

Unit 1D Homes

Focus – structures

ABOUT THE UNIT

This unit gives children opportunities to develop their understanding of structures. Observation of different types of building gives children experience and information to draw on when developing their own ideas. They develop and model their ideas by creating static models from sheet and reclaimed materials and using construction kits. They gain a basic understanding about structures and how these can be made stronger and more stable.

This unit could be adapted by focusing on different types of building or by giving children an opportunity to design and make other static models *eg containers*.

Unit 1B 'Playgrounds' is an appropriate alternative to this unit.

PRIOR LEARNING

It is helpful if the children have:

- used basic tools safely and appropriately
- discussed ideas
- worked with paper and card – cutting, shaping and joining

This unit builds on experience of play with construction kits and early opportunities for making with reclaimed materials. It also builds on Unit 1A 'Moving pictures'.

VOCABULARY

In this unit, children will use words and phrases relating to:

- designing *eg choose, try out ideas, discuss, drawing, label, list*
- making *eg join, fix, plan, scissors, hole punch, masking tape*
- knowledge and understanding *eg structure, strong, weak, wall, roof, window, glass, brick, transparent, hinge*
– mathematical understanding *eg square, rectangle, triangle, cube, cuboid, side, edge, surface, on top of, underneath, smaller than, symmetrical, beside, next to*

RESOURCES

- pictures/photographs/books showing different types of homes
- construction kits suitable for building walls and shell structures
- sheet materials – card, papers, plastics *eg from tomato containers, foil, transparent materials eg acetate, plastic bags*
- range of suitable reclaimed materials for making buildings
- joining materials *eg glue, masking tape*
- finishing materials *eg collage materials, paint, fabric pieces*
- scissors, snips, hole punch, stapler

EXPECTATIONS

at the end of this unit

most children will:

have constructed a model home, incorporating the main features of windows and doors, which shows evidence of understanding different types of buildings and their main features

some children will not have made so much progress and will:

have built a model from construction kit components and attached features to the model *eg roofs and windows using sheet or reclaimed materials* or, with support, have built a model from reclaimed materials

some children will have progressed further and will:

have added more details and features *eg stairs, interior rooms, cut-out windows, curtains, gutters* and be able to say why they have included them; have used a basic understanding of structures to make their models strong and stable

LEARNING OBJECTIVES

POSSIBLE TEACHING ACTIVITIES

LEARNING OUTCOMES

POINTS TO NOTE

CHILDREN SHOULD LEARN

CHILDREN

INVESTIGATIVE, DISASSEMBLY AND EVALUATIVE ACTIVITIES (IDEAs)

- that we live in many different types of homes
- the names of different buildings and the main features
- to observe carefully and draw simple shapes
- to be able to recognise and name basic mathematical shapes in the context of houses and homes

- Take the children for a walk in the local environment to observe and discuss houses and homes. *How do we enclose space (bricks – house, fabric – tent/dome)? Why do we enclose space? Are homes and houses different around the world (igloos, nomadic structures)?*
- Ask the children to draw examples of different types of buildings they have seen and label the main features *eg doors, windows, chimneys, walls, roof* and relate the main features to basic mathematical shapes *eg walls – rectangles.*
- Discuss different types of houses and homes. *What are they called (eg detached, semi-detached, terrace, flat, bungalow, maisonette, etc)? What are the similarities/differences? What are they made from? Why are they made like this? What are they like inside?*

- recognise and name some different types of homes and their main features
- show through simple drawings the main features of a building, with a sense of proportion
- recognise and name mathematical shapes *eg square, rectangle, triangle, circle* in the context of buildings

Links to this unit

Design and technology: Units 2C ‘Winding up’, 3D ‘Photograph frames’

Science: Units 1C ‘Sorting and using materials’, 1E ‘Pushes and pulls’, 2D ‘Grouping and changing materials’, 2E ‘Forces and movement’

Information technology: Unit 1D ‘Labelling and classifying’

Mathematics: Number (how many, every other, more, less, pattern, different, same, order, between), measurement (wide, narrow, short, tall)

Literacy: Discuss with the class how to label a picture *eg how would they add to their label to extend the information given?*

Speaking and listening: Reinforce speaking and listening conventions *eg taking turns, listening to one another’s ideas, as part of the discussion, developing their ability to talk about, plan and explore their work*

Geography: Unit 1 ‘Around our school – the local area’

History: Unit 2 ‘What were homes like a long time ago?’

Content

- This unit asks children to look carefully at buildings around them. If a walk is not possible, a video or pictures of different types of buildings can help to inform children’s ideas.
- As the starting point children could build rooms and interiors before tackling the main project of a whole building.
- Figures from construction kits could be used to give a sense of scale and to test out the model rooms.
- Evaluation of the finished models should be against clear criteria set at the beginning of the designing and making assignment. A list of people with particular requirements would be helpful. *‘This is Bill. He wants a home with one big room to spend a lot of time in, two bedrooms, a kitchen and a bathroom.’*

Class management

If each child is to make his/her own model, then it might be best to arrange a block of time over a short period for this activity rather than having a lesson per week. This would give children more opportunities to consolidate the learning objectives.

Health and safety

When carrying out a risk assessment for this activity, teachers will need to consider the materials, tools and equipment being used.

In addition, the following point should be noted:

- visits out of school need to be well supervised with appropriately briefed adult helpers supporting teaching staff

Out-of-school activities and homework

There are opportunities for children to research information at home *eg finding pictures of buildings, making drawings of homes and other buildings eg a garden shed, a play house.*

Children could also be encouraged to make models from construction kits and/or reclaimed materials.

FOCUSED PRACTICAL TASKS (FPTs)

- basic joining techniques for 3D modelling using glues and masking tape
- to make simple hinges
- how to make structures more stable
- to use construction kits to aid modelling

- Explain how designers use models to communicate their ideas to others and develop their design.
- Investigate and develop techniques for joining sheet materials and 3D containers with masking tape or glue.
- Ask the children to try different ways of making hinges. Discuss the different methods.
- Build rectangular frames using appropriate construction kit components. Show them to the children and ask them to explore making the frames more stable *eg by adding further parts, by having a wider base or by constructing walls in different configurations.* Discuss the outcomes with the children.
- Ask the children to build a room of their choice from construction kits and add appropriate furniture and fittings.
- The children could practise using a hole punch accurately to make a paper chain decoration or a chain with their names on.
- The children could cut and fasten two pieces of card using a treasury tag to make a decorative hanging.
- The children could create hinges by scoring and bending card and joining a second piece with masking tape.
- The children could make a simple paper/card sculpture to practise using an appropriate amount of glue.

- join 2D and 3D materials effectively in different ways
- make effective hinges
- begin to understand how they can make their structures more stable
- use construction kits to help develop their ideas

DESIGN AND MAKE ASSIGNMENT (DMA)

Design and make a model of a home for a particular purpose

- to use their own experiences when developing ideas
- to clarify their ideas through discussion
- to make suggestions as to how to proceed
- to assemble, join and combine 2D and 3D materials into a model
- to use basic tools safely
- to evaluate products they have made, commenting on the main features

- ★ Discuss the different buildings seen and encourage the children to think about the sort of home they might make. *Who it is for? What do they need? What might it be like?*
- ★ Show the children the materials available and ask them to discuss their ideas. *How could we do this?*
- ★ Ask the children to select their materials and join and combine them to construct a home choosing appropriate techniques.
- ★ Encourage the children to add finish and detail to the home using paint and/or collage materials.
- ★ Encourage the children to talk about their finished homes and the main features they have added. Discuss strengths and areas for development. Highlight specific learning points drawn from the children’s work.

- apply what they have learnt through IDEAs/FPTs in their designing and making
- say how they are going to make their model
- construct a model by joining and combining 2D and 3D materials in appropriate ways
- use basic tools *eg scissors and snips* safely and effectively
- talk about their finished home saying what they have done well, what they are particularly pleased with, and which parts might have been done better

- essential activities
- ★ assignment stages (all are essential)
- optional activities

