



BUILD IT RIGHT

MATERIALS

ACTIVITY PACK

Unit 005.1.2 – Constructing Half Brick Walling



City &
Guilds

Lecturer: James Rix

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Intro.

This activity introduces learners to the core materials used when constructing half-brick thick walls. Learners will explore the differences between common bricks, facing bricks, and mortar, and understand how each contributes to the structure, strength, and appearance of brickwork. The activity builds foundational knowledge required before practical bricklaying tasks.

Aim:

To develop learners' ability to **identify**, **describe**, and **differentiate** the materials required to build half-brick thick walls.

Learning Objectives:

By the end of this activity, learners will be able to:

- Identify **common bricks**, **facing bricks**, and **mortar**.
- Describe the **properties**, **appearance**, and **uses** of each material.
- Recognise how material choice affects **durability**, **finish**, and **cost**.
- Apply knowledge to practical tasks such as selecting materials and calculating brick quantities
- .

Activity Overview.

Learners complete a series of structured tasks:

- A **Material Match-Up** identifying brick types and mortar.
- A **Properties and Uses Table** comparing characteristics.
- A **Quantity Challenge** calculating bricks per m².
- A **Spot the Material** diagram task identifying where materials are used.
- A **Reflection Discussion** linking theory to practice.

These tasks combine visual recognition, written work, and applied calculation.

Why this activity helps!

This activity:

- Builds essential **pre-practical knowledge** for safe and accurate bricklaying.
- Reinforces recognition skills needed on site and in assessments.
- Helps learners understand **why** certain materials are chosen.
- Supports numeracy through brick quantity calculations.
- Encourages discussion and reasoning, improving communication skills.

Student Instructions.

1. Complete the **Material Match-Up** by pairing images with names and descriptions.
2. Fill in the **Properties and Uses Table** using samples or provided images.
3. Answer the **Reflection Questions** in full sentences.
4. Complete the **Quantity Challenge**.
5. Submit your completed worksheet to your lecturer.

Lecturer Instructions.

1. Provide learners with brick samples or high-quality images.
2. Introduce the three key materials: common bricks, facing bricks, mortar.
3. Support learners during the table-filling task by prompting observations.
4. Facilitate the reflection discussion, encouraging learners to justify answers.
5. Collect completed work and record assessment evidence.

Scaffolding Options.

- Provide **pre-filled examples** in the properties table.
- Use **colour-coded cards** for SEND learners.
- Offer a **guided worksheet** with sentence starters.
- Allow learners to work in pairs for identification tasks.
- Provide a simplified brick quantity formula sheet.

Differentiation Strategies

For lower-ability learners:

Reduce the number of materials to identify.
Provide visual prompts and simplified descriptions.

Allow verbal rather than written responses.

For higher-ability learners:

Add additional materials (e.g., engineering bricks, lime mortar).

Include cost comparison tasks.

Ask learners to explain how material choice affects long-term maintenance.

Qualification Mapping Table.

Qualification Component	Evidence in This Activity
005.1.2 – Identify the materials required to build half-brick thick walls	Material Match-Up, Properties Table, Spot the Material
005.1.4 – State the number of bricks required to build a 1m² brick wall	Quantity Challenge
005.2.2 – Select the tools, equipment and materials required	Discussion & identification tasks
005.3.3 – Clear work area of surplus materials	Embedded in lecturer discussion (optional extension)

005: Constructing Half Brick Walling

Activity

005.1.2: Build It Right

Material Image Card



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Activity

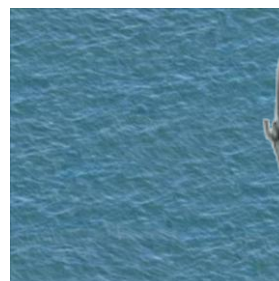
005.1.2: Build It Right

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005.1.2: Build It Right

Material Name Card



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Common Brick

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Material Name Card



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Engineering Brick

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Material Name Card



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Facing Brick

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Material Name Card



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Builders Sand

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Material Name Card



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Cement

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Water

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Lime

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Activity

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Material Name Card



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Plasticiser

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Material Description Card



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Standard construction brick
Rough texture, red/orange
Medium strength
Used for general internal
and non-decorative walls

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Material Description Card



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Very high strength
Low water absorption
Smooth finish
Used in load-bearing or
damp-prone areas

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005.1.2: Build It Right

Material Description Card



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Decorative external brick
Smooth or textured finish
High durability
Chosen for appearance and
weather resistance

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005.1.2: Build It Right

Material Description Card



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Fine, soft sand
Yellow or orange
Main aggregate in mortar
Provides workability and
consistency

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005.1.2: Build It Right

Material Description Card



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Grey powder
Main binder in mortar
Hardens when mixed with water
Provides strength and durability

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005.1.2: Build It Right

Material Description Card



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White powder
Improves mortar flexibility
Reduces cracking
Used in traditional or conservation work

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005.1.2: Build It Right

Material Description Card



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Essential mortar component
Activates cement
Controls workability
Too much weakens the mix

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Material Description Card



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Liquid additive
Makes mortar smoother and easier to spread
Reduces need for excess water
Improves workability



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Participant Info.

Team:

Individual:



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Task 1: Complete the table from your match up card game.

Use this table to record your findings while matching up cards.

Card Number	Material Name	Learner's Matching Description Code / Notes	Correct? (✓/X)	Lecturer Comments
1	Common Brick			
2	Engineering Brick			
3	Facing Brick			
4	Builders Sand			
5	Cement			
6	Lime			
7	Water			
8	Plasticiser			

Task 2: Reflection Questions.

1. Why is it important to choose the correct type of brick (common or facing) when building a wall?

2. How does mortar help hold a brick wall together, and what could happen if the mortar mix is too weak or too strong?

3. What differences can you see between a common brick and a facing brick, and why might a builder choose one over the other?

4. Why do bricklayers need to understand the materials before starting practical work on site?

5. How could choosing the wrong material affect the strength, cost, or appearance of a finished wall?

Thank You.

We would like to take this opportunity to thank you for using this learning resource, we hope you found it useful.

If you have any questions regarding this or any of our learning resources, please contact us on:



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James Rix



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