



Lesson 7: What is my house made from?

This lesson explores a range of building materials and their suitability for different purposes.

Support material: Information Sheet 8 “Houses of the Americas”, Worksheets A4 and A5. A tape player and some music tapes will also be needed.



Spotlight

Materials



Key Concepts

Climate. Availability. Suitability.

Review of work

Volunteers present their section drawings for class discussion.

- What is illustrated in a section drawing that cannot be seen in a plan or elevation drawing?

Brainstorming

Conduct a discussion about building materials, using points such as the following.

- On the blackboard, list the materials which could be used to build a house. Refer to Lesson 1 (houses around the world) and Lesson 5 (facades and elevations) to make as broad a list as possible.
- List the range of materials which could be used in a modern building.
- What qualities are important in choosing building materials? Think about the Key Concepts, as well as any others suggested by students.



Activity 1 — Houses of the Americas

1. Use a photocopier to blow up a map of the Americas as large as possible - A3/A2. Include the area from Alaska southwards to the tip of South America. Photocopy Information Sheet 8. Cut out each picture with its name and description (but not its location). Put the pictures in a hat. Students pick a word or picture and place it on the map in the correct location, saying why they have done so.
2. Discuss the materials used in building these structures in terms of climate, availability and suitability.
3. Traditionally, buildings were usually made with local materials. Today, this is not always true. Why might this be so?



Activity 2 — Which material?



Key Concepts

Strength. Durability. Flexibility, Hardness. Weight. Texture. Colour. Response to water. Response to fire.

Samples of the following materials should have been collected previously. Show samples to the class and list the names on the board. Key Concepts may also be listed on the board. Have a tape player and tape(s) ready.

wood	plastic	steel
concrete	stone	rubber
glass	marble	aluminium
brick	tile	

Pass samples around the class while playing a tape of your/their choice. When you press the Stop button, the person holding the sample must name it and consider one characteristic of the sample — strong/weak, durable/flimsy, easy/difficult to shape, light/heavy, rough/smooth, colour, waterproof/absorbent, combustible/fireproof.



Activity 3 — Worksheet A4

Distribute copies of Worksheet A4. Discuss and complete the worksheet in class.

Homework

1. Distribute copies of Worksheet A5. Discuss the assignment.
2. Remind students to check the new **Scrapbook** requirements on the worksheet and to update their **Vocabulary Files**.

Cross-Curricular Connections

1. Science/Construction Studies — What goes into making a timber beam, a concrete beam, a steel beam? How much energy is used? What chemicals are produced as a result of the process? Which is strongest and why? How do they decay?
2. Construction Studies/Business Studies — Examine the cost of building a house like the one you live in. (Talk to an architect, quantity surveyor, builder, house insurance company.)
3. History — Study the evolution of house design in Ireland — from crannóg to semi-detached. Compile a report with labelled drawings or photographs.
4. Model-making — Build a model of one of the houses of the Americas.
5. Geography — Study the influences of climate, weather and terrain on the development of house types in different parts of the world.
6. Construction Studies — How are houses kept warm? How are houses kept dry? Make



a drawing or series of drawings explaining the basic principles to a younger person.

7. Construction Studies — Collect samples of the construction materials used in new buildings in your area. Label them to show their possible uses.
8. Environmental Studies — Investigate different types of fuel used for heating. Refer to their availability, cost, environmental impact, whether they are renewable.
9. Design/Construction Studies — Examine how windows and doors are constructed, and the materials from which they are made.