Lefelau Byw
Living Levels

Artefact Boxes

Darganfod **Gwastadeddau Gwent**

Discover **Gwent Levels**

Levels Living

an **Artefacts Box** Resource for the Gwent Levels

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Archaeologists and historians are like detectives. They use evidence to try to understand different pasts. Different people living at the same time will have experienced the past differently, depending, perhaps, on their relative wealth, location, education, health, experiences, beliefs, and opportunities, etc.

Archaeologists study artefacts (things made by humans) as surviving evidence to help us to understand past peoples and cultures. Archaeologists and historians also use historical documents and maps to help them evidence past behaviours and thoughts.

This 'Levels Living' artefacts box contains a selection of items that help to tell the story of the Gwent Levels through several themes which remain relevant here today. These accompanying information sheets contain ideas, information, and resources to widen the scope for classroom activities stemming from the artefacts and augmenting themes from the Living Levels Learning Resource Pack, where links to curricular curious questions and 'Areas of Learning and Experience' may be found. A mind-map subject and topic index, from page 8 of the Learning Resource, is copied below.

Lefelau Byw
Living Levels

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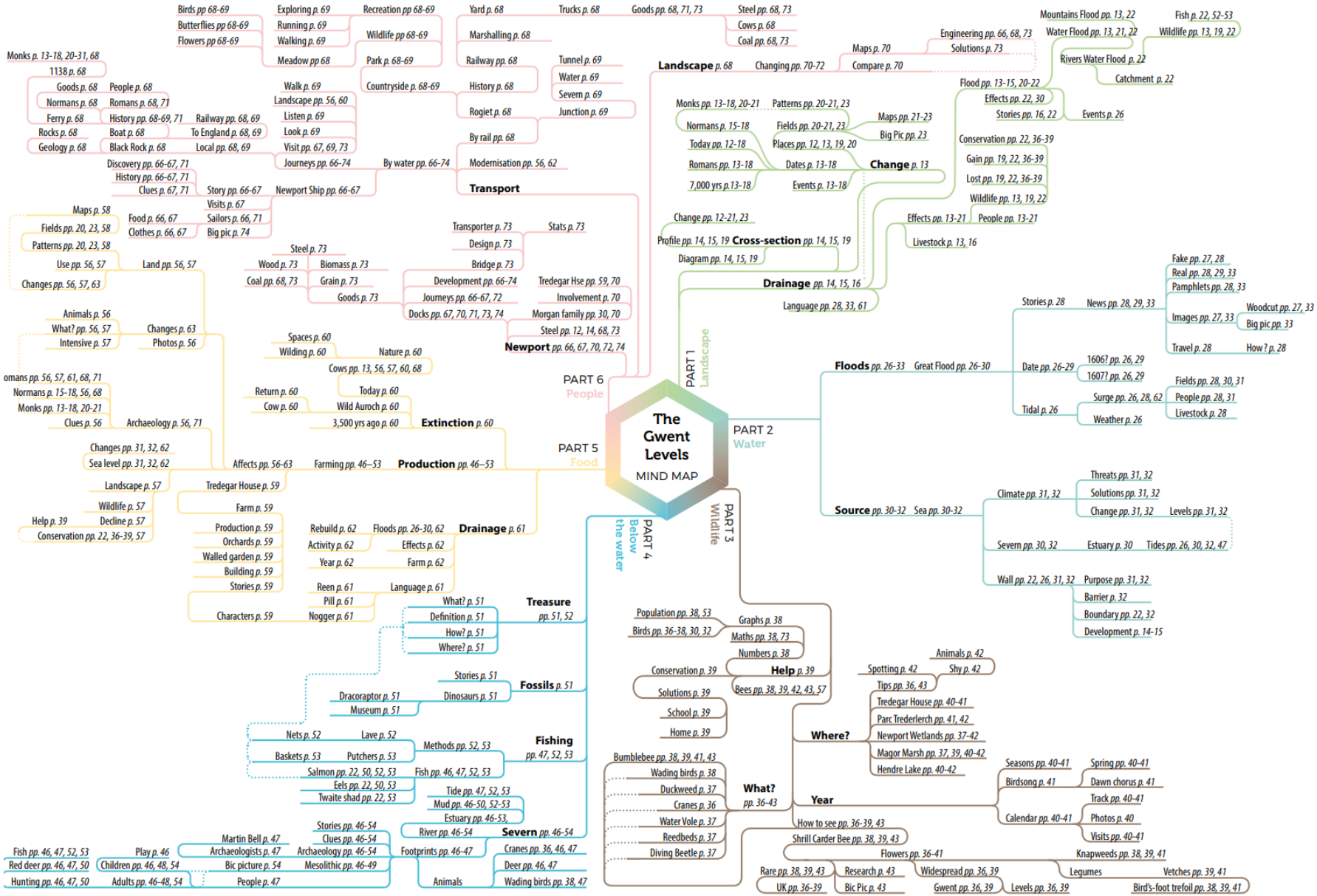
Communication and trade	**Landscape**	**Food**	**Energy**
Subsistence	**Water**	**Below the Water**	
Leisure for pleasure	**People**	**Living luxuries**	
A warming world	**Wildlife**	**Materials**	**Timeline**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Lefelau Byw
Living Levels

THEME: COMMUNICATION & TRADE

The Severn Estuary - A help and hinderance

Living Levels Learning Resource Pack **pages 4, 6, 22, 26, 30, 32, 47, 69, 73.**

Introduction

The River Severn and its estuary are not named after the number 7. The name of the River Severn and her estuary come from the pre-Roman and Roman names for the river: **Hafren** and **Sabrina**. Many people who lived during these times believed that the river had a 'spirit', like a goddess, and they asked her for safe crossing, often by giving coins or other gifts to her in the way that people still put coins in a fountain or wishing well today for good luck. At Aust, on the opposite banks of the Severn, two Iron Age figurines were found, probably having fallen from the top of the cliff, and these may have represented respect for the river and her power.

- A large number of **roman coins,** that were gifted to Sabrina for a safe river crossing, have been found at Black Rock near Portskewett, and are now preserved at Newport Museum and Art Gallery. Replica examples of the sorts or Roman coins found are included in this artefacts box. Many Romans believed that, when they finally died, they would be ferried to the afterlife across the River Styx. Many were buried with a single copper '*as*' to pay Charon the ferryman for their last journey. Roman burials have been found at Caerleon, near Newport, with single copper *asses* buried with the dead Roman for this purpose.

Roman Coins – The Augustan System, introduced by the Emperor Augustus:

The basic coin was the ***as*** [pronounced az]

2 ***asses*** = 1 ***dupondius*** [pronounced asses and dew-pond-ee-us/plural dew-pond-ee-ee]

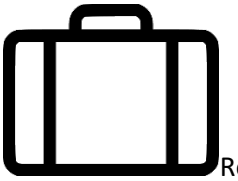
Although the *dupondius* and *as* are of similar size, the *dupondius* shows the emperor wearing a spikey crown representing the sun's rays (like the statue of Liberty). The *as* and *dupondius* were made of copper or brass.

4 ***asses*** = 2 ***dupondii*** = 1 (brass) ***sestertius*** [pronounced sess-tert-ee-us]

16 **asses** = 8 ***dupondii*** = 4 ***sestertii*** or ***sesterces*** = 1 (silver) ***denarius*** (a day's pay)
[pronounced den-ar-ee-us and sess-ter-shee-ee or sess-ter-sees]

400 ***asses***= 200 ***dupondii*** = 100 ***sesterces*** = 25 ***denarii*** = 1 (gold) ***aureus***
[pronounced den-ar-ee-ee and ow-ray-us]

 Mathematics, Multiplication, History

 Roman Coins, Roman glass wine flask

- The artefacts box contains 34 replica gold aurei, 55 replica silver denarii, and 97 replica brass *dupondii*. Can you use the internet or the Reproduction Roman Coins packs in the artefacts box to find out the size, metal colour and designs for a *sestertius* and an *as*?
- Make your own sestertii and asses and add them to the Roman replica coins in order to perform the following calculations.

Using the information above, the laminated calculating table (copied below) and the replica Roman coins, work out the following

Asses	*Dupondii*	*Sesterces*	*Denarii*	*Aurei*
Place *asses* in this column. Remove every two *asses* and replace with one *dupondius* in the next column.	Place *dupondii* in this column. Remove every two *dupondii* and replace with one *sestertius* in the next column.	Place *sesterces* in this column. Remove every four *sesterces* in this column and replace with one *denarius* in the next column.	Place *denarii* in this column. Remove every twenty-five *denarii* from this column and replace with one *aureus* in the next column.	Place *aurei* in this column (if you're rich enough to own any).

- 1 loaf of bread cost 1 *dupondius.* How much change would you get from a *sestertius* when purchasing one loaf of bread?
- 1 day's pay for many Romans was 1 *denarius*. How many days' pay would you need to save to swap them for two gold *aurei*?
- How many *asses* are there in 5 *sesterces*?
- How many *dupondii* are there in 12 *denarii*?


Roman brooches

Safely crossing rivers does not seem to have been unaffordable in Roman times. From the coins found in British Roman burials to pay the ferryman to cross the River Styx and the coins gifted to Sabrina for a safe crossing of the river, only an *as* seems to have been needed to ensure good fortune, luck and safe passage (about the price of about half a litre of cheap wine). Personal items such as Roman brooches or hair pins were also common gifts to win the favour of their gods.

Did you know… that AD ***should*** come before a date and BC ***should*** be written after it?

Caesar visited Britain in 55 and 54 BC, but Claudius invaded Britain in AD 43.

AD stands for *anno Domini* which means 'in the year of the Lord' or 'in the year of our Lord'. So it makes sense that we would write that the Roman emperor Claudius invaded Britain 'in the year of our Lord 43' rather than writing that 'Claudius invaded Britain in 43 in the year of our Lord'.

BC stands for 'before Christ'. So it makes sense to say that Caesar visited Britain 'in year 55 before Christ'.

AD and BC are used in Julian and Gregorian calendars. CE for 'Common Era' and BCE for 'Before Common Era' are also used today to describe AD and BC years.

Did you know that…?

AD 1 is immediately preceded by 1 BC, with nothing in between them (there was no year zero).

The Severn Estuary. Why a help?

Living Levels Learning Resource Pack **pages 4, 6, 22, 26, 30, 32, 47, 69, 73.**

Heavy goods, animals and people can be carried very economically, in bulk, by water (think of canal boats once towed by single horses). Travel by boat or ferry can also be very direct. Many of our great towns and cities began as important trading ports (e.g., Bristol and Avonmouth, Chepstow, Newport and Cardiff). Magor, St Pierre Pill, Caldicot Pill and Peterstone Wentlooge were also once locally important minor harbours, whilst Black Rock was an important ferry crossing point called the New Passage.

Geography, Economy, Trade, Transport, Mapping, History, Comprehension, Phonics, Research Skills.

Roman ship model, Ordnance Survey Maps

- Why not research evidence for maritime travel and trade on the Gwent Levels through time?
    - Check out the Caldicot Bronze Age sewn plank boat and A prehistoric plank boat fragment and a hard from Caldicot Castle Lake, Gwent, Wales, International Journal of Nautical Archaeology | 10.1111/j.1095-9270.1991.tb00327.x | DeepDyve and Morgawr: an experimental Bronze Age-type sewn-plank craft based on the Ferriby boats - Van de Noort - 2014 - International Journal of Nautical Archaeology - Wiley Online Library.

      See the Goldcliff sewn plank boat, the Barlands Farm Romano-Celtic Boat, The Magor Pill Wreck and the Newport Medieval Ship.

      Other evidence may be found in the illustration of Roman naval warships on the reverses of many of the coins from the, Roman, Rogiet Coin Hoard. A miniature model of a Roman warship is included in the artefacts box. Search on 'Rogiet' at https://museum.wales/collections/online/

- Using the Interactive Map — Living Levels, Ordnance Survey maps in the Artefacts Box or Ordnance Survey maps, Tithe Maps Wales and Court of Sewers maps, see if you can find the harbours and ports along the Gwent Levels mentioned in the Elizabethan Court Roll dating to 1561/2, copied below? You will see that there was no standardised spelling of English words in Queen Elizabeth I's time. The Queen's Remembrancer was responsible for auditing the taxes imposed on trade at these and other ports. Compare the descriptions below with the 1595 map of the Severn Estuary preserved at the British Library. It was probably created because an invasion by the Spanish was expected to occur at a location not situated on the English Channel, following the defeat of the Spanish Armada in 1588. The map would have enabled England's naval and military leaders to plan their defence strategies for the west of Britain.

- See if you can locate The Shoots? Look at the map and suggest a reason that The Shoots was given that name. Why is this area potentially dangerous for ships? A good view of The Shoots may be seen from Black Rock Picnic site and the dangers associated with it are evident when the tide ebbs, flows, and is out.

- Can you find out what a 'fathom' is and why it is of significance to ships wanting to sail into a port? What does 'unfathomable' mean?

- Find out how to navigate and orienteer using a magnetic compass. Which way is magnetic north? How does this compare with the location of the pole star? Which direction is south? Where do the sun and moon rise and set? In which direction does the River Severn Flow? In which directions do the rivers and streams flowing into the River Severn flow?

- Read the text below. In the Severn Estuary, which direction do most winds and weather come from? The prevailing wind direction, coming from the Atlantic Ocean, helps to 'bring in' sailing ships.

Anglia Wallia: Queen's Remembrancer Roll (Memoranda) dated 4 Eliz. Hilary (1561/2) – Membrane 133.

A briefe declaration of all Havens, Roads, Creks and Shippyng places within Wales beginning at the Water of Severne…

Chepstowe a Haven of three fathom at lowe water somewhat dangerous to come to for rocks called Shoots. It lieth by Awste in Gloucestershire. All westerly and southerly wyndes bringe in.

Magin [Magor Pill or Abergwaitha] A pill or crek blonging to Chepstowe where is grete ladyng of small boates with butter and chese and other kinds of vittels to shippes .

Goldcliff another pill for small vessels where there is mouche lading of thyngs to convey to the shippes of Bristoll. Severne about 15 miles broad.

Newport from Chepstowe 12 miles. There is a haven good within of three fathom but all sands a sea bourde. It lieth against Clevedon in Somerset. All westerly and southerly wynds bringe in. The contrey is plenished with corn, Catell and all maner kynds of provisions.

Peterston a pyll for small boats adjoining to Newporte.

Romney a pill for small botes.

(Severne 15 myle brode and salt water ronnyng Weast into the sea along the Coaste of South Walls being to its Northe and having on the Southe, Somerset, Cornewell and Devonshier).

Kardyff from Newporte 12 miles, a proper towne walled where is a drie haven and outside the same is a rode in Severne called Penarth very good for shippes at three fathom low water. It lieth against Bridgewater in Somerset and all westerlye and southerly wynds brings in. Replenyshed with corne and all manner vittels and a goodly stronge castle.

Research Skills, History, Geography, Economy, Trade

Can you find out what sorts of goods were being shipped in and out of the ports of Chepstow and Newport in the past?

- See Ivor Waters' books on The Wine Trade of the Port of Chepstow and The Port of Chepstow, both published by The Chepstow Society and available in local libraries. See also William Coxe's *Historical Tour Through Monmouthshire* (1801), Volume 2, Appendices for Chepstow's imports and exports at the end of the eighteenth century.
- See Shipping Registers, Ports of Newport and Chepstow - Archives Hub (jisc.ac.uk)
- See Raine MSS - Archives Hub (jisc.ac.uk)

Research Skills, History, Geography, Economy, Trade

A Guiding Light

- Using the Interactive Map — Living Levels, Ordnance Survey maps in the Artefacts Box or Ordnance Survey maps, see if you can locate lighthouses and navigation beacons which help to guide shipping through safer waters within the estuary.
- Find out how to navigate and orienteer using a magnetic compass. Which way is magnetic north? How does this compare with the location of the pole star? Which direction is south? Where do the sun and moon rise and set? In which direction does the River Severn Flow? In which directions do the rivers and streams flowing into the River Severn flow?
- What different symbols are used on Ordnance Survey maps for lighthouses and beacons?
- Search online for images of the former Uskmouth West Lighthouse and compare it with the East Usk Lighthouse at the RSPB Newport Wetlands, the Charston Rock lighthouse and the beacons at Mathern. When crossing the Second Severn Crossing (The Prince of Wales Bridge) you will see that the blue lights of the Mathern beacons align when viewed from the centre of the shipping lane in the deepest part of the estuary at this point, i.e., the exact centre of the suspension bridge, between its stanchions. Do the different types of light perform different jobs?

The Severn Estuary. Why a hinderance?

Living Levels Learning Resource Pack **pages 4, 6, 22, 26, 30, 32, 47, 69, 73.**

Big tides.

Estuarine crossings could be dangerous. The funnel shape of the Severn Estuary helps to give it the second-highest difference between high and low tides in the world. As the water rushes in and out of the Estuary as the tides change, dangerous currents can be formed.

Roman Coins, Roman brooches, model cattle, grain

Roman Coins found at Black Rock were not a toll paid to the ferry operators but were gifted to the river to ensure a safe passage or crossing (see above). Roman brooches have also been found in the estuarine mud and these were probably gifted to the Gods and Goddesses for safe passage or other good fortune also. Proximity to Bristol meant that cross-estuary trade has always been very strong. The Iron Age tribe occupying the Gwent Levels was called the Silures (pronounced 'sigh-lure-ays'). They did not mint coins and they probably traded through bartering goods and commodities. The Romans introduced a monetary economy to the Gwent Levels. Later Welsh farmers brought livestock and produce to markets at Black Rock, Chepstow and Newport because better prices could often be obtained if selling for the Bristol market. A monetary economy allows prices to fluctuate perhaps more easily than bartering whole animals?

- Can you find out what a commodity is?
- What is barter?
- What do Money and Monetary mean? They take their names from the Roman goddess Juno Moneta. The word mint, for a place where coins are made, also comes from Juno Moneta.
- Can you find out what a Roman plate brooch looked like? Design your own Roman plate brooch.

Bridging the gap.

The geography and topography of the Severn Estuary and its Levels have always dictated how people and animals could move from place to place. The hills and valleys of South Wales have caused people to travel along the South Wales coastal belt in a broadly east-west direction (until the recent completion of the Heads of the Valleys Road). Pre-Roman and Roman movements became fossilised as the A48 (mostly along the route of the main Roman road across South Wales). This is closely mirrored by the route of the M4 motorway which superseded it as the main communication route in the region. Similar roads can be found on the other side of the estuary (namely the A38 and M5 motorway). Direct travel between South Wales and the West Country was not possible over land, so communication routes tended to lie in and east-west orientation, with routes into the South Wales hills to the north, or heartland of the West Country to the south, branching from them, often at right angles. The advent of the steam engine brought railways which initially followed the age-old dry land routes skirting the edge of the Levels, mostly located just above the low-lying alluvial deposits of the 'moors'.

Gunwales, Tunnels, Bridges and Tracks

'If you can't go through it and you can't go over it you must go under it…'

Until 1966, Over Bridge at Gloucester was the lowest crossing point of the River Severn to have a bridge. Crossing the river or its estuary below Gloucester involved a ferry crossing from pre-Roman times up until opening of the Severn Tunnel by the Great Western Railway in 1886. The first Severn Bridge opened in 1966. This was followed by the Second Severn Crossing, now the Prince of Wales Bridge, in 1996.

History, Geography, Art

- Research how many bridges have crossed the River Severn and its Estuary from Gloucester to the mouth of the Bristol Channel.
- What types of bridge were they?
- Using the Interactive Map — Living Levels, Ordnance Survey maps in the Artefacts Box or Ordnance Survey maps, plot the routes of the main roads that crossed these bridges between St Davids, Pembrokeshire, and London.
- Why were, and why are, these land routes always so important?
- Why do you think that the Severn Tunnel was positioned where it is?
- Bristol vied with Norwich as England's second largest and second wealthiest city (after London) until the Industrial Revolution. Why was communication between Bristol and South Wales so important? [e.g., trade – higher (urban) prices]

Gunwales

Reinhold Rücker Angerstein was an eighteenth-century industrial spy. He was paid by the Swedish government to travel around Europe during the 1750s gathering information on industrial processes and new technology. He recorded his travels in detailed diaries and in 1754 he crossed the Severn Estuary, via the New Passage, into Wales, landing at the Black Rock ferry terminal.

25th June 1754

'On my arrival at the Severn, I met a number of travelers who were waiting for passage, but the ship could not sail due to the winds that had lasted for two days and still kept the waves surging. There was also a Lodge of Freemasons from Bristol, who had assembled to celebrate the day in the traditional way. Before long, I was introduced to this worthy and amusing company, which made the day short and pleasant in this otherwise dull and lonely place.

On 25th June wind and rain that made themselves heard throughout the night did not hold out any promise of a speedy and safe passage. However, towards dinnertime, when the tide had started to flow out against the wind and waves, the captain decided to take the risk. More than 20 horses and an even greater number of passengers, as many as there was room for, were crammed into the ship. Another ship, belonging to the opposite side, had to return empty, as it was not allowed to take cargo or passengers from our side.

The horses were so unruly during the crossing that it seemed that the ship would fly apart. This caused her to spring a leak and the waves washed over her. Passengers screamed and wailed, the sailors were hampered by the overcrowding, quite at a loss as to what to do, and complete confusion reigned. We all expected catastrophe at any moment. This fear continued until we approached land and could with great joy jump onto the rocks to dispel the anxiety that had filled us all with consternation.

Having arrived at the other side of the water at the ferry station, which was in Wales, an old man showed me how the waves eat into *terra firma*, and told me that in his youth he had cut corn in a place that now is a rock 10 feet out in the water.

Ebb and flood are here so strong that the water falls and rises between 50 feet and 60 feet evert 12 hours. There are five hours of ebb, when all the water runs out, and another seven hours of flood, when it comes streaming back in again. These changing movements of the water are strongest when there is a spring tide, which occurs at the Full Moon or when the attractions of the Sun and Moon on the Earth act together. This happens when they are placed on one each side of the Earth, all three on one straight line. The result is that the united forces pull the water on either side of the Earth…'

From the Diary of Reinhold Angerstein
Swedish Industrial Spy

Use your existing knowledge, a dictionary, tablet or phone to answer the following questions. Then read the text above again.

Comprehension, Research Skills, Literacy

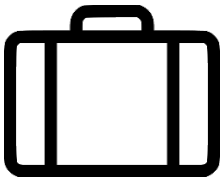
- What are Freemasons?
- What is the type of passage being described?
- What is a tide?
- What is a ship's cargo?
- What is wailing?
- What does 'hampered' mean?
- What does 'confusion reigned' mean?
- What does 'dispel' mean?
- What is anxiety?
- What is consternation?
- What is a catastrophe?
- What is or was a ferry station?
- What do the Latin words '*terra firma'* mean?
- What are 'ebb and flood' or 'ebb and flow'?
- What is a spring tide?
- What is a 'Full Moon'?
- What is an estuary?

Gunwales & Tracks

Bristol Temple Meads Railway Station has a commemorative panel for the first railway link across the Severn Estuary, which opened in 1864. The Bristol and South Wales Union Railway from Bristol ended at the shore of the Severn estuary where passengers boarded a steam ferry and crossed to a pier at Black Rock in South Wales. Steam engines could pull onto the pier, above the waters of the estuary. The pier was necessary because of the great difference between high and low tides in the estuary. It allowed the boats to pull alongside and allowed the passengers to board and disembark from the trains. The remains of the footings of the pier the railway bridges over the tracks and the course of the railway can still be seen at Black Rock, to the east of the picnic site and Lave Net Fishery. The site of the Black Rock Hotel is now the car park and picnic site area.

The relative wealth of the port of Bristol and its region meant that many products from South Wales, e.g., livestock, cheese and butter, were sold to the Bristol markets for sale or resale and shipping. The New Passage ferry terminal and, from 1864, the steam ferry terminal and railway, meant that markets were held at Black Rock, because of its proximity to the city of Bristol and its markets. The following extract dates from 1881, shortly before a fire that year damaged the pier, and just five years before the Severn Tunnel was completed and opened, making the Black Rock ferry terminal and railway redundant. The story can be charted through the subsequent Newspaper articles transcribed below.

You can read the original newspapers freely online at[Welsh Newspapers Online - Home (library.wales)](). Try searching places or topics by place-name or by subject.



Model cattle, grain, old (pre-decimal) British Coinage and banknotes.

The Monmouthshire Merlin and South Wales Advertiser 6th May, 1881.

PORTSKEWETT STOCK SALE.

At Messrs. Davis and Brotherhood's (late John Davis and Sons) sale of fat and store stock at the Black Rock Hotel, on Tuesday, there was a good attendance of buyers, and a large supply of stock of all kinds. A goodly number of fat lambs of first-class quality was offered, and sold at from 28s 6d to 44s, according to size and quality, or about 1s per lb. There was a quantity of prime-quality mutton, which sold - Tegs, out of the wool, at from 9d to 10d per lb. A few Cheviot couples were on offer, and sold at 47s. A large supply of excellent-quality beef, and a good trade, best quality being sold at 8d per lb., and 2nd quality at from 7d to 7½d per lb. There were no store cattle. A few calves were on show, and veal sold at 9d per lb. In the pig department stores sold well, at from 20s to 30s, according to size. Heavy bacon pigs made 10s 6d per score, and porkers from 11s to 11s 6d per score.

- Where does your food come from today?
- Until [decimalisation]() in 1972, British money was counted in pounds (L or £), shillings (s) and pence (d). Can you find out where the abbreviations L (£), s and d come from?
- Have you come across *denarii* before?
- How many old pennies were in a shilling?
- How many old pennies (d) were in an old pound (£)?
- How many shillings (s or /-) were in an old pound (£)?
- Can you find out what a half crown was, and what it was worth?
- Can you find out what a florin was, and what it was worth?
- What was a ten-bob note?
- Weights and measures were imperial weights and measures. Today we might use metric weights such as grams and kilograms. In the past, tons, hundredweights, stones, pounds (lb) and ounces (oz) were used.
- Can you convert the weight 1lb into kilograms and calculate the cost of first-class fat lambs per kg (at 1s per lb)?
- How many pigs or porkers are in a score?
- Look at the genuine railway ticket. How much did the journey cost? Some railway tickets were issued to Servicemen and Servicewomen for travel. These do not show the cost of travel

and acted like passes instead. Can you find out how much the journey would have cost if it had been paid for?

- It was also possible to travel first-class, but was it possible to travel second-class? What was and is the difference between first- and third-class?

Disaster strikes

The Monmouthshire Merlin and South Wales Advertiser June 17th, 1881.

PORTSKEWETT. THE LATE FATAL FIRE AT THE PIER.

The Great Western Railway Company have recognised the valuable services rendered by Inspector Tanner on the occasion of the late disastrous fire at the Portskewett Pier on the 3rd ult., by awarding him a gratuity of £10. His daring exploit of saving the floating pontoon, though at great peril, well merits recognition. The work of reconstructing the pier is being rapidly carried on, and the traffic across the ferry was resumed yesterday.

Work on the first Severn tunnel began, upstream below Gloucester, in 1810-1811, but ended in disaster. Work on railway tunnel for the Great Western Railway began in 1873 and, under the supervision of the engineer Thomas Andrew Walker, it was finally opened in 1886. Within eight years of the opening of the Severn Tunnel, the following article appeared in the South Wales Daily News, December 28th, 1893.

You can read the original newspapers freely online at Welsh Newspapers Online - Home (library.wales). Try searching places or topics by place-name or by subject.

- What is a pontoon? What is peril? What does 'turbid' mean?

BLACK ROCK: A LONELY SPOT. THE DESERTED RAILWAY AT PORTSKEWETT.

When the Severn Tunnel was at last opened, after many years of struggle with crushing rocks and subterranean streams, there befell a radical re-arrangement of transport in these western districts. Before the tunnel was in existence direct communication between England and South Wales was obtained by means of steamers plying across the Severn to and from New Passage and Portskewett, landing passengers and goods at railway jetties on either side. From Portskewett station a junction line ran down to the low cliffs overhanging water at Black Rock, and here, in receipt of much custom, stood the Passage House, the Black Rock Hotel, over-looking the turbid channel, and in view of the level lands of the English shore. In mid-channel stands the reef that gives the place its name, and on it rises a little lighthouse. Now the place, saving indeed the light, is deserted. No ferry boats ply upon the water traffic rumbles below the riverbed in over three miles of burrow, and the junction line that received the voyagers is grubbed up and its cuttings all overgrown with weeds and wild flowers. A deserted railway is a rare sight in England. And now the Black Rock Hotel license is withdrawn, and the building retires, after over a hundred years' public service, to the status of a private residence. The hotel, with its outbuildings and its singular situation, isolated from

Portskewett village, upon the verge of the water, wears a mild and lonely air, significant of some unacted drama whose fulfilment they seemed passively to await. It is a look some places have that never yet had a story, an appearance that the Hawes Inn, beside Queens ferry, must have worn before it was recently enlarged to the condition of an hotel. Its aspect led Mr Stevenson to make it the site of a moving episode in "Kidnapped", and hereby the site of Black Rock is offered to other enterprising and imaginative novelists for a literary treatment in romance with the changes that engineering advances bring about. - *Engineer*.

The cost of human endeavour – to humans.

Many workers were injured or lost their lives during major engineering works to enable us to cross the Severn Estuary safely today. Workers perished during the construction of the Severn Tunnel and the first Severn Bridge. Not all of those affected by the works were workers. The construction of the Severn Tunnel led to the building of the worker's village of Sudbrook to house the workforce and their families. The following extract is from the Weekly Mail in 1884.

You can read the original newspapers freely online at Welsh Newspapers Online - Home (library.wales).

Old GWR Ticket

Try searching the name of the place where you live in Welsh Newspapers Online.

The Weekly Mail. Saturday August 9th 1884.

ACCIDENT AT THE SEVERN TUNNEL WORKS.

A sad accident occurred at these works on Saturday morning. A little girl, 3 years old, ran under one of the trucks whilst it was in motion, but, thanks to the activity of a man who sprang after her and partly pulled her off the rail, her life was saved still a wheel went over one thigh and completely smashed it. She was taken to the hospital and attended by Dr. Walter. It became necessary to amputate the injured limb, but the little sufferer is progressing fairly well.

- What is 'Risk Assessment' and how does it help to prevent accidents like this one today?
- Can you research examples of other accidents connected with building the Severn Tunnel or the Severn Bridges?
- What was Sudbrook Fever Hospital and why was it built?
- What are the dangers of living near railways and railway crossings today?

The railway tracks from England, passing through the Severn Tunnel, meet the main east-west South Wales to Gloucester line at Severn Tunnel Junction. This was an important railway station and martialing yard, which also had workshops to maintain and repair railway engines. The village of Rogiet is almost entirely made up of houses that were constructed for Railway workers and their families.

- Did the coming of the railway affect the place where you live today?

THEME: LEISURE FOR PLEASURE?

Living Levels Learning Resource Pack **Part 3 and pages 4, 6, 22, 26, 30, 32, 47, 69, 73.**

No Swimming at Black Rock

The difference between high and low tide in the Severn Estuary is the second largest in the world. Newport has the highest difference in tide levels of any city in the world.

The enormous differences between high and low tide in the Severn Estuary man that the water rushes in and out with great speed and great force. The water can come in faster than any human has ever run on land. This makes the Severn Estuary a very dangerous place for walking at low tide or for swimming.

You can read the original newspapers freely online at Welsh Newspapers Online - Home (library.wales). Try searching places or topics by place-name or by subject.

The Usk Observer, July 9th, 1859

CAERWENT. DEATH FROM DROWNING.

On Friday, the 1st instant, while a party from Mr. Woodhall's, of Great Dinham, Caerwent, was at the Black Rock Hotel, Portskewitt, spending the day, a gentleman, named Jones, incautiously entered into the Severn to bathe, and the current being strong, it carried him off his legs, and before any assistance could be rendered, he sank to rise no more. A man jumped into the water and was almost drowned, in his endeavours to save the unfortunate gentleman. An inquest was held on the body on Saturday, at the inn, and a verdict of Accidental Death returned. On the tide receding, the body was found the next morning, half in and half out of the water.

- Do you think it is still too dangerous to swim in the Severn Estuary today?
- What is SARA and what do they do?
- What does 'incautiously' mean? What does receding mean?

Are Humans the only animals living here?

Do you watch or play football, rugby, tennis or golf as a sport? Blood sports were still popular during the nineteenth century. The fixture below took place annually at Black Rock. This location was particularly accessible briefly to people from South Wales due to the direct railway link to the Black Rock Pier. It was accessible to people from Bristol due to the railway link and ferry crossing to and from the pier.

The cost of human endeavour – to wildlife.

Hare coursing involved releasing two hunting dogs to chase hares by sight rather than by smell. The dogs would be judged on their ability to make the hare turn and change course and by whether they caught up with it and caught it. Catching the hare was not seen as a necessary aspect of the sport; the hare having an opportunity to escape if faster and more agile than the two dogs.

You can read the original newspapers freely online at Welsh Newspapers Online - Home (library.wales). Try searching places or topics by place-name or by subject.

BLACK ROCK COURSING MEETING, 1880

The following extract is copied from The South Wales Daily News newspaper of Saturday February 14th, 1880.

BLACK ROCK COURSING MEETING

Stewards—Messrs M. Hartley, T. L. Brewer, E. P. King, G. F. Gretton, K. Stratton, and E. Hibbard.
Flag Steward—Mr E. H. Salmon. Judge—Mr Joseph. Slipper - A. Luff.

This annual meeting came off yesterday, over the estate of Mr C. E. Lewis, near Portskewet. The weather being nice, there was a large attendance, including strong contingents from Bristol, Cardiff, Newport, and Chepstow. Hares turned out plentiful and strong, and during the day some very fine courses were witnessed.

I.

Annexed are the results:

The ST. PIERRE STAKES, for sixteen all-aged Grey- hounds, at £4 4s each; the winner to receive £35, second £15, third and fourth £3-each.

Mr J. Withers's Wellington beat Dr. Lewis's Llantrissant
Mr C. Barker's Baronets Wroughton beat Mr C. Jordan's Lady Anne.
Mr W. Yorath's Tiger beat Mr G. Bond's Morning Star.
Mr Bailey's Little Beatie beat Mr W. Hall's Steamer.
Mr W. King's Kingfisher beat Dr. Jones's Berg.
Mr T. H. Ward's Afghan beat Mr Coryndon's Sir Pickle.
Mr Prichard's Gwyn Wynn beat Mr Barry's Naughty Girl.
Mr D. Evans's Warrior beat Mr J. Harvey's Sheepface.

II.

Wellington beat Baroness Wroughton.
Little Beatie beat Tiger.
Kingfisher beat Afghan.

Warrior beat Gwyn Wynn.

III.

Wellington and Little Beatie undecided.
Kingfisher beat Warrior.
Wellington, Little Beatie, and Kingfisher divided, the two first receiving £15 each, and the latter £23.

The PORTSKEWET STAKES, for eight all-aged Grey- hounds, at £3 3s each; the winner received £14, second £6, third and fourth £1 each.

I.

Mr D. Harris's Fleet beat Mr Jenkins's Master Patent.
Mr J. Codrington's Whiffler beat Mr H. Clapp's Master Robert.
Mr W. King's Ruby beat Mr Yorath's Yard Arm.
Mr W. Hall's Edith beat Mr Tripp's Flying Trapeze.

II.

Whiffler beat Fleet.
Edith beat Ruby.
Whiffler and Edith divided.

The BLACK ROCK STAKES, for eight all-aged Grey- hounds, at £2 2s each, the winner received £9, second £5, third and fourth £1 each.

I.

Mr Puglisley's Patent beat Mr Adams's Fly.
Mr C. Denton's Beauclerc beat Dr Slatter's Cocum.
Mr C. V. King's True Blue beat Mr C. Deuton's Gipsy Countess.
Mr T. Davis's Myrtle beat Mr E. H. Salmon's Lady Peg.

II.

Patent beat Beauclerc.
Lady Peg beat True Blue.

III.

Lady Peg beat Patent.

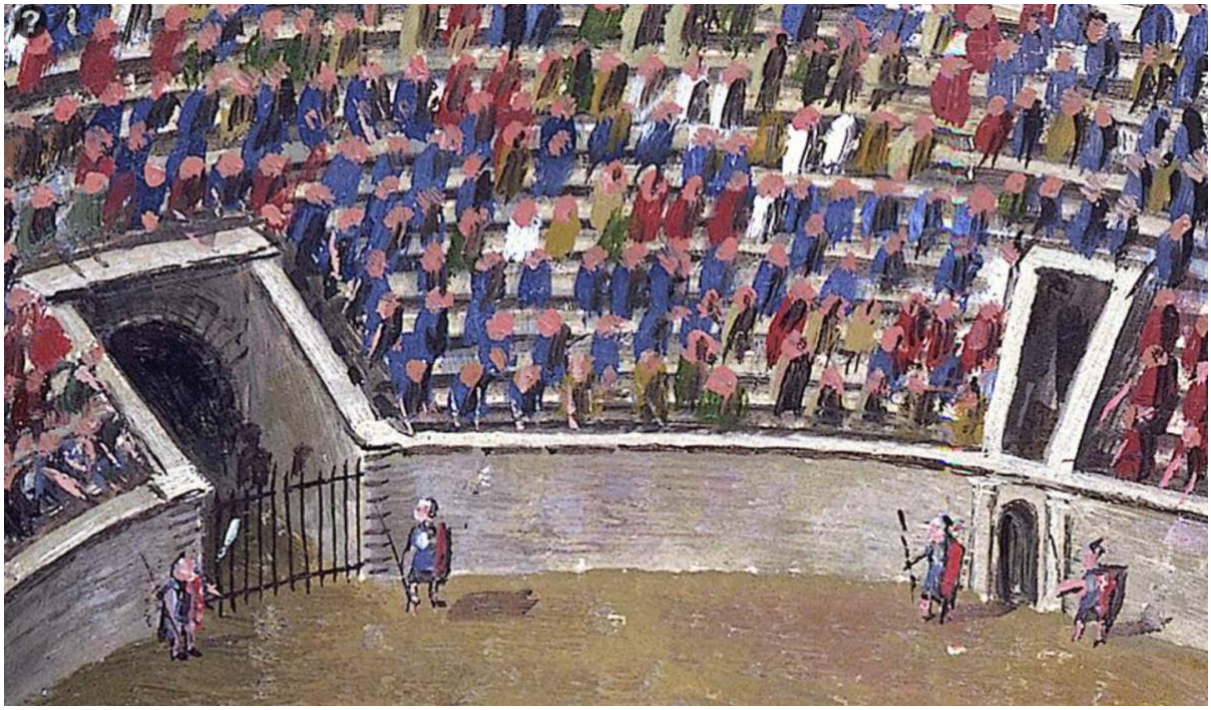
- Looking at the list of the dog competitions, how many hares do you estimate were chased?

Roman samian ware bowl with hounds chasing hares, model of boxing hares.

The Romans also hunted animals with hunting dogs. The Roman author Arrian of Nicomedia wrote about hare coursing as a sport. These Roman bowls from Caerleon, and on display at the National Roman Legion Museum there, show hounds chasing hares (not rabbits). Can you see that one of the bowls shows the hares being chased into nets near a vineyard full of grapes? Sometimes animals were hunted for food. Sometimes animals were hunted as a sport. Sometimes they were hunted as pest control.

The amphitheatre at Caerleon was used to host games to entertain the Roman soldiers, like the centurion Statorius Maximus commemorated on the Goldcliff Stone. Animal hunts called *venationes* were part of the entertainment there. The animal pens can still be seen there (and in the reconstruction image of it below). They were called *carceres* (Latin for prison – we get our word incarcerate (to imprison) and carcher in Welsh (prison) from the Roman Latin word *carcere*).

- Can you find out what the name of the constellation Canes Venatici means?
- What animal is shown with the Roman Goddess Diana on this Caerleon gemstone? Why does she hold a bow and why is she called Diana Venatrix?



Caerleon Amphitheatre (detail) by Alan Sorrell. The animals were penned in chambers, called *carceres,* located around the oval arena. One of the smaller *carceres* is shown (above, right) guarded by armed soldiers.

History, Comprehension, Sociology, Ecology

- Do you feel that hunting with dogs is a good thing or a bad thing?
- Is it different to hunt animals for food rather than for sport?
- Look at the model hares boxing? What are they doing and why do they box?
- What are the differences between rabbits and hares?
- Can you find out when hares and rabbits first came to Britain?
- Do you think that the historical hunting of hares will have affected the numbers of hares in Britain today? What other things affect population numbers of different animals and plants?
- When was hare coursing banned in Wales?
- Why was it banned?
- What other changes made by humans in the countryside may affect the numbers of wild animals living there?
- Can you find out why hedgehog numbers are declining in Britain?
- What can you do to help wild animals to survive? Identify their needs, e.g., habitat, food and water sources, safe movement corridors, cover, etc.

THEME: SUBSISTENCE

Living Levels Learning Resource Pack **Parts 1, 4, 5 and 6.**

Drainage & Dairy

Mesolithic Footprints

People returned to the Gwent Levels after the end of the last Ice Age. The footprints of Mesolithic adults and children have been found near the mouth of the river Usk and in the foreshore mud elsewhere on the Gwent levels, especially at Goldcliff. Learn about the Mesolithic inhabitants of the Gwent Levels using the wonderful Mesolithic Resource Pack available at 10-things-about-mesolithic.pdf (wordpress.com) and 1457524005_Life_in_Mesolithic_pack_complete.pdf (yac-uk.org) This is a cast taken from a child's footprint at Goldcliff.

Mathematics, Measuring, Research Skills, Craft Activity, Archaeology

Footprint casts, flint tools.

- Using a tray of sand, impress the cast of the child's footpint in the sand to replicate the original footprint in the mud of the estuary. Using plaster of Paris, can you make a cast of this Mesolithic child's footprint? The Mesolithic child who left this footprint did not wear shoes, but if they did, can you find out what size shoes they would have needed?
- Using their shoe size as a guide, can you estimate the age of the Mesolithic child that left this footprint?
- Make casts of the crane footprint and cattle hoof-print also. Are cranes and cattle still found on the Gwent Levels today?
- Can you find out what ancient Mesolithic humans may have looked like?
- How much did Mesolithic people change their landscape?

See also History KS2: Middle Stone Age (animation) - BBC Teach.

Neolithic Farming

The tools the earliest farmers have been found on the Gwent Levels. You can see some of them at Newport Museum and Art Gallery. See History KS2: New Stone Age (animation) - BBC Teach

Research Skills, Archaeology, Geography

- How much did Neolithic people change their landscape through farming?

Roman

The Goldcliff Stone, was found in the mud of the Severn Estuary just beyond the sea wall at Goldcliff Pill. It records the work of the century of soldiers, commanded by their centurion, Statorius Maximus. They created 33½ paces of an engineering work, probably a low bank and/or drainage ditch.

The Romans probably did not build continuous sea walls like the ones we have today. Sea levels were about 1.6m lower in the estuary in the first and second centuries AD than they are today. The Romans probably improved localised areas, of slightly higher land and land around them, within the Levels through drainage, surveying and digging ditches (called reens), and low enclosure banks. These have been found at Nash and Goldcliff on the Gwent Levels.

Geography, Research Skills, Archaeology, Ecology, History

- Using the Interactive Map — Living Levels, Ordnance Survey maps in the Artefacts Box or Ordnance Survey maps, Tithe Maps Wales and Court of Sewers maps, see if you can locate Goldcliff Pill.
- What might Roman soldiers have been digging or building here? Could it have been for land improvement for farming, e.g., cattle ranching, by digging drainage ditches or embanking fields? Could there have been a coastal military site here, linking with their legionary base, the fortress at Caerleon?
- In what ways do humans alter the landscape when they farm it?
- Are hedgerows natural or made by humans?
- Are fields natural or made by humans?
- Are forests and woods natural or humanmade?
- Are moors and heaths natural or humanmade?

Roman soldiers used a surveying instrument called a *groma* to help them to create straight lines when laying out roads, banks or ditches.

Research Skills, Craft Activity

- Can you find out what a *groma* was and how it was used? Make your own *groma*.

You are what you eat…

Living Levels Learning Resource Pack **especially Parts 1, 3, 5 and 6.**

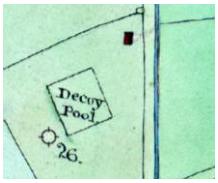
People have always used marine resources and the wildfowl of the Levels as well as farming them.

For example, the Romans enjoyed fish and oysters from the Bristol Channel. At the Roman town of Caerwent, a fast-food shop was located in the corner of the forum (market square) next to the Basilica (Town Hall). The remains of the shop and its cooking platform, situated in the corner against the back wall, may still be seen. Roman scallops, mussels, smooth clams and limpets have also been found at Caerleon.

Cranes seem to have been a Roman delicacy at Caerleon. Crane bones found down a well on the site of a senior soldier's house within the fortress suggest that the cranes had featured in a Roman banquet. How do we know? Only leg bones and skulls of the birds were found in the well. These are the waste bits of a crane that aren't eaten. The body bones were not later thrown down the well, suggesting that the body went to the table and was eaten, with the banquet waste ending up in a different pace to the kitchen waste. One skull has a clean chop mark at the back where it was removed by the cook. The remains of an avocet have also been found at Caerleon.

Research Skills, Ecology, Archaeology, History

Sea shells



- Can you find out what a duck decoy is and what was it used for?
- Using the Living Levels Historic Map Viewer and Ordnance Survey maps, can you locate a duck decoy on the Gwent Levels?
- How did a duck decoy work?
- Do we eat cranes or avocets today?
- How many cranes nest on the Gwent Levels today?
- Use the internet and books to try to identify the seashells recovered from the Bristol Channel. Is any of this seafood?

A Roman ox head escutcheon (a bucket handle loop) found by archaeologists at Caerleon. A replica of a similar ox head escutcheon (converted into a modern brooch) may be found in the artefacts box. It represents Iron-Age and Roman cattle kept for dairy and beef farming on the Gwent Levels.

From pre-Roman times, the Gwent Levels have been mainly used as pasture or rough grazing for cattle. Cattle are important not just for beef and leather, but for dairy products such as milk, cream and cheese. These were always probably the most important economic products from the Gwent Levels themselves. The study of Iron Age and Roman artefacts suggests that cattle were hugely important in Iron Age and Roman society. It is quite possible that wealth during the Iron Age and much of the Roman period was measured primarily by the number of cattle owned. Many Iron Age and early Roman vessels were decorated with representations of cattle. These may indicate the use of the vessels for dairy products or recipes utilizing them, but they more probably represent status, probably linked with wealth. The balls on the ends of some of the cattle horns represent balls placed on the horns of cattle to prevent them harming people or other animals.

In Medieval times land use seems to have remained unaltered. South-eastern Monmouthshire (including the Caldicot Level) was included in the Domesday Survey (of Gloucestershire). It records hardwicks in this area, e.g., at Portskewett. Hardwick comes from 'herd' and 'farm' (wick), so a 'hardwick' is a 'herd-farm'. An area of Chepstow is still called Hardwick Hill today. Some farms, fields and features retain the name Summerleaze (Redwick), Summerway Reen (Caldicot), or Somerton (Newport). These placenames indicate ancient, seasonal, summer, cattle grazing areas. Ynys Mead

(Redwick) also indicates summer pasture for grazing (and possibly land surrounded by water, like an island). Redwick means 'the dairy farm in the reeds' or, possibly, the 'red dairy farm'.

The Wentlooge level preserves equivalent Welsh language early medieval place names denoting summer grazing and dairying. Farms called Maerdy can have regional Royal associations and examples may be seen in Rhymney and Coedkernew. A Maerdy was summer grazing pasture and dairy land. Landlocked St Mellons has a Hendre, or Hendref, (sometimes anglicized phonetically to Hendra) expectedly near to the edge of the fen, where the land rises. The Hendre was a core settlement, often with more arable land, from which there would be access to summer pasture lands for the animals).

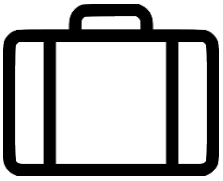
Look at the Newspaper report within these sheets for the Black Rock sale in the nineteenth century. It shows that dairy products and livestock remained important products of the Levels, just as they are today. A journey through the Gwent Levels today will pass through fields of grass with herds of mainly cattle, and sheep, here and there.

Research Skills, History, Archaeology, Geography, Economy, Engineering, Food Production

- What is drainage?
- How do you get the water out without the sea bringing it back in at high tide?
- How was/is cheese made? Has this changed since Roman times?
- Using the Interactive Map — Living Levels, Ordnance Survey maps in the Artefacts Box or Ordnance Survey maps, Tithe Maps Wales and Court of Sewers maps, see if you can locate two farms called Meardy, a farm called Hendre and places called Hardwick, Summerway Reen, Summerleaze Farm and Ynys Mead Reen. Where are they in terms of their landscape. How is the land here used today?
- Roman cattle on the Gwent Levels looked rather like Kerry Cattle and had horns. Can you find out what Roman and Iron Age sheep and cattle looked like?
- Do male and female cattle have horns?
- Compare ancient cattle and sheep with modern cattle and sheep. How have they changed?
- Can you suggest why English language place names are common on the Caldicot Level, whilst Welsh language place names are more common on the Wentlooge Level? [there are Anglo-Saxon and Norman influences on the Caldicot Level, which features in the Domesday Survey].

Cattle teeth/bone, **hoof prints** (estuary).

Research Skills, History, Archaeology, Geography, Economy, Engineering



Model cattle, grains, model apple, Roman cheese press.

- Why not research land use using the early 19th century Court of Sewers maps and mid-19th century Tithe Maps. These are freely available online along with their indexes called apportionments. Within each parish, each field is numbered and its owners, tenants, use and valuation can be viewed.
- What are the main types of farming on the Gwent Levels today?

Orchards

Most of the Gwent Levels are located within the old county of Monmouthshire. The Caldicot and Wentlooge Levels were within the old county of Monmouthshire and its successor, Gwent. Monmouthshire was (and is) located between Herefordshire and Somerset, both major cider-producing areas. Monmouthshire was historically also a cider producing area. Cider presses or apple presses were commonly found at most farms on the Gwent Levels between the 18th and 20th centuries. A fine example of a Gwent Levels cider press may be seen at Redwick. The climates of these counties are similar and are well suited to growing apple trees.

Mistletoe is a semi-parasitic plant that grows especially on apple, poplar, and some other trees. Mistletoe is a particularly common and notable sight within the Gwent Levels. This is possibly, in part, due to the legacy of apple orchards past and present, but mainly because the climate suits it also.

Image: Chris Harris

Research Skills, Geography, History, Food Production, Ecology, Healthy Food

Replica apple

- Take a look at Information Sheets and other downloads – The Mistletoe Pages and Orchards and Community Enterprise — Living Levels. Where in Britain does Mistletoe mostly grow?
- Where in Britain does Mistletoe rarely grow?
- Look at Orchard maps - People's Trust for Endangered Species (ptes.org) and Lle - Traditional Orchards (gov.wales). Where in Britain are most apple and pear orchards located?
- Where in Britain is most cider produced?
- What is cider? Can it be made with apples and pears?
- Study a single parish on the Gwent Levels in an area that you know. Look at Tithe Maps Wales and Court of Sewers maps. Are there more or less orchards on the Gwent Levels today than during the nineteenth century?
- Can you find the location of Orchard Farm and Fair Orchard on the Wentlooge Level?

The levels landscape today is not natural. It has been shaped by nature and humankind.

THEME: ENERGY

Living Levels Learning Resource Pack **especially link with Parts 1 and 6.**

Human Energy: Roman flour

The Romans used hand-driven rotary querns or saddle querns to grind flour to make bread. The Roman soldiers invading the area we now call Wales partly mechanised the production of flour using a donkey-driven mill.

Sustainable, Renewable Energy: Non-fossil Organics, Wind, Water and Sun

The olive oil used by the Romans to light their oil lamps was a renewable energy source. Olive trees can be grown and harvested annually. Similarly, the wood they used to heat their homes was sustainably sourced from local woodland and could regrow as a renewable energy source there.

Wind, water and sun are sustainable sources of energy because they occur abundantly on the Gwent Levels naturally and they do no produce harmful byproducts. From Norman times, mills used to grind corn, barley or wheat into flour for bread were powered by water (watermills). Peasants were obliged to use the manor mill to grind their flour and were fined if they did not. Only freemen were permitted to use hand mills (rotary querns) at home, so no more than 20% of flour was milled at home. Windmills were introduced and became widespread from the late 12thcentury. They could be placed in more diverse locations because they did not rely on a predictable source of water. Each manor or parish often had one or more mills. Food was produced locally. Processing and power were also sourced locally. The carbon footprint of historical food production was consequently very low.

The watermill at Caldicot Pill was mentioned in the Domesday Book of 1066. It has since been demolished, but its name survived in the name of the Mill Field and Mill Lane. The watermill and its mill pond have only fairly recently disappeared in Magor, but its memory is preserved by the Mill Reen leading away from it.

Rogiet Windmill features on the tithe map, but was a house by then. This view from the north looks down onto the Caldicot Level, with its electricity pylons visible in the near distance, and the estuary beyond.

The stone tower base of the Tudor windmill in Rogiet may still be seen, towering over the village, today.

Placenames like Windmill Reen at Nash and Redwick, on the Levels also record the onetime use of wind power on and next to the Levels. Evidence suggests that windmills may have existed at Nash, Goldcliff and Redwick, amongst others that have probably been lost and forgotten.

The twentieth century brought the widespread use of gas and electricity as sources of power for homes and industry. Initially, gas was created by roasting coal to create 'coal gas' or 'town gas'. A gas works was located at Caldicot and Mill Lane and Norman Court briefly became known as 'Gas Works Lane'.

During the second half of the twentieth century, electricity was generated using turbines driven by steam created by heating water with coal-fueled fires at Uskmouth Power Station. Coal is a fossil fuel and burning it to produce electricity produces vast amounts of the greenhouse gas carbon dioxide (CO_2). Today, there is a move away from using fossil fuels to using more sustainable and environmentally friendly biomass or other renewable energy sources. Enormous wind turbines can now be found on the Gwent Levels along with solar farms with their fields full of solar panel arrays. The Levels are crossed by electricity pylons and the wires of the National Grid. These are notable landmarks on the Gwent Levels. When close to them, the crackling of electricity passing through the wires may be heard. In recent years, they have been joined by wind turbines.

Energy – a case study

Energy production from renewable sources may be less damaging to the environment than production from fossil fuels in some ways (e.g., CO_2 outputs), but no form of energy production comes without any environmental impact. All forms of energy production have some detrimental effect on the natural world.

It is better not to require the energy (e.g., electricity) in the first place.

In 2006, most homes were illuminated by tungsten light bulbs like the one in this artefacts box.
At a climate conference in Bristol in 2006, experts agreed that if they could do anything immediately to limit climate change through global warming, they would ban the tungsten (incandescent) light bulb.

This was because 80% of the energy (electricity) that the bulbs used was wasted as heat. Only 20% of the energy used by these bulbs was emitted as light (which is what they were used for).
Consequently, 80% of the electricity being generated to light our homes, burning millions of tonnes of fossil fuels and creating the greenhouse gas CO_2, was completely wasted!

Soon afterwards, the sale of the tungsten light bulb was banned in Europe, including Britain. From 2021, halogen lamp and fluorescent lamp sales will also be banned in Britain because they are inefficient too. Fortunately, technological advance has led to the development of LED lamps.
LED lights are much more efficient than tungsten, halogen or fluorescent tube lights.

Even LED lights still have an impact on the environment, using electricity, so it is still better for the environment, climate change or global warming and sea level rise, to only switch them on when needed and switch them off as soon as they're not needed.

Sustainability, Energy, History, Food Production, Carbon Footprint, Research Skills

Oil lamps, solar wind turbine model, grains, rotary quern.

- Using Archwilio and the Court of Sewers Maps (click on Historic Map Viewer), can you locate the sites of Rogiet Windmill, Sudbrook watermill and Caldicot watermill?
- How have these three locations changed?
- What are corn, barley, rye, spelt and wheat?
- What were the earliest grains grown in Britain, by Neolithic farmers?
- Can you find out how and use flour to bake a loaf of bread?
- Is energy harnessed from wind and water on the Gwent Levels today?
- Using Google Earth or Street View, can you locate any solar farms and wind turbines on the Gwent Levels?
- How does the construction of wind turbines and solar farms impact the ecology and natural environment in the Gwent Levels? The model wind turbine in the artefacts box is powered by the solar panel which generates an electric current. Full-size wind turbines on the Gwent Levels turn dynamos that generate electric current for the National Grid.
- Reducing energy use will help to combat climate change, global warming and sea level rise. What can you do to help prevent the creation of greenhouse gases through energy use? [convert light bulbs to LED, conserve energy, switch off unused lights, limit carbon footprint, use wind and solar sources of electricity, insulate homes, etc.]

THEME: MATERIALS

Living Levels Learning Resource Pack **especially link with Parts 1 and 6**

Imports and Exports:

Moving heavy goods by water (by canal, river or by sea) is often a very economical and environmentally sensitive way to transport them. Coastal regions, including the Gwent Levels and its harbours and ports, play and played important roles in the import and export of the goods that we buy and sell.

Past societies tend to be increasingly self-sufficient, using mainly local natural resources and locally produced products and consuming locally grown or reared foods and drinks.

Alluvium

Rock rarely outcrops on the Severn Estuary Levels. Notable waterfront exceptions are to be found at Goldcliff, Sudbrook, Black Rock and Red Cliff at St Pierre Pill. To learn about the geology in your area visit Geology of Britain viewer - British Geological Survey (bgs.ac.uk), also Make-a-map : a geological map of Britain and Ireland | Geology of Britain | British Geological Survey (BGS) and for a downloadable geology colour-in map of Britain, visit Colour-in geology map of the UK and Ireland -

British Geological Survey (bgs.ac.uk). Buildings situated on the Levels will commonly have been built of stone and lime mortar transported to that location, brick or other materials. The grey estuarine mud or clay of the Severn Estuary now deposited over the Gwent Levels as land is called alluvium. Alluvium is silt that has been deposited by the water (in this case, the Severn Estuary; its highest tides and floods). Alluvium can be dug from the ground, shaped into pots, bricks, roof tiles, etc. It must then be air dried before firing in a kiln to make it ceramic.

The Romans made bricks, cooking pots, storage jars, roof tiles and even gaming counters from this clay. Their pottery kilns have been found at Caldicot, Caerleon and Llanedeyrn. If the clay is fired with lots of air (i.e., oxygen) it becomes an 'oxidised' red ceramic. If the clay is fired with an excess of carbon monoxide and little air (oxygen), it produces a 'reduced' black or grey ceramic.

Alluvial mud, often mixed with straw and other organic materials, was also used to construct some buildings.

Research Skills, Archaeology, History, Geography

Roman pottery: The red oil lamps and samian bowl are oxidised fabrics. The Black-burnished ware bowl is a reduced fabric.

- Can you find out what clom or cob and adobe are?
- Why do you think that clom was used on the Gwent Levels? [limestone and lime mortar can be bought by sea or from inland, but is not readily available across most of the Gwent Levels, which rest on thick deposits of peat and alluvial clays. Clay is all around]
- Can you find a clom building on the Gwent Levels today? [One is known to survive but its location is not widely known]
- Can you find out what 'whattle and daub' is?
- Why is interest in clom and adobe increasing today? See Below the surface 1: Earthen mortars and plasters_0 (adobeconnect.com) and Mud Walls – 5 Reasons Why You Should Love Them | Historic England and https://historicengland.org.uk/images-books/publications/eehb-insulating-timber-framed-walls/heag071-insultating-timber-framed-walls/ [it is an efficient insulator and can have a low carbon footprint]

Why not also research making clay pots, Roman brick and tile footprints, Newport potteries, Caldicot Roman potteries, Caerleon Roman potteries.

Steel

Proximity to the sea and later accessibility by road and rail led to a long association between the Gwent Levels and Steel Production. Steel is an alloy (a mixture) of iron and carbon, sometimes with other elements added to alter its properties, e.g., for increased corrosion resistance. Historical iron production produced a glassy waste product called slag.

Slag found by archaeologists along the Severn Estuary Levels shows that iron and steel were smelted here from at least Roman times.

Long before Llanwern Steelworks was opened, steel nails and tubes were being made in and around Newport.

Steel is no longer produced at Llanwern steelworks. Its blast furnaces and cooling towers have now gone.

- Using the internet (including Archwilio, the Court of Sewers Maps and Google Earth), can you find out what the site of Llanwern Steelworks is used for today?
- Were any landscape features lost or altered when Llanwern Steelworks was built?
- During the 18th-19th centuries, waste slag was often pressed into blocks that could be used as a durable building material. Can you find examples of these in your area? They are often found in, or on top of, old walls dating to that time. Examples may be seen at Redwick parish church, where the shiny black blocks cap parts of the churchyard wall, and at Tredegar Park near Ebbw Bridge in Newport, where the blocks are used to cap the wall of the park along the edge of Cardiff Road.
- Where was the Orb Works?
- What was made at the Orb Works?
- What is the site of the Orb Works used for today?
- Why is the Lysaght Institute named in that way?
- What was the Lysaght Institute built for?

THEME: A WARMING WORLD

Living Levels Learning Resource Pack **especially link with Parts 1 and 6.**

Energetic appetite…

Our need and appetite for energy is at odds with the wellbeing of our planet.

Production of energy from fossil fuels that produce greenhouse gasses is causing global warming. Greenhouse gasses, like carbon dioxide (CO_2), are often the waste products of burning fuels containing carbon (C).

What is climate change?

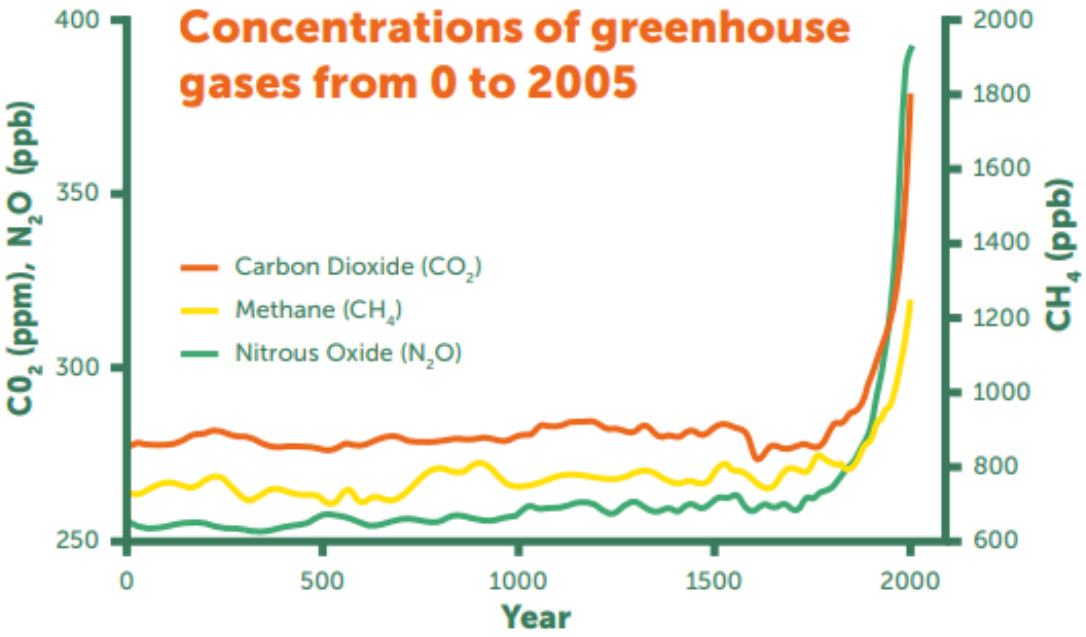
Climate is the general weather conditions in one place over a long period of time. Climate change is natural but human intervention has accelerated and altered this natural process significantly.

In the last 100 years temperature has risen steeply by ¾°, with CO_2 increasing by 38%. CO_2 occurs naturally from soil, animals and volcanoes. The problem is the additional CO_2 and other greenhouse gases (GHGs) being released through human factors.

Greenhouse gases (GHGs):

- carbon dioxide CO_2 – from burning fossil fuels, deforestation, industrial processes
- methane CH_4 – from fossil fuels, decomposing waste, livestock
- nitrous oxide N_2O – from agriculture, fossil fuel combustion, waste water management, industrial processes
- CFCs (chlorofluorocarbons) – from aerosols and refrigerants
- F-gases
  - hydrofluorocarbons HFCs
  - perfluorocarbons PFCs
  - nitrogen trifluoride NF_3
  - sulphur hexafluoride SF_6 – from electrical industry, medicine, magnesium

Parts per million (ppm) is a measure of GHGs. CO_2 has been stable at 280ppm for millions of years, started to rise in Industrial Revolution, is now at its highest at 400ppm. To keep under 2°C increase, we have to reduce to 350ppm.



Impacts of climate change

Land

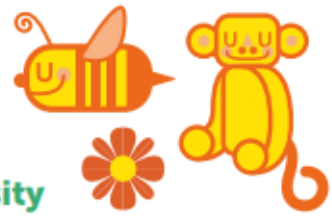
Rising earth temperature, shrinking ice caps, reduced snow cover & glaciers, increased air temperature, increased humidity

Habitats

Threaten animal food & water sources

Oceans

Rising sea temperature and levels, already **1/3** more acidic than pre-Industrial Revolution



Biodiversity

Rate of biodiversity loss today **1,000-10,000** times greater than the natural extinction rate

Desertification

41% world's land surface is dry, containing **1/3** population – displaced people, crop failures

Human systems

Population changes from **1.6bn** in **1900** to **7bn** in **2013** – threaten human food and water sources

Deforestation

Trees and woodlands cover **30%** of land area, **36** football pitches equivalent cut down per minute

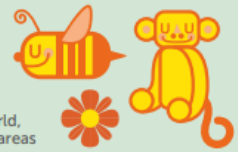
Water

20% of world's freshwater goes through Amazon river; **UK** has **8th** highest level of fresh water supply available, subject to occasional or local water stress

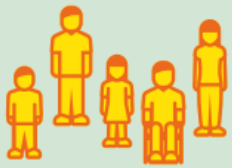
Global warming thermometer

6° Mass extinction?

- Oceans are marine wastelands, most sea life is dead
- Whole continents are turned to deserts
- Natural disasters are common events
- Great cities are flooded and abandoned
- There are mass extinctions around the world, human refugees are confined to highland areas



5° Civilisation collapses



- 2 massive uninhabitable zones spread into once temperate northern and southern hemispheres
- Snow-packed aquifers that feed the world's great cities – Cairo, Lima, Los Angeles, Bombay – are drying out
- Climate refugees in hundreds of millions, humans move north to live in the relatively cooler Arctic regions
- Traditional social systems break down

4° Great cities wash away

- Oceans rise, overtaking heavily populated deltas – Bangladesh, Egypt and Venice submerged
- Northern Canada becomes a bountiful agricultural zone
- A beach in Scandinavia becomes as hot as St Tropez is now
- West Antarctic ice sheet could collapse, causing sea levels to rise even further
- Some of the most important rivers such as the Ganges could dry up, endangering the survival of hundreds of millions of people

3° Heatwave fatalities

- Snow caps on the Alps disappear
- El Niño's extreme weather patterns become normal
- Mediterranean and parts of Europe suffer searing summer heat, with temperatures now experienced in the Middle East
- Heatwave fatalities, such as the 30,000 who died across Europe in the heatwave of 2003, become normal
- Snowcaps and glaciers melt reducing water availability
- Hundreds of millions of people water stressed
- Global food production under threat due to drought

2° Ocean life in danger

- Greenland's tipping point – glaciers disappear, polar bears struggle to survive
- Amazon's tipping point – extreme heat, droughts and increased wildfire frequency makes most of the rainforest unviable
- Oceans are increasingly acidic
- Insect migratory patterns change, pine beetles move north in USA and kill off white bark forests, grizzly bears' key source of food in autumn
- Hundreds of millions of people affected by coastal flooding, the Pacific Island of Tuvalu is lost beneath rising tides
- Majority of world's tropical coral reefs are lost
- It is the poor who are the most badly affected, as well as being the least responsible

1° Could it change the world?

- Arctic is ice-free for half the year, opening up the North West passage for ships
- Thousands of homes around Bay of Bengal are flooding, affecting India, Pakistan, Bangladesh and Myanmar
- Hurricanes start hitting the south Atlantic
- Severe droughts in USA cause shortages in global grain and meat markets
- Emergence of new deserts in western USA

1.3° Our cut off point

What are others doing about it?

International policy

The COP21 conference in Paris in December 2015 emphasised the urgent need to limit temperature increase to 2°C. Even at this level we face serious consequences, but if it rises to 4°C this would become, "Incompatible with an organised global community".

UK policy

The net zero carbon emissions relative to 1990 levels by 2050.

Climate emergency declared by Welsh Government in April 2019
www.bbc.co.uk/news/uk-wales-politics-48093720

Amgueddfa Cymru declares global climate and ecological emergency September 2019
www.museum.wales/news

The 10 warmest years on record have all occurred since 1998, and 9 of the 10 have occurred since 2005.
www.climate.gov/news-features/understanding-climate/climate-change-global-temperature

What is a carbon footprint?

The amount of CO_2 released into the atmosphere as a result of the activities of an individual, organization or community.

The world's worst five performers per capita are:

- Australia
- USA
- Saudi Arabia
- Canada
- South Korea

In the UK the average person's carbon footprint contributes the following CO_2 emissions:

- 1.2 tonnes home services
- 3.2 tonnes home travel
- 1.5 tonnes air travel
- 2.9 tonnes food
- 6.8 tonnes services and shopping

Different GHGs have different climate warming powers. CO_2e = carbon dioxide equivalent, a standard unit for measuring carbon footprints. It expresses the impact of each different greenhouse gas in terms of the amount of CO_2 that would create the same amount of warming.

What can we do?

Our actions as individuals can make a difference.
We also need to work with others to create change.

The changes we need to make can lead to a better world and way of life. Equity and fairness underlie the changes we want to see in Wales, the UK and globally.

You can help reduce emissions of CO_2 and other greenhouse gases, at home and at work, by committing to one individual pledge and one group pledge, in order to become carbon literate.

- How many ways do you use energy each day?
  [TV, gaming, phone charging, cooking, boiling water, heating your house, heating your bath or shower, travel…]
- Can you calculate the effect that your use of energy is having on the planet using https://footprint.wwf.org.uk/#/ ?
- What is the difference between need (or appetite) and desire? Why not try to identify energy needs and desirable energy uses?
- What are fossil fuels? Why are these potentially more problematic than renewable sources of energy?
- Try to find out why greenhouse gases such as carbon dioxide (CO_2) warm the planet.
- Is the world population size growing or shrinking? Will we need more, or less, energy in future?

A rising tide…

Living Levels Learning Resource Pack **especially link with Parts 1, 2, 4 and 6.**

The overall warming of our planet is melting ice in glaciers and at our planet's north and south poles. This water is raising sea level at an increased rate. The warming of the planet also warms the sea

water and warmer water expands and takes up more room than colder water. This also increases sea level.

At high tides, the Gwent Levels would be under water today without the sea walls and sluice gates to keep out the sea.

Levels in a tub

Gently poor water into the seaward side of the model of the Levels to see the effect of high tides today. What will happen if sea level continues to rise? To find out add more water to the seaward side of the model. What will happen if the frequency and intensity of rainfall continues to increase over Britain due to warmer air over the Atlantic Ocean picking up more and more moisture? Add more water to the hills on the model to find out. [Reens possibly could not cope between high tides. Remember that the Levels can only be drained once the tide has receded enough to let the sluices open. See the Somerset Floods of 2013-14 and more recently].

- Look at the Ordnance Survey Maps at https://magic.defra.gov.uk/MagicMap.aspx for your area of the Gwent Levels. Light grey numbers show the height of the land above sea level (compared with the Newlyn Ordnance Datum in Cornwall). The top of the sea wall at Redwick is at 9m OD (Ordnance Datum), i.e., 9m above 'sea level'. But the land behind it around Redwick village is at 6m OD. Many modern-day high tides are 6.5m OD. We now rely on our sea walls to protect us from these high tides.

Higher tides

Rainy weather is often associated with low pressure or a drop in pressure on a barometer, and the boundary zones between areas of low atmospheric pressure and high atmospheric pressure (often called fronts on weather maps). Atmospheric pressure is measured with a barometer, and these can be used to predict changes in the weather.

- Try making a jam jar a barometer with a balloon and straw. The surface of the balloon acts a bit like the surface of the sea under different atmospheric pressures. High pressure presses down on the balloon (and the surface of the sea). Low pressure enables the balloon (and the sea) to bulge and rise upwards.

Low atmospheric pressure pushes down on the surface of the sea less than areas of high atmospheric pressure. This enables the sea to bulge upwards beneath areas of very low pressure. When the sea bulges up in this way, the resulting higher tide is called a **storm surge**. Wind and other factors can also contribute to higher tides and surges.

Living Levels Learning Resource Pack **especially link with Part 2**

In January 1607, following three days of bad weather, the centre of a deep low atmospheric pressure area passed over the Severn Estuary. This enabled the water to rise above the sea walls of the time and flood places on the Levels on both sides of the Severn Estuary.

Many people drowned or died of hyperthermia. The event is commemorated on the Gwent Levels at Redwick, Goldcliff, St Brides Wentlooge, Peterstone Wentlooge, and possibly at Nash parish churches.

In 1607 there was no photography, so the news pamphlets of the day contained woodcut images of the disaster.

A woodcut is an image carved in a block of wood so that when it is dipped in ink, it can be pressed into a sheet of paper to leave an ink image from the carving on the block. Today, we can make our own printing blocks using potatoes, lino or polystyrene.

 Craft, history.  Linocut printing blocks and ink pads

- Print an image of the 1607 flood using the lino block supplied and describe what you think is happening in the image? [Use the roller to apply an even coating of ink to the block and carefully lay your paper on top of the block (not beneath it) and press down on the paper with the palm of your hand whilst ensuring that it does not move. Do not use the block as a stamp (above the paper) because wooden blocks warp with changes in moisture, so your block will be slightly curved].
- How would the frost of the evening following the flood have affected the people who had managed to climb trees above the flood waters?
- Children were sleeping in cribs or cradles in 1607. Some of the woodblocks published at the time show a cradled baby. Do you think that wooden cradles floated? [they did and babies were rescued]
- Some cribs were wicker baskets. Do you think they floated? [no, the babies had to be rescued from those cribs to survive]
- What sorts of animals can you see in the image?
- Can you find out about any other major flooding events on the Levels? [How the British weather led to the death of Richard III: Storms led to the Battle of Bosworth taking place, researchers claim | Daily Mail Online; or GlosGen - The Great Storm of 1703]
- Do you think that the Gwent Levels will flood again in the future? [Discuss sea defences, global warming and sea level rise, historical precedent, etc.]

Media – then and now.

Collect newspaper cuttings or online screen saves about climate related news.

- How do you learn about the news?
- Today, the news might still be found in a newspaper, but increasingly, most people might access the news through radio, TV, or online using social media or news apps. Are images important in news media and if so, why?
- Are modern image choices similar to the woodblock images in the seventeenth century chapbooks? How are images prioritised for publications and media today? What does photogenic mean?

THEME: LIVING LUXURIES

Living Levels Learning Resource Pack **especially link with Part 6.**

Stone tools: Beautiful, sharper than steel, and incredibly useful as weapons and tools, these would have been as highly prized by their makers and owners as your games console or mobile phone would be to you.

Brooches and Hair Pins: Beautiful and useful for following the latest in fashions, hair pins were used by Roman women who liked to wear their long hair up, often plaited in braids pinned on top of their heads. Few signs of Roman occupation come from the Levels themselves. Most Roman settlement appears to have hugged the edge of the fen, situated on slightly higher ground, but using the rich agricultural resources of the Levels. Roman settlement evidence has been found at Portskewett, Sudbrook, Caldicot, Rogiet, Undy, Magor, Redwick, Coedkernew, and Rumney. Most arable farming (the growing of crops) was probably on the higher ground just above the Levels at or near to these locations.

Roman hair pin, Roman brooches, flint tools

- Look at the replica Roman personal possessions. Of your personal possessions, which are most important to you?
- Is this because they are useful, because you like the look of them, or because they make you look good and feel good about yourself?
- If you were abandoned on an island alone and could only save one possession, what would it be?
- What types of personal adornment would rarely survive in the archaeological record? [Answers might include nail varnish, tattoos and organic clothing - fashion]

THEME: TIMELINE

Living Levels Learning Resource Pack **especially link with Parts 1, 2, 4 and 6.**

Studying the past is the study of change plotted against time.

Changes can be compared best when their relative positions in time can be identified and understood. Progress or regression can be charted against time for different concepts, behaviours or technologies.

 Mathematics, Measuring, History, Archaeology, Chronology  pegs

Using the piece of string, clothes pegs and laminated cards, clip on the historical events and periods in the right order. Have you spaced them out to reflect the distances in time between them? Your life? 1cm = 10 years! So 2 metres represents 2000 years. Make your own events cards and add them to the timeline.

Solar Farms and Wind Turbines AD 2000

Prince of Wales Bridge AD 1990

Severn Bridge AD 1966

Severn Tunnel AD 1886

Old Passage Ferry (Angerstein) AD 1752

Great Flood AD 1607

Newport Medieval Ship AD 1450

Magor Pill Shipwreck AD 1300

Monksditch (Medieval) AD 1200

Old Passage Ferry (Roman) AD 100

Barlands Farm Boat (Roman) AD 300

Goldcliff Stone (Roman) AD 200

Iron Age Houses Goldcliff 100 BC

Goldcliff and Caldicot Boats BC

Uskmouth and Goldcliff Footprints 7,000 BC

Submerged forests Redwick and Magor and Goldcliff 7,000 BC

Handaxe 30,000 years BC (another 23 metres away!)

- Can you use the measuring tape to create the spaces between these events to scale?
- Can you define a metre and a meter?

Artefacts Box Contents Checklist:

- Roman coins – the Augustan Coinage System: Reproduction Set of 5 Roman Coins in Gift Pack Museum Quality | Etsy
- Roman Coins (loose aurei, denarii and dupondii)
- Antler flintknapping kit (antler tool and leather palm guard) Flint Knapping Kits Make Ancient Stone Tools | Etsy
- Ovate Palaeolithic flint hand axe Products - Primitive Technology UK (primitive-technology.co.uk)
- Pointed Palaeolithic flint hand axe Products - Primitive Technology UK (primitive-technology.co.uk)
- Mesolithic pointed arrowhead and microlith barb Products - Primitive Technology UK (primitive-technology.co.uk)
- Two Prehistoric scrapers Products - Primitive Technology UK (primitive-technology.co.uk)
- Neolithic flint axe head Products - Primitive Technology UK (primitive-technology.co.uk)
- Neolithic Leaf shaped flint arrowhead Products - Primitive Technology UK (primitive-technology.co.uk)
- Neolithic oblique flint arrowhead Products - Primitive Technology UK (primitive-technology.co.uk)
- Bronze Age barbed and tanged flint arrowhead Products - Primitive Technology UK (primitive-technology.co.uk)
- Bronze axe replica Large Bronze Age Axe Head Replica. Life Size. | Etsy UK Magor Marsh Box
- Animal and Human footprint casts
- Linocut 1607 Flood Woodcut: A5 Lino and wooden support with ink pad and ink roller Lexicon Select Super Soft Lino Block 150x100 mm - Pack of 8 : Amazon.co.uk: Home & Kitchen and Extra Large Black Inkpad 140 x 110 mm : Amazon.co.uk: Home & Kitchen
- Black-burnished bowl Roman Greyware Flanged Bowl – PottedHistory (potted-history.co.uk)
- Roman grey pot (reduced) – See Black Burnished Ware Bowl (above)
- Roman red pot (oxidised) Roman Jars and Cooking Pots, Various – PottedHistory (potted-history.co.uk) See also oil lamps, samian bowl and cheese press for examples of oxidised vessels.
- Roman cheese press: Roman Cheese Press – PottedHistory (potted-history.co.uk)
- Rotary Quern Ancient Greek stone handmade millstone mill for whole grain flour wheat seed 70s | eBay
- Grains: Rye, Spelt, Oat Groats, Pearl Barley
- Replica hare brooch: Animal Brooch | Roman/Romano-British | Historic Jewellery Reproduction
- Trumpet Brooch: Roman Trumpet Brooch | Roman/Romano-British | Historic Jewellery Reproduction
- Ox head escutcheon: Romano-British Ox-Head Escutcheon Brooch | Roman/Romano-British | Historic Jewellery Reproduction
- Replica hairpin Roman Hairpin / Dress Pin With Hand 07 Gew Hand / N1 B-5 | Etsy
- Bone: Roman Hairpin Augusta Blank From Bone With Polyhedra Head | Etsy
- Roman bone dice: Bone Die / Dice Dot and Circle Markings Based on Roman Finds | Etsy

- Replica oil lamp: BUZZ Roman Pottery Oil Lamp Replica Item Name : Amazon.co.uk: Home & Kitchen
- Replica Roman oil lamp: Roman Oil Lamp Factory – PottedHistory (potted-history.co.uk)
- Roman glass flask (import) - Roman Pitcher – The Ancient Home
- Roman samian (import) - Roman luxury import – but mass produced – replica Samian Bowl with Hare & Hounds (Drag 37) – The Ancient Home
- Levels in a tub
- OS 1:25,000maps Landranger Map 171, 172 weatherproof

  OS Map of Cardiff & Newport | Landranger 171 Map | Ordnance Survey Shop

  OS Map of Bristol & Bath | Landranger 172 Map | Ordnance Survey Shop

- Magnetic Compass - Photospecialist - Konus Compass Scompass
- Pre-decimal coins: Farewell To The £sd System Pre-Decimal £.s.d (10 coins) Crown Coin Present Display Gift Set : Amazon.co.uk: Toys & Games
- Dauwalders of Salisbury Old British Coins, including early 1900s Farthing, Halfpenny and Britannia penny : Amazon.co.uk: Toys & Games
- Old one pound note.
- Old ten bob note: Fforde 10 Ten Shillings Note Uncirculated : Amazon.co.uk: Toys & Games
- Plastic model cattle: MOJO Simmental Cow Farm Animal Model Toy Figure : Amazon.co.uk: Toys & Games
- Apple: Fake Red Apple, Realistic Apple Plastic Artificial Red Apple for Fake Fruit | eBay
- Model wind turbine: Windmill Desktop Model Solar Powered White Wind Turbine Windmills Brand New | eBay
- Carry boxes Really Useful Products 160 Litre Wheeled Trunk in Recycled, Black with Yellow Handle in Card, Recycled Black Base + Yellow Handle : Amazon.co.uk: Home & Kitchen
- String 50m for Time Line: G2PLUS 5MM Thick Jute Rope, 50M Strong Hemp Garden Rope, 3-Ply Jute Twine String for DIY Crafts Arts and Gardening Applications : Amazon.co.uk: Garden & Outdoors
- Pegs for Time Line: Bamboo Pegs - Pack of 100 | Wooden Pegs | Strong Clothes Pegs for Washing Lines | Arts & Crafts | Washing Pegs & Photo Hanging | Pukkr : Amazon.co.uk: Home & Kitchen
- Measuring tape (30m) for Time Line: Stanley C/Case F/GLass Tape 30M 0 34 297 : Amazon.co.uk: DIY & Tools
- Steel Tube
- Hare: similar in range of Realistic Hare Ornaments Finished in Natural Colours, Choice of Poses to Collect (15.5cm Hare Licking Paw) : Amazon.co.uk: Home & Kitchen
- LED lamps Lepro G9 LED Bulbs Cool White, Equivalent to 28W 30W G9 Halogen Bulbs, 6000K Daylight White LED G9 Light Bulbs, 2.6W, 320lm, Energy Saving G9 Cool White LED Capsule Bulb, Non Dimmable, Pack of 5 : Amazon.co.uk: Lighting and Tungsten lamp.
- GWR Train ticket: GWR Great Western Railway Ticket H M Forces on Leave NEWPORT H.St to CHEPSTOW | eBay or Great Western Railway Ticket 2642 Newport H. St to Cardiff General - Monthly | eBay or Great Western Railway Ticket 633 NEWPORT N.St to CHEPSTOW Forces On Leave | eBay
- Sea Shells from Bristol Channel/Gower

Asses	*Dupondii*	*Sesterces*	*Denarii*	*Aurei*
Place *asses* in this column. Remove every two *asses* and replace with one *dupondius* in the next column.	Place *dupondii* in this column. Remove every two *dupondii* and replace with one *sestertius* in the next column.	Place *sesterces* in this column. Remove every four *sesterces* in this column and replace with one *denarius* in the next column.	Place *denarii* in this column. Remove every twenty-five *denarii* from this column and replace with one *aureus* in the next column.	Place *aurei* in this column (if you're rich enough to own any).

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