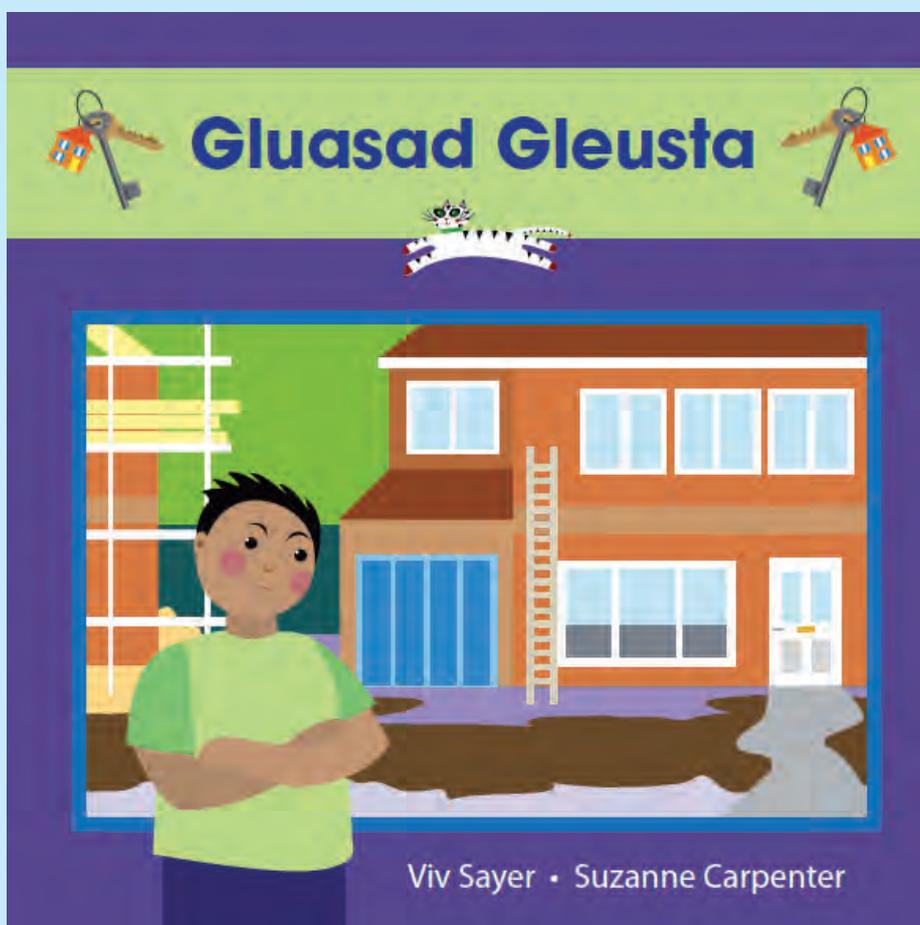


Togail 2

TEACHERS' HANDBOOK

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Pont

 Stòrlann

Explanatory note

These notes are a version of the teachers' notes produced by Pont Books to accompany an English/Welsh version of these materials. In order to ensure that resources available for pupil materials are maximised, Stòrlann Nàiseanta na Gàidhlig does not routinely undertake translation of accompanying materials specifically aimed at teaching staff as opposed to pupils. Localisations in this instance have been limited to substitutions where text and/or other detail differs between Gaelic and English/Welsh texts.

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Introduction

Welcome to *Togail 2*, one in a series of investigation packs for Early Years. The packs support Knowledge and Understanding of the World and are based on the characters and settings in the *Catriona air Chuairt* series of books and resources. These materials are entirely freestanding, although the following background information will be useful for teachers and teaching assistants.



The packs are based upon Catriona, an inquisitive young cat, and her neighbours, friends and local community. Catriona lives in Sràid a' Chnuic, ten houses which differ in design, height, width, colour and shape. The neighbours are individuals too: young and old, male and female, they have different jobs and come from different cultural backgrounds.



1. 'An Acarsaid' is where Catriona lives with Dòmhnall, Mam and Dad. Dad is a fisherman who also takes tourists on boat trips. Mam is a teacher.



2. 'Darach' is the house of Seònaid NicGriogair, in which she lives with her husband, her son Pàdraig and her baby daughter Laura.



3. 'Sealladh na Tràghad' is a bed-and-breakfast business run by Maighstir Moireasdan.



4. 'An Cala' is the house Dr Anna Patel shares with her husband and children, Sunita and Sandeep. She is expecting twins and will shortly be moving (see pack 2).



5. 'Ceòl na Mara' is where Ruairidh agus Raonaid live – Seònaid NicGriogair's parents (this is not articulated to allow for discussion) and Pàdraig's grandparents. Ruairidh is a keen cook and Raonaid an enthusiastic gardener. They try to be as self-sufficient as possible.



6. 'An Seann Mhansa' is shared by Aonghas Iain, his wife Jenny and his daughters Ealasaid and Fiona. Aonghas Iain is a builder working on a new housing estate in the village. While he is very good at building homes for other people, there are a few projects awaiting attention in his own house!



7. 'Casa Mia' is Signora Sidoli, the baker's, house and shop.



8. 'Taigh an Leathaid' is Anna Mhurchaidh, the lady minister's house.

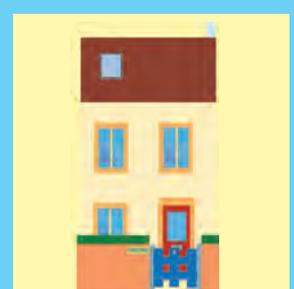
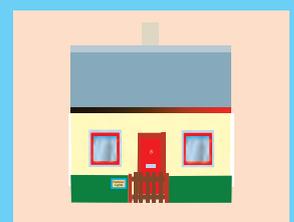


9. 'Fasgadh' is where Alasdair Mòr the fireman and keep-fit enthusiast lives. Some day, he and Anna Mhurchaidh are going to get married.



10. 'Ceann a' Bhàigh' is Anndra the vet's home and surgery.

The resources and tasks in *Togail 2* are all targeted at the more experienced levels in the Early Years. For each resource and task, there is detailed guidance in these notes.



RESOURCE 1: GLUASAD GLEUSTA

Learning Outcomes: children should make progress in their ability to:

- ✓ learn about how and why people and places are linked, *e.g. where they work ... where family and friends live.*
- ✓ recognise how people's actions can improve or damage the environment.
- ✓ identify some animals and plants that live in the outdoor environment.
- ✓ learn about the senses that humans and other animals have and use to enable them to be aware of the world around them.



- What job does Mgr Peutan do? What job does the architect do? How many different kinds of job does it take before a house is ready for its new owners? Sandeep and Sunita live with their mum and dad in Sráid a' Chnuic. Why might Mgr Peutan be going to meet them up at the building site?



- Have the children ever moved house? What kind of experience was it? Exciting? Worrying? What was good about it? What was bad about it? Why might Sandeep and Sunita Patel have differing views about moving house? Can the children suggest why the family might need to move? (They will need to infer that the twins Mum refers to are not yet born.) How quickly will the Patels be able to move in? Their house is nearly finished, but the one next door is not as far advanced.



- Who is the estate agent? What kind of job does he do? Where does he work? Did anybody think of the estate agent when discussing the people involved with building a house? What might help to change Sandeep's mind about moving house? The new estate will mean perhaps that new families will come to the area. Maybe there will be new friends to play with.



- Talk about the inside of the house, and especially the central heating control panel. When a house is sold, there has to be an energy performance certificate to show how efficient it is at using energy. Children might have seen energy-rating stickers on new electrical appliances like cookers and fridges. All houses for sale now have to have the equivalent of an energy sticker. (With a new house there is an estimate beforehand and the house is given a rating when it is completed.) What do the children already know about saving energy? Why will Sandeep need a new bike? Use thought balloons to work out what Mum and Sandeep might be thinking but not saying.

- Who or what is the visitor in the back garden? Mgr Peutan has got domestic pets in mind but the architect's suggestion is a bit more ambitious. What might a 'safari garden' involve? What do the children know already about encouraging birds and insects to the school garden?

Tips for making a safari garden

- Choose simple flowers, like daisies, with lots of nectar rather than complicated, showy flowers with double rows of petals. Find out about the range of plants belonging to the daisy family: these are especially useful.
- Plant flowers in groups to make it easier for insects to detect colours and scents.
- Plant berry-producing shrubs, such as holly or cotoneaster.
- Use wooden fences or trellises to grow honeysuckle as a potential home for birds and insects.
- Plant hedges instead of fences.
- Make sure there are lots of 'hiding places' for minibeasts by building a log pile or a pond and by leaving gaps between paving slabs.
- Keep a section of lawn as uncut meadow to encourage grasshoppers, beetles and insects.

The website of the BBC's *Wild About Your Garden* series will give useful background information for teachers at www.bbc.co.uk/wildaboutyourgarden/

Children will enjoy accessing seasonal information linked to the *Autumnwatch* and *Springwatch* programmes on the CBeebies website.



RESOURCE 2: BUILDING DISCUSSION CARDS

Learning Outcomes: children should make progress in their ability to:

- ✓ identify the human features, e.g. buildings, roads, bridges, of their own locality.
- ✓ begin to recognise differences between their own locality [and] localities in other parts of Britain.
- ✓ recognise shapes in their environments.

These discussion cards offer a range of different buildings across Britain.



Card 1. House Construction

This photograph shows a building site. Some of the homes look as if they are nearly finished, but there is still a lot of work to do both inside and outside. Can you see the building with the scaffolding? The roof beams are already in place. They have been covered with a layer of roofing felt held down by strips of wood. Roof tiles will be fixed on top of these. There are several machines on site and everyone is wearing hard hats and visibility jackets. Safety on a building site is very important.



Card 2. Old house in Scotland

These houses are both very old. One has a thatched roof and is built without mortar or cement – nothing ‘glues’ the stones together. The windows are very small and have no glazing. The second building is very tall and narrow because it was built in a city where conditions were very cramped and there was not much room to build new houses. Some of the stonework is covered with lime – this is like paint, and protects the stone from rain – and there is carved decoration above some of the doors and windows. The thatched house is typical of the Highlands and Islands and the other of older cities like Edinburgh. Although the Edinburgh house is much bigger, it has more than one entry, suggesting that more than one family lived there, so they were not perhaps so rich as first impressions suggest. Thatch is made of straw, bundled together and tied and weighted down.



Card 3. Dirlerton Castle, East Lothian

A master mason (someone who works with stone), rather than an architect, drew up the plans for the castle. Stone for the walls came from nearby quarries and men called stonecutters cut it to the right size and shape. Carpenters put wooden scaffolding in place as the castle walls grew taller. When the stonework was finished, carpenters added wooden floors and roof beams. Builders used a kind of ‘cement’ (burnt chalk, sand and water) to ‘glue’ the stones together. They put slits in the castle walls so that arrows could be fired from inside, and built towers so that



rocks or stones could be thrown at enemy attackers. Castles were often surrounded by a moat filled with water.

Card 4. Kibble Palace, Glasgow

This is a large glass-house in Glasgow's Botanic Gardens. The roof and walls are made up of hundreds of panes of glass. Some open to allow the temperature to be controlled. There are gutters round the base of the roof to allow rainwater to run off. This is very important; otherwise the weight of water would damage the roof.

Card 5. Hampden Park, Glasgow

This is an aerial photograph of Hampden Park in Glasgow. The stadium – home to Queen's Park Rangers Football Club and the Scotland squad – was built in the shape of a bowl to make sure that everybody has an uninterrupted view. Steel cantilevers (beams supported on one end only) mean that there are no poles or pillars to get in the way. Within the steel frame there are 24 rows of concrete terraces so that everybody gets a good view. Underneath the pitch are special pipes to suck rainwater away from the grass. They can also pump oxygen back into the roots to help the grass to grow.

Card 6. Eilean Glas Lighthouse

Lighthouses were built to warn sailors about dangers at sea, such as treacherous rocks and sandbanks. The first lighthouses were made of wood and metal and had a coal fire burning at the top. Later lighthouses, like this one at Eilean Glas on Scalpay, Harris, were made of stone and glass and metal. A lighthouse has to be very strong to withstand waves and rough weather. Eilean Glas lighthouse has roughly the shape of a cylinder (or a series of cylinders) and is narrower at the top than at the bottom. This makes it very stable. There are foundations underneath the lighthouse to anchor it to the rocks.

Card 7. Forth Suspension Bridge

This bridge, which links Fife to the south of Scotland, was built in 1964. The roadway hangs down from massive steel chains which are draped over strong towers. The chains are anchored firmly into solid blocks of rock (called abutments or anchorages) at both ends of the bridge. The road is fixed to the chains by vertical wires. When traffic crosses the bridge, it pushes down on the road. The weight of the road and its traffic is carried upwards through the wires to the heavy chains between the towers.

Card 8. Road Construction

This is a section of a new bypass being put in place. Because the road has to cross a wide valley, the road builders are making a long kind of bridge called a viaduct. It is like a series of bridges all joined together. Can you see the two upright supports made of concrete? Inside the concrete there are steel wires to make it even stronger. A crane is swinging part of the top section of the bridge into place. Britain has many famous viaducts and aqueducts. They were often built from brick, with high, narrow arches between the supports.



RESOURCE 3: BUILDING A-U

Learning Outcomes: children should make progress in their ability to:

- ✓ use information, reference and non-literary texts.
- ✓ develop an awareness of, and be able to distinguish between, made and natural materials.



- Talk about the difference between a story like *Ghuasad Gleusta* and a non-fiction text. What kind of book is *Building A-U*? It sounds as though it could be a dictionary. Look at a range of dictionaries to see how they are organised. Picture dictionaries are often arranged by theme but more sophisticated dictionaries are arranged alphabetically even though there might still be pictures. *Building A-U* is more like a mini encyclopaedia, however, with individual sections arranged alphabetically according to the list of contents.



- Talk about how to use a book of this kind to find specific information. (Children's reading preferences vary and there are those who will enjoy browsing an information book from cover to cover as well as using it for more focused searching.) It is important to model the skills of focused information seeking. After a visit to a building site, children will enjoy suggesting questions and topics they would like to investigate.



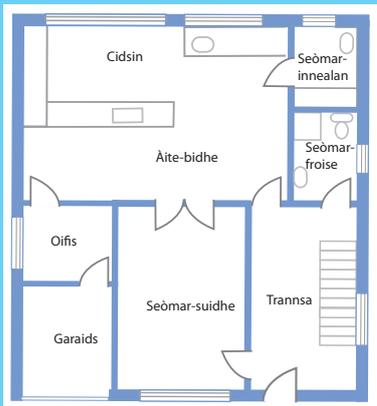
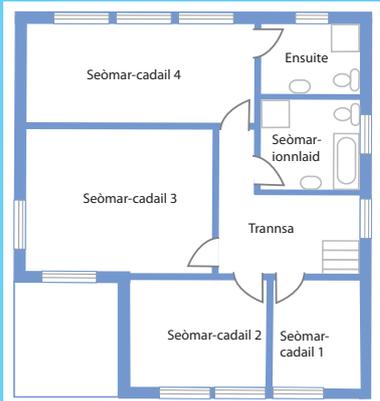
- Example: what is a spirit level (leannan-lòcraidh)? Scan the list of contents on page 1. Where would we expect to find information about a spirit level? If necessary, guide the children through a process of elimination. Would we expect to find it in the *Daoine* section? Once the children realise that it is a piece of equipment, decide whether it is large or small before choosing which section to search first, *Uidheamachd mhòr* or *Buill-acfhainn bheaga*. Down the sides of each double-page spread run the 26 letters of the alphabet. Are we going to find 26 items on each page? We need to look at the first letter of the first item in each section to decide where to look next.



RESOURCE 4: ARCHITECT'S PLAN

Learning Outcomes: children should make progress in their ability to:

✓ use and make simple maps.



- This is the architect's plan for the two-storey house where the Patel family are going to live. At the top are two drawings of the house, the side and the front elevation. Underneath the two elevations are the ground plans for the two storeys. The plan shows the outer and inner walls, the windows and the door openings. How have each of these been represented?
- The door openings show both the shape of the door and the angle through which it turns. (This is a very useful way to show how an angle is the measurement of turn.) Find out from the plan which way the doors open, either into or out of the room. What would happen if the doors opened outwards instead of inwards? (This is an area to investigate both in school and at home, especially where doors open directly into the outdoors.) How would the plans have to change if the doors opened differently?
- Use the number of windows to work out which rooms we can see in the drawings of the front and side elevation. Which rooms are on the opposite side of the house? Could we draw the other side elevation by looking at the plans of the upstairs and downstairs rooms? Could we draw the back of the house?
- It is important for the plans to show where water is going to be used. It enters the house through a pipe from the mains water supply. Pipes take away the waste water into drains and sewers. Find all the sinks, toilets, baths and showers in the house. Why are the bathroom and the en suite situated above the utility and shower rooms? (If this is difficult to visualise, it might be useful to trace the upper floor plan onto acetate and place it on top of the ground floor plan.)
- Who is going to occupy the different rooms? Which bedroom will Sandeep and Sunita choose? Where will their mum and dad sleep? Where will the twins go when they are old enough to sleep on their own? Which bedroom would you choose and why?
- Would you like to live in Sandeep and Sunita's new house? Why? Why not? Use the architect's plan as a model to design your own ideal house. How many floors would it have? How many living rooms? How many bedrooms? Alternatively, use the existing plan as a starting point, but divide up the inside differently. Some people live in an upside-down house, where the bedrooms are on the ground floor and the living rooms upstairs. What would be the advantages of living in a house like that? What would be the disadvantages?

RESOURCE 4: CD-ROM ACTIVITIES

Starting the Disk

- Put the CD-ROM into the CD drive of your PC.
- Click on My Computer.
- Click on Togail 2 and then the Fàilte icon.
- The title page will open automatically. The program moves automatically from the title screen to Mum's instructions. If you don't want to hear her instructions, click in the centre of the screen to move straight to the next page (which offers the full menu).
- Click on Catriona's paws to move from page to page in the story. 
- Click on Catriona's face to hear the story read aloud. 
- Click on the tools to play the games. 
- Click on Mum for help at any time. 
- Click on the door to exit the program. 

To escape from the program at any time, press Escape.

Learning Outcomes: children should make progress in their ability to:

- ✓ find and develop information and ideas.

Road Safety

In this activity, children have the opportunity to put in place road safety features: speed bumps, traffic lights, zebra crossings and crossing patrols, within Catriona's village. Where would they like to locate these features and why?

Building a Road

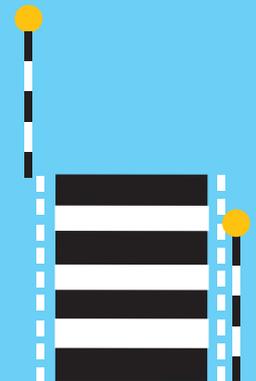
This activity asks children to listen to information about how roads are constructed. They then have the opportunity to make their own road on screen, using stones of different sizes.

Planning a House

This activity is based on Mgr Peutan's house plans. Children can develop and refine the plans by adding fixtures and furniture.

Estate Agency

Children have the opportunity to choose a house and select information to create an estate agent's blurb.



ADDITIONAL TEACHING AND LEARNING IDEAS



1. Find out and display what the children already know about building construction of all kinds and what they would like to find out. This activity can be conducted at various stages in the building project and the resulting display updated as new information becomes available. Children's ideas, questions and interests should guide the direction of future activities.

(Identifying what they want to find out and how to do it.)

2. Go for an observational walk in the local area. Let the children use sketchpads and digital cameras to take photographs of features which catch their interest in the built environment. Talk about the age of any residential property, noting aspects which give clues to when it was built. Talk about construction materials, where appropriate, and design features such as doors and windows. Note that some features are permanent, such as brickwork or stone, whilst others: doors, windows and guttering, are semi-permanent and can be replaced.

(Describing what they have found out and offering simple explanations.)

3. Talk about construction materials, for example brick, stone, slate, plastic, wood, iron, steel, glass and concrete. Find and identify materials in the school environment. A simple tick sheet could be used for this purpose though there should also be opportunities for children to make rubbings and to take photographs. Talk about what is special about each material and how this relates to its use. Visit <http://www.oum.ox.ac.uk/thezone/minerals/usage/build.htm> for information about the properties of building materials and the minerals from which they come.

(Making comparisons and identifying similarities and differences.)

4. Add materials (wood, slate, brick, stone, concrete) to the Investigation Area and provide large sturdy magnifiers for children to examine them closely. Information sources, in the form of books or on the computer, should be close at hand.

(Describing what they have found out and offering simple explanations.)

5. Ideally, arrange a visit to a building site, preferably one where houses are at different stages of construction so that children will be able to see how a building develops from the digging of the foundations through to the finished article. The visit needs to be carefully planned with appropriate attention to health and safety.

(Seeing links between cause and effect.)

6. Create a building site in the outdoor play area. Provide safe, suitable tools and materials for the children's use, for example age-appropriate construction tools. Use large-format construction equipment, such as Quadro, to create scaffolding, and large building blocks which allow children to experiment with wall construction.

Provide safety equipment such as masks, hard hats and boots. Use clipboards with laminated lists so that children can note the materials they will need for their particular building job. Catalogues from builders' merchants, and architects' plans are a useful addition. **(Exploring and experimenting.)**

7. Look at 2-D and 3-D shapes used in building. Include a range of structures, including bridges. Children should notice that squares and rectangles are very common, for example in timber frames and scaffolding, but that triangles are used wherever extra strength is needed. Experiment with simple Meccano-type construction toys to investigate how squares and rectangles can be strengthened by the addition of diagonals. This can be done under supervision with strips of card and paper fasteners.

(Exploring and experimenting. Thinking about what might happen if ...)

8. Talk about houses in other countries and the materials from which they are made. A realistic igloo can be created out of 2- or 4-litre plastic milk containers. Houses made from mud and straw work well in some climates but these materials have to be adapted for use in Britain. However, there is a house constructed from straw bales at St Dogmaels in Wales and a company called Amazonails in Yorkshire specialises in straw-bale construction, using lime (instead of cement) as a binding and wall-rendering agent.

(Making comparisons and identifying similarities and differences.)

9. Look at the guttering around the school building to find out what it does. Investigate why drains are important by filling the water tray and speculating what would happen if the water level kept on rising. Experiment with pipes and guttering to divert the excess water.

(Thinking about what might happen if ...)

10. Talk about the various services to which a house must be connected, for example mains water, gas and electricity. Investigate how these services get to where they are needed. What do the children know about alternative sources of energy such as solar and wind power? What do the children know about saving energy? Talk about how insulation helps to reduce heat loss.

(Investigating sources and issues.)

11. Find out what the children know about the work of the estate agent in viewing and pricing homes and in providing information to prospective buyers. Look at a range of property details, noting key features such as photographs, descriptions, plans, room sizes and price. Plan an estate agent's office in the role play area, creating a database of property details from existing photographs, and organising viewings for prospective buyers.

(Sorting and grouping information, using ICT on some occasions.)



Appendix

BACKGROUND INFORMATION

Roads, Bridges and Public Buildings

Building offers many different possibilities for engaging pupils' interests. Road building is very attractive because of the opportunities it gives for looking at heavy machines such as diggers, dumpers, rollers and sweepers. It is also a chance to discuss journeys and why they are made, as well as to talk about the increase in road traffic and the impact this has on the environment.

A study of road building leads naturally into an examination of the diversity of bridge structures and the possibility of conducting bridge investigations. The oldest and simplest bridge is the beam bridge, made from a plank of wood resting on supports. The distance between the supports can't be too great or the bridge will collapse. Arch bridges made of stone developed later and are still very common. Look for the wedge-shaped keystone in the middle. When traffic crosses the bridge, it pushes down on the keystone. Because of its wedge shape, the keystone pushes sideways on its next-door neighbours so that the load is spread throughout the arch. An arch is a very strong shape, but when arch bridges are being built, it is difficult to get them to hold together until the keystone is in place. This is why sometimes a framework is used to support the arch while it is under construction. (Photographs of half-finished Victorian viaducts show a wooden framework which looks rather like an orange segment.) Longer bridges are often constructed from a series of arches. Other more sophisticated bridges include suspension bridges and cantilever constructions.

Public buildings offer many opportunities to investigate 3-D shapes. Pyramids, cubes, cuboids and domes are fundamental to many structures. Domes are one half of a sphere; structurally they behave like the 3-D version of an arch and are therefore very strong. Domes are often used for public buildings, and are the traditional shape for the roof of a mosque. Buildings like the 'Gherkin' in London offer the opportunity to investigate how 2-D shapes are put together to create the faces of a 3-D shape; triangles forming the curved surfaces of the Gherkin.

