**3.** Homes in the Past

**Subject:** History

**Strands:** Continuity and change over time; Local studies

**Strand Units:** Homes, housing and urban developments; Homes

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| **Curriculum objectives*** Study aspects of social, artistic, technological and scientific developments over long periods.
* Identify examples of change and continuity in the ‘line of development’.
* Identify the factors which may have caused or prevented change.
* Refer to or use appropriate timelines.
* Compare and classify a range of homes in the area (ideally homes from a variety of periods)
* Investigate local and/or regional variations or similarities in building styles and materials
* Investigate links between the age of houses and their location
 | **Skills*** Time and chronology, change and continuity, cause and effect, using evidence, empathy, synthesis and communication
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| **Key words**elite, Georgian, Industrial Revolution, labourer, migrate, nomad, quarters, recession, scullery, squalid, steam-powered, tenements, textile, urbanised |
| **FYI*** The window tax was not abolished in Ireland until 1851. Large estate houses with up to 20 windows had an annual tax of 4 shillings, while homes with more than 20 windows had to pay 8 shillings. In the 18th century, this tax increased to 10 and 20 shillings, respectively.
* Henrietta Street on the north side of Dublin city centre was Ireland’s first development of Georgian townhouses. The houses were built by Luke Gardiner in the 1720s. Gardiner also designed nearby Gardiner Street.
* The King’s Inn building was built adjacent to Henrietta Street in 1816.
* In the 1930s, Éamon de Valera tried to demolish the Georgian buildings in Merrion Square.
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| **Resources*** Digital – video about homes that were built in Ireland in the past
* Digital – PowerPoint presentation on primary and secondary sources
* Digital – complete-the-sentence activity
* Differentiation Toolkit DT 1 – Group Work Cards
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| **Lesson*** Class brainstorming: Describe primary and secondary sources of information and give examples of each. (Primary sources are presented throughout the lesson.) Ask the children to name different types of homes in the past (caves, huts, cottages, castles, etc.).
* Introduce the key words and elicit suggested meanings. Use the glossary or a dictionary as needed.
* Play the PowerPoint presentation about primary and secondary sources. Discuss the different examples of both.
* Watch the digital video about homes in Ireland in the past.
* Read through the lesson in the Textbook, referring to the timeline to familiarise the children with the homes built in each era. Discuss how technological advances have influenced building methods down through the ages. Explore the reasons for urbanisation. Ask the children why people moved away from rural areas into urban areas. What effect did this have on rural areas? What effect did it have on urban areas?
* Case study: Discuss the challenges of life in the tenements. Ask the children if they can think of any good points about the tenements. Why, do you think, are there no tenements in Ireland nowadays?
* Carry out the digital complete-the-sentence activity.
* Complete the Show What You Know and Let’s Get Exploring sections.
* Revise the information in the lesson and use the activities in the Activity Book to consolidate learning.
* In pairs, ask the children to each share with their partner three things they have learned about homes in the past. Each child should retell the information shared by their partner to the class.
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| **Think like a historian!*** Why are homes in urban areas different to those in rural areas?
* Why, do you think, did the wealthy live in such large homes in the past?
* Why did the wealthy who lived in cities in the Georgian era also own large estates in the countryside, do you think? What did they use these estates for?
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| **Differentiation*** Show What You Know: Questions 1–5 are lower order; 6–7 are higher order.
* Adapting the Let’s Get Exploring activities for differentiation:
1. Complete orally with a partner.
2. Assign mixed-ability pairings. Provide photographs of homes in the local area if possible, for the children to study and compare with those mentioned in the lesson.
3. Assign roles within mixed-ability groupings. (See DT 1 – Group Work Cards.) Provide more photographs of housing estates to compare.
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| **Assessment*** Can the children explain the difference between a primary source and a secondary source of information, and give an example of each?
* Can the children place a home from the past in the correct era on the timeline, and identify examples of such homes in their locality?
* Can the children complete the Show What You Know and Let’s Get Exploring sections and the Activity Book activities, consolidating the information learned in the lesson?
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| **Extension ideas*** Explore old maps and compare them with modern maps of the same areas.
* Research appliances used in the past. How did people store and cook food, iron clothing and light their home before the introduction of electricity?
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| **STEAM****Multimedia:** In groups, research a house from the Georgian era in Ireland, and make a presentation of your findings. Include primary sources such as photographs and maps, and information about the first occupants of the house. |
| **Integration****Art:** Draw or paint a large estate house, using old paintings as inspiration. You can label your drawing to explain what different areas of land on the estate are used for.**Drama:** Role play a conversation between two people who have left the tenements and moved to the suburbs. How do they feel about their new homes?**Gaeilge:** Mo bhaile.**Geography:** Compare modern and old maps of your locality to see how land use has changed over time.**Literacy:** The year is 1880 and you are the owner of a new biscuit factory in Dublin. Design a leaflet advertising jobs in your factory. The leaflet should try to persuade people in rural areas to move to Dublin and work for you!**Music:** Listen to classical music from the 19th century, and explore how people might have have danced to this music at balls held in the Georgian era. |
| **Useful links*** Maps – <https://maps.scoilnet.ie>
* Old maps – <https://www.ria.ie/irish-historic-towns-atlas-online-ennis>
* Ordnance Survey maps – [https://digital.ucd.ie/view/ucdlib:40377](https://digital.ucd.ie/view/ucdlib%3A40377)
* Search online for a video with the title ‘Using Primary and Secondary Sources’
* Changes in homes and interesting facts – [http://www.askaboutireland.ie/learning-zone/primary-students/1st-+-2nd-class/history/homes-then-and-now/](http://www.askaboutireland.ie/learning-zone/primary-students/1st-%2B-2nd-class/history/homes-then-and-now/)
* Search online for a video tour of a tenement flat in Dublin using key words ‘living conditions in Dublin 1913’
* 14 Henrietta Street website – <https://14henriettastreet.ie>
* Photographs of tenement buildings in Dublin – <https://www.pinterest.ie/pdonnelly94/tenement/>
* September 1913 news report on the collapse of a tenement building – <https://www.rte.ie/centuryireland/index.php/articles/tragedy-in-dublin-as-tenements-collapse>
* Virtual and guided tours of a Georgian townhouse – <http://www.numbertwentynine.ie>
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**4.** Heat at Home

**Subject:** Science

**Strands:** Energy and forces; Materials

**Strand units:** Heat; Materials and change

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| **Curriculum objectives*** Experiment with a range of materials to establish that heat may be transferred in different ways: through water, metals or air.
* Recognise a variety of sources of heat: renewable sources; non-renewable sources.
* Know that heat energy can be transferred: in solids (conduction); in water and air (convection); from the sun (radiation).
* Measure and record temperature using a thermometer.
* Experiment to establish which materials are good conductors of heat or good insulators: explore ways in which liquids and solids may be kept hot or cold.
* Identify ways in which homes and buildings are heated and insulated.
 | **Skills*** Questioning, observing, predicting, investigating and experimenting, estimating and measuring, recording and communicating, vocabulary development, analysing
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| **Key words**conduction, convection, kinetic energy, polystyrene, radiation |
| **FYI*** Cold objects also have some heat energy. However, the molecules are moving at a slow rate. If they stop moving, the object reaches a temperature of absolute zero, meaning that no heat energy exists in the object.
* Other examples of insulation: a tea cosy; a bird’s feathers (they fluff up in winter and trap air to insulate the bird’s body); a sheep’s wool; the vacuum in a thermos flask.
* Untreated sheep’s wool used for insulation can attract moths and other insects. It is treated with a chemical before installation to repel insects.
* The Ancient Romans used underfloor radiant heating systems. The floor was raised on short brick columns with a cavity underneath. The cavity was fed hot air from a furnace, which warmed the floor.
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| **Resources*** Digital – video about how heat is transferred, explaining conduction, convection and radiation
* Digital – thematic revision quiz
* PCM 2 – Science Investigation Template
* PCM 3 – Which material keeps water hot for longest?
* Differentiation Toolkit DT 1 – Group Work Cards
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| **Lesson*** Begin with a mind-map activity to establish prior knowledge about heat and temperature. Ask the children to name sources of heat (the sun, radiators, a cooker, a kettle, etc.). Record their responses on the board.
* Explain to the children that heat is transferred in three ways, and play the digital video about conduction, convection and radiation.
* Returning to the mind-map activity, ask the children to identify the type of heat transfer that takes place with each of the sources of heat that they had identified.
* Introduce the key words and elicit suggested meanings. Use the glossary or a dictionary as needed.
* Read through the lesson in the Textbook, highlighting the ways in which homes are heated. Ask the children what kind of central heating system they have at home. What things might influence the kind of central heating system that is used in a home? (For example, the age of the home, or the type of fuel that is available in the area – natural gas is not piped to most rural areas.)
* Carry out the experiments in groups. Distribute copies of PCM 2 for both the conductors and the convection currents experiments, and PCM 3 for the insulators experiment.
* Discuss energy-efficient homes, focusing on the ways in which homes can become more energy efficient. Ask the children if they know the BER rating of their home.
* Revise the information in the lesson and use the activities in the Activity Book to consolidate learning.
* Complete the digital thematic revision quiz.
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| **Think like a scientist!*** What other natural materials could be used for insulation?
* What might solar panels be used for in the future? For example, could they be used to power cars and trains? Why or why not?
* Explain the difference between heat and temperature.
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| **Assessment*** Can the children discuss convection, conduction and radiation as methods of heat transfer?
* Can the children identify sustainable methods for insulating a home and explain the BER rating on a home?
* Can the children identify materials that are good conductors?
* Can the children use a thermometer to record temperature?
* Can the children complete the Activity Book activities, consolidating the information learned in the lesson?
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| **Extension ideas*** Design a sustainable home, returning to the information in Chapter 2 to help you.
* Research different uses of thermometers.
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| **STEAM****Experimenting:** In groups, make a homemade thermometer. You will be given a clear straw, a bottle, modelling clay, food colouring, water and a marker. Fill the bottle to roughly one-quarter full with water. Add a couple of drops of food colouring. Place the straw in the bottle. Make sure it is not touching the bottom of the bottle. Hold the straw in place by wrapping the modelling clay around the top of the bottle. Use the marker to mark on the bottle the level at which the water has travelled up the straw at the start. Place the bottle in a warm spot, such as beside a radiator. After an hour, mark on the bottle the level at which the water has travelled up the straw. Repeat the process in a cooler area of the classroom. |
| **Integration****Art:** Design a poster highlighting the benefits of using renewable energy and sustainable materials in homes.**Geography:** Homes and buildings in my area. Are there any homes with solar panels in your locality? Does anyone in the class have solar panels on their home? If so, can they explain what the solar panels do?**History:** Explore the ways in which people stayed warm in the past (e.g. animal skins, open fires, bed warmers/warming pans, ceramic hot water bottles).**Maths:** Use a thermometer for directed numbers.**Science:** Design a new or improved central heating system for homes. How would it work? How could you make it sustainable? |
| **Useful links*** Conduction, convection and radiation – <https://www.bbc.co.uk/bitesize/guides/zttrd2p/revision/1>
* Butter experiment – <https://layers-of-learning.com/heat-conduction-experiment/>
* Convection facts – <https://kids.britannica.com/kids/article/convection/601846>
* Search online for a video with title ‘Convection currents with ice cubes experiment’.
* Search online for a video with key words ‘Heat energy water molecules for kids’.
* Information about temperature – <https://www.ducksters.com/science/physics/temperature.php>
* Homemade thermometer experiment – <https://www.whatdowedoallday.com/homemade-thermometer-for-kids/>
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**5.** The World of Water

**Subject:** Geography

**Strand:** Natural Environments

**Strand units:** Physical features of Europe and the world; Land, rivers and seas of Ireland

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| **Curriculum objectives*** Learn about a small number of the major natural features of Europe: Rhine, Mediterranean Sea.
* Become familiar with the names and approximate location of a small number of major world physical features: major rivers (e.g. Nile, Amazon).
* Become familiar with the names and locations of some major natural features in Ireland: rivers.
* Become familiar with the relationship of these features with elements of the built environment and with significant natural features of Ireland: towns built near rivers; links between local stream and major river.
* Understand some of the interrelationships between these natural features and the lives of plants, animals and humans.
 | **Skills*** A sense of space, a sense of place, questioning, observing, maps, globes and graphical skills, predicting, analysing, recording and communicating
 |
| **Key words**angling, aquaculture, delta, erosion, estuary, meander, mouth, river basin, source, tributary, wharf |
| **FYI*** The Ha’penny Bridge (officially the Liffey Bridge) is a pedestrian bridge that spans the Liffey River in Dublin city centre. When it was built, people who wanted to cross over the bridge had to pay a toll of a halfpenny!
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| **Resources*** Digital – thematic poster
* Digital – interactive drag-and-drop activity to label the features of a river
* Digital – PowerPoint presentation on major rivers of the world
* Assessment Toolkit AT 1 – KWL Chart
* Differentiation Toolkit DT 1 – Group Work Cards
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| **Lesson*** Display the digital thematic poster and discuss the audio questions.
* Using the KWL Chart, allow the children to share any prior information about waterways. Ask the children to name different types of waterways (river, stream, canal, lake, ocean). Can you name any specific waterways in Ireland or around the world? Can you name any of the features of a river? (Source, tributaries, riverbanks, waterfall, etc.)
* In pairs, ask the children to discuss why waterways are important.
* Introduce the key words and elicit suggested meanings. Use the glossary or a dictionary as needed.
* Read through the lesson in the Textbook. Ask the children if they know where their nearest river is. Do any recreational activities take place along on this river? For example, have you seen people swimming, angling, canoeing or sailing there? (Preparation for Activity Book page 19, activity B.)
* Ask the children if they have ever seen pollution along along a river. How do you think this occurred?How might it affect the animals in that habitat?
* Play the PowerPoint presentation on major rivers of the world, and explore the map on pages 38–39. You might wish to ask the children to use their atlas to identify the countries through which the major rivers of the world flow.
* Complete the Show What You Know and Let’s Get Exploring sections.
* Revise the information in the lesson and use the activities in the Activity Book to consolidate learning.
* Complete the digital interactive labelling activity.
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| **Think like a geographer!*** Why, do you think, did cities develop along rivers?
* Why are the species of marine animals in rivers different from those in the ocean, do you think?
* Why, do you think, are certain rivers considered to be holy in some cultures?
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| **Differentiation*** Show What You Know: Questions 1–5 are lower order; 6–7 are higher order.
* Adapting the Let’s Get Exploring activities for differentiation:
1. Complete orally with a partner.
2. Assign mixed-ability pairings.
3. Assign roles within mixed-ability groupings. (See DT 1 – Group Work Cards.)
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| **Assessment*** Can the children name and locate major rivers in Europe, and name at least one of the oceans?
* Can the children explain why rivers are important?
* Can the children describe the features of a river, such as its source and mouth?
* Can the children complete the Show What You Know and Let’s Get Exploring sections and the Activity Book activities, consolidating the information learned in the lesson?
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| **Extension ideas*** In pairs, locate the ten longest rivers in the world in your atlas: Nile (Africa); Amazon (South America); Yangtze (China); Mississippi (USA); Yenisey (Russia); Huang He/Yellow River (China); Ob (Russia); Rio de la Plata (South America); Congo (Africa); Amur (Russia).
* Research facts about each of the ten longest rivers in the world.
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| **STEAM****Model-making:** In groups, use recycled materials to make a model of a port. Decide what goods would be imported and exported at your port, and what equipment would be required. Construct the necessary piers, boats, cranes, forklifts, etc. Brainstorm your ideas. Draw a plan. Plan what each member of the group needs to do. Evaluate the finished product – what could be improved? Present your port to other groups and compare your designs. |
| **Integration****Art:** Paint or draw a scene in response to ‘The Lake Isle of Innisfree’ by W. B. Yeats.**Gaeilge:** Sa bhaile. Cathain a úsáideann tú uisce sa bhaile?**History:** Research a maritime explorer such as Christopher Columbus.**Geography:** Water and our environment.**Literacy:** Explanatory writing – explain how a river flows from its source to the ocean.**Maths:** Capacity.**PE:** Outdoors and adventure – orienteering.**Science:** Value and uses of water. |
| **Useful links*** Information about the rivers of the world – <https://www.ducksters.com/geography/worldrivers.php>
* Information about the rivers of the world – [https://www.worldbookonline.com/student-new/#/article/home/ar470680](https://www.worldbookonline.com/student-new/%23/article/home/ar470680)
* Information, myths and stories about the rivers of Ireland – <https://www.irishcentral.com/roots/myths-stories-irelands-five-longest-rivers>
* Search online for a video of a rivers of the world game using key words ‘Geography explorer rivers game’.
* Information about meanders – <https://www.britannica.com/video/185625/meanders-formation-rivers-streams-disturbances-disturbance-stream>
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