

TRADITIONAL BUILDING MATERIALS: BRICK, CEMENT AND CONCRETE

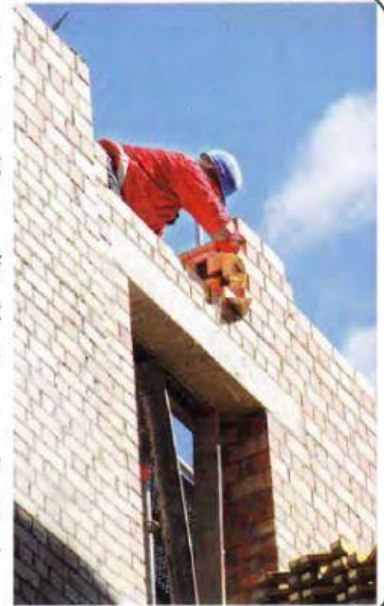


Activity 1: Read and mark the sentences True or False.

Brick was one of the first building materials that man has used since the times of Ancient Egyptians because it offers a great number of advantages. First of all, it is economical and it is made of accessible raw material, which has long durability and good insulating properties. It is a strong material and the size of a man's hand so, it's simple to use.

The appearance of the final work depends on the ability and expertise of the bricklayer. Another advantage of using brick is that, like stone it offers increased comfort in the heat of the summer and the cold of the winter. Being heat resistant, this material also offers good fire protection.

One of the disadvantages of using this material is that masonry must be built on a firm foundation to prevent settling and cracking. Moreover, this is a heavy material. So, the structural requirements will have to be increased, especially if the area is subject to earthquakes.



1. Brick is an ancient material in construction. _____
2. It's rather expensive. _____
3. Its size is uncomfortable to use. _____
4. The material is heat resistant. _____
5. If the bricklayer is good, the final work will be good too. _____
6. It may crack if the foundation is fragile. _____

Activity 2: Read again and write a list of advantages and disadvantages offered by brick.

ADVANTAGES	DISADVANTAGES

Activity 3: Listen to the text and complete it with the words from the box.



blocks bricks concrete (x2) ingredient materials mixture walls

The most common type of cement is Portland cement, which is the basic (1) _____ of concrete and mortar.

It is made of Portland cement clinker (calcium silicates, aluminium and other compounds) and other minor constituents.

Portland cement clinker is produced by heating a mixture of raw (2) _____ up to 1450° C in a kiln.

There are three production stages:

- preparation of the raw mixture,
- production of the clinker,
- preparation of the (3) _____.

Limestone is the main raw material for the production of clinker, followed by sand, shale, iron ore, bauxite, fly ash and slag. About 2% gypsum is also added and then the (4) _____ is pulverised. The resulting powder will react when water is added.

Portland cement is commonly used to produce (5) _____, which is made of gravel, sand, cement and water. Blocks of cinder concrete, ordinary concrete and hollow tile are known as Concrete Masonry Units (CMU). They are larger than ordinary (6) _____ and used for applications where appearance is not very important, such as in factory walls, garages and industrial buildings. One of the advantages of concrete (7) _____ is that they can be reinforced, grouting the voids, inserting rebar or using grout, so that they are stronger than typical masonry (8) _____.



Activity 4: Read the text again and choose the best alternative.

- 1 Portland cement is the basic ingredient of *concrete/aluminium*.
- 2 The main raw material for the production of clinker is *brick/limestone*.
- 3 Portland cement is used to produce *gravel/concrete*.
- 4 Concrete Masonry Units are larger than ordinary *bricks/stones*.
- 5 Concrete blocks can be *reinforced/industrial*.
- 6 Reinforced concrete blocks are stronger than masonry *industries/walls*.

Activity 5: Match the words with their definitions.

- | | |
|-------------|---|
| 1 masonry | a <input type="checkbox"/> a mixture of cement, sand, small stones and water |
| 2 brick | b <input type="checkbox"/> brick work |
| 3 concrete | c <input type="checkbox"/> white rock often used for making cement |
| 4 mortar | d <input type="checkbox"/> a mixture of sand, water and cement or lime |
| 5 limestone | e <input type="checkbox"/> a reddish-brown rectangular block used to build walls and houses |

