

SPRING TERM YEAR 3 – COAL MINING

NC Requirements for History	Knowledge	Skills
<p>a local history study (a study of an aspect of history or a site dating from a period beyond 1066 that is significant in the locality)</p>	<p>Link to Y1 – Transport Link to Y3-Stone Age to Iron Age</p> <p>History vocabulary Chronological, millennium, century/decade BC/BCE AD/CE era, time period, similarities, differences, evidence – primary or secondary, sources, ancient, modern, archaeology, archaeologist, contrast, trends over time, influence, significant, impact.</p> <p>General vocabulary – process of change, landscape, settlement, societies, slave, relationship, identity, challenges, influence, reveal, technology, climate, travel, trade, overview, connections, regional, national and international, constructed, religion, inventions, laws, justice, medicine, leisure, education, prosperity, wealth.</p> <p><u>What is coal mining?</u> To get coal, mine workers have to dig deep underground. This can be difficult because it's very dark and there's not much space. It's very physical and dangerous work Types of coal mining: Drift Mining – this is where coal is near the surface. A roadway is on a slope from the surface rather than a shaft to access the coal Deep Mining – most mines used to be deep mines in the UK but now most are surface mines. These mines use a vertical tunnel called a shaft to get to the layers of coal beneath the surface. As a mine is developed, the coal furthest from the shaft will be removed. Roadways underground transport miners, equipment and coal Machines remove the coal from a long coal face. It's sliced away, drops onto a metal conveyor and is transferred to a belt conveyor to be taken to the surface Open Cast Mining – thick coal seams that lie not too far beneath the surface can be mined by removing layers of rock above. This method of mining is used more widely in Australia, China, South Africa and the USA. It's cheaper but worse for the environment</p> <p>Stone and Bronze Age flint axes have been discovered embedded in coal, showing that it was mined in Britain before the Roman invasion</p> <p><u>Mining in Victorian Times</u> The Victorian era was when Queen Victoria reigned (link to Y2 Kings, Queens and Castles) 1837-1901</p> <p>In Victorian times people moved away from farming and towards industrial work. This is called the Industrial Revolution. Link to Y1 Transport George Stephenson</p> <p>Families often all worked together in the mines in Victorian times as miners were paid by how much coal they produced so they took their family to help them get more coal. Many families worked for 12 hours a day, 6 days a week and lived in houses rented from the mine owners. Children of mine workers didn't go to school as they worked down the mine from the age of 5</p> <p><u>Jobs</u> The Hewer – mined coal from the coal seam using hand tools. He worked in a very small space with a candle to light up the area The Getter – shovelled coal into baskets or carts</p>	<p>Children should understand how our knowledge of the past is constructed from a range of sources</p> <ul style="list-style-type: none"> • Pupils should regularly address and sometimes devise historically valid questions about change, cause, similarity and difference, and significance. • Children should construct informed responses that involve thoughtful selection and organisation of relevant historical information. • I can use a timeline within a specific period of history to set out the order that things may have happened • I can use my mathematical knowledge to work out how long ago events happened • I can explain how historic items and artefacts can be used to help build up a picture of life in the past • I can use research skills to find answers to specific historical questions • I can research in order to find similarities and differences between two or more periods of history. <p>Skills vocabulary Interpretation Facts /opinions Evidence Chronology Constructing a timeline</p>

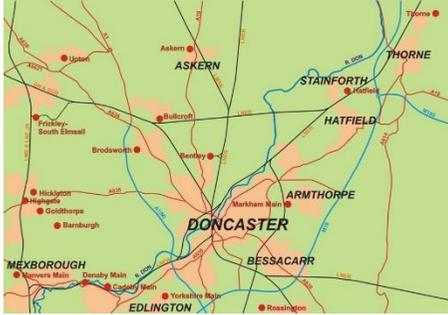
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	<p>The Hurrier – Crawled along to pull baskets or carts of coal along the roadways The Thruster – Pushed the tubs of coal with her hands or forehead The Trapper – youngest children worked as trappers. Opened wooden ventilation doors when hurries came through with tubs and then shut them again. It wasn't physically hard but was very boring and lonely</p> <p><i>What life was like working down the coal mine</i> Conditions in the mine were difficult and dangerous Miners had to carry a candle so they could see as the coal mine was pitch black Roadways weren't very tall as mine owners didn't want to spend money making them bigger Mines were very hot and dusty. Some miners wore little clothing whilst they worked Flooding was always a risk as there's always water in coal mines that comes through the rocks Rats and mice usually lived in mines There were lots of accidents and injuries in mines</p> <p><u>Pit Disasters</u> Huskar Pit, Barnsley – pit flooded during a rainstorm in 1838 and 26 children died. This led to the government banning women and children working underground Oaks Colliery, Barnsley – There were explosions in 1866 that killed 361 miners Cadeby Main Pit Disaster – Explosion in 1912 killed 87 men Bentley Pit Disaster – Explosion in 1931 killed 45 miners</p> <p><u>Transport</u> The earliest mines would use horse or hand powered winches to send people and materials down, and to bring coal out. At this time, all transport underground would be manual – people would push and pull corves (large wicker baskets) on sled runners. Corves or sleds could be filled with tools and materials going in, and loaded with coal to come back out again.</p> <p>Wooden or metal tubs on wheels might be used, with wood or iron rails, and sometimes corves might be loaded onto flat-bed carts with wheels. In these early mines children were often cheaper to employ than horses underground, although by the end of the 1700s ponies were working underground at some mines.</p> <p>In the 1840s, after women and children under ten had been banned from working underground, horses and ponies started to be used more commonly to pull wheeled tubs underground. Steam winding engines increased the speed and capacity for transporting men and materials into the mine, and pulling coal out.</p> <p>By the end of the 19th century mechanised haulages, using metal ropes, started to be used to transport materials, tools and coal underground, and similar machines might be used in sloping drifts as a means of bringing coal out. The rope haulages could be powered by compressed air or electricity.</p> <p>In the early 1900s, conveyor belts began to be used more commonly to move coal away from the coal face, and in some cases, in drift mines, conveyors would carry the coal all the way to the surface to be sorted and processed. Belts could also be used for man-riding, transporting workers in and out of the mine. In larger mines, underground locomotives might be used to transport workers, tools and materials.</p>	<p>Ordering Artefacts Research Enquiry Comparison Reliability Continuity Significance Discussion Argument Reasoning Frame historically valid Draw contrasts Analyse trends</p>
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NC Requirements for Geography	Knowledge	Skills
<p>name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time</p>	<p>Link to Nursery-Living Things Link to Reception-Ourselves Link to Reception-Farming Link to Y1 – Transport Link to Y2-Rainforests Link to Y3-Stone Age to Iron Age</p> <p><u>What a coal seam is</u> In the UK, coal seams are found in Yorkshire, Lancashire, East Midlands, Kent, North East, South Wales and parts of Scotland</p> <p>Open Cast mining is more widely used in Australia, China, South Africa and the USA</p> <p><u>Coalfields</u></p>  <p>Towns in South Yorkshire are Doncaster, Sheffield, Barnsley and Rotherham The map below shows the coal mines in Doncaster</p>	<p>use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied</p> <p>I can use an atlas by using an index to find places</p>

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	 <p>Most coal mines closed down in the 1980s and 1990s. The last coal mine to close in Doncaster was in Hatfield in 2015.</p>	
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<p>NC Requirements for Science</p>	<p>Knowledge</p>	<p>Skills</p>
<p>FORCES AND MAGNETS compare how things move on different surfaces</p> <p>notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>observe how magnets attract or repel each other and attract some materials and not others</p> <p>compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</p> <p>describe magnets as having two poles</p> <p>predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Link to-Y2 Kings, Queens and Castles Link to Y3-Stone Age to Iron Age</p> <p>What coal is Coal is a sedimentary rock (link back to previous unit on rocks). It is usually black and can be very shiny. It's sometimes flaky and dusty and will often break very easily Coal comes from trees and plants that once formed giant swampy jungles. When the plant life died, it became buried by layers of sand and mud. Over time it became buried deeper underground and was squashed by layers of sediment above. Over millions of years these layers of dead plants became seams of coal. Coal is different from other rocks – it can be burned because it's formed from remains of woody plants. (Y2 properties of materials – wood burns)</p> <p><u>What is coal used for?</u> Industrial Revolution – used to fuel steam engines that powered boats, trains and factories. It's used in some electricity generation plants and some people use it for fires at home</p> <p>FORCES AND MAGNETS</p> <p>A force is a push or pull acting on an object as a result of an object's interaction with another object Forces can make objects stop or start moving Some examples of pulling forces:</p> <ul style="list-style-type: none"> - A rower pulling an oar - A tug of war team pulling a rope - A catapult is pulled back - The string of a bow is pulled back - A sledge is pulled 	<p>INVESTIGATIONS Exploring the behaviour and everyday uses of magnets Investigating how far things travel on different surfaces Exploring the strengths of different magnets and finding a fair way to compare them Sorting materials into those that are magnetic and those that are not magnetic Looking for patterns in the ways that magnets behave in relation to each other and what might affect this, for example the strength of the magnet or which pole faces another</p> <p>WORKING SCIENTIFICALLY SKILLS asking relevant questions and using different types of scientific enquiries to answer them</p>

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	<ul style="list-style-type: none"> - Bell ringers pull ropes <p>Some examples of pushing forces</p> <ul style="list-style-type: none"> - A runner's feet push off the ground - A person pushes down a piano key - A hockey stick pushes the ball - A golf club pushes the golf ball - A bat pushes a ball - A person pushes a pram <p>Pushes and pulls require contact between 2 objects. When we push or pull an object it can move the object, change the shape of the object or make the object change direction.</p> <p>Different surfaces contain different amounts of friction. The amount of friction created by an object moving over a surface depends on the roughness of the surface or object, and the force between them.</p> <p><u>Magnets</u></p> <p>Something is magnetic when it is attracted to a magnet. Objects which contain iron, nickel or cobalt metals are magnetic. Not all metals are magnetic. A magnetic field is the area around a magnet where there is a magnetic force and it pulls magnetic objects towards the object. A magnetic field is invisible.</p> <p>Magnets have two poles, those that attract and those that repel. One end of a bar magnet is called the North pole and the other end is called the South pole</p> <p>The needle in a compass is a magnet. A compass always points north-south on Earth The Earth is a giant magnet</p> <p><u>Everyday uses of magnets</u> Magnets can be affected by electricity which makes them very useful in machines and computers Magnets are used to make a tight seal on the doors to fridges and freezers. Magnets power speakers in stereos, headphones and televisions Magnets are used in hospital scanning machines such as MRIs which doctors use to look inside people's bodies</p> <p>Key Vocabulary Forces: pushes or pulls. Forces change the motion of an object They will either make it start to move, speed up, slow it down or even make it stop Motion: movement Friction: A force that acts between two surfaces or objects that are moving, or trying to move, across each other Surface: The top layer of something Magnet: An object which produces a magnetic force that pulls certain objects towards it Magnetic: Objects which are attracted to a magnet are magnetic. Objects containing iron, nickel or cobalt metals are magnetic (link to bronze and iron in Stone Age to Iron Age) Magnetic Field: The area around a magnet where there is a magnetic force will pull magnetic objects towards the magnet Poles: North and south poles are found at opposite ends of the magnet Repel: Repulsion is a force that pushes objects away. For example, when a north pole is placed near the north pole of another magnet, the two poles repel (push away from each other)</p>	<p>setting up simple practical enquiries, comparative and fair tests</p> <p>making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p> <p>using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>identifying differences, similarities or changes related to simple scientific ideas and processes</p> <p>using straightforward scientific evidence to answer questions or to support their findings.</p>
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