths in one year, involved children thirteen years or younger. Life for all those who worked underground was very hard.

In 1842, Parliament published a report about the state of coal mining - the Mines Report - and its contents shocked the nation. The report informed the public that children under five years of age worked underground as trappers for 12 hours a day and for 2 pennies a day; older girls carried baskets of dug coal which were far too heavy for them and caused deformities in these girls.

One girl - Ellison Jack, aged 11 - claimed to the Commission of Enquiry that she had to do twenty journeys a shift pushing a tub which weighed over 200 kilos and if she showed signs of slacking, she would be whipped. Children had to work in water that came up to their thighs while underground; heavily pregnant women worked underground as they needed the money. On unnamed woman claimed that she gave birth on one day and was expected by the mine manager to be back at work that very same day !! Such was the need to work - there was no social security at this time - she did as the manager demanded. Such a shocking report led to the [Mines Act of 1842](#).

http://www.historylearningsite.co.uk/coal_mines_industrial_revolution.htm