

Тема 2.3.1 Строительные материалы

ACTIVE VOCABULARY



1. Use the QR-code and learn the words.

<https://quizlet.com/795147039/unit-2-building-materials-flash-cards/?x=1jqt>

Additive, aggregate, cinder, durable, flexible, gypsum, insect-proof, lime, lumber, malleable, masonry, mortar, resist, steel, timber.

2. Read the international words, guess their meanings and check the pronunciation.

Block [blɒk]; category ['kætəg(ə)rɪ]; cement [sɪ'ment]; comfort ['kʌmfət]; element ['elɪm(ə)nt]; extreme [ɪk'stri:m]; garage ['gærə:(d)ʒ]; group [gru:p]; industrial [ɪn'dʌstriəl]; material [mə'tɪəriəl]; monument ['mɒnjʊm(ə)nt]; metal ['met(ə)l]; natural ['nætʃ(ə)r(ə)l]; plastic ['plæstɪk]; project ['prɒdʒekt] n, [prə'dʒekt] v; substance ['sʌbst(ə)ns]; synthetics [sɪn'tetɪks]; type [taɪp]; volcanic [vɒl'kænik].

3. Give Russian equivalents to the derivatives. Pay attention to the prefixes and suffixes.

To use -to reuse -usage -user; to divide -division -subdivision -divider; to product -production -reproduction -producer; to provide -provision -provider; to mix - mixture - mixer.

4. Complete the table with the appropriate words.

Involve, extensive, subject, sufficient, constructional, typically, sustainable, consistency, usually, durable, hollow, mixture, extensive, range, binding, drying, relatively, ordinary, load, support, source.

Noun	Verb	Adjective	Adverb

5. Give the comparative and the superlative forms of the following adjectives.

Strong, hard, heavy, light, old, fast, durable, common, flexible, good.

6. Translate the following sentences into Russian. Ask a question to each statement.

1. The strength of the building is related to the strength of the materials used in its construction. (General Q?)
2. All metals are divided into ferrous and non-ferrous. (Disjunctive question)
3. Wood is considered a sustainable construction material. (Alternative question: ... or ...)
4. Because of its extensive use in industry, construction, and weaponry, iron is by far the most important of all metals. (Special Q.. Why?)
5. Mortar is prepared at the construction site in a small mixer. (Q to the subject)

7. Together with your partner make a list of traditional building materials you know.

8. Read the following text and complete your list if necessary.

TRADITIONAL BUILDING MATERIALS

Most construction projects involve the use of a wide range of different materials. The list is very extensive. Which material can be used to the best advantage for a particular part of the building, depends on the kind of load to which it is subjected and on the shape of the part. All building materials can be divided into two main groups: natural and man-made materials. Stone and wood are natural materials, used by man since ancient times. Man-made materials include brick, cement, concrete, steel, glass, metal and more modern ones include plastic and synthetics.

Wood was one of the first materials to be used by man for constructional purposes. It is a product of trees and sometimes other fibrous plants used for construction purposes when cut or pressed into

lumber and timber. As a construction material wood is strong, durable, lightweight and easy to work. Because wood is renewable, it can be considered a sustainable construction material, if it is harvested from an environmentally-friendly source. There are two major categories of wood - softwood which is from coniferous trees and used for general construction and hardwood from broadleaved trees, typically used for flooring, paneling, furniture and interior trim.

Masonry is one of the oldest building materials. The most common type of masonry is brick that is used to build in any things such as walls, retaining walls and monuments. This material has been used for centuries as it has many advantages. First, it is strong, low-cost, made of accessible raw materials, is insect-proof and lasts a long time. Due to their size and shape, bricks are also easy to use and are heat resistant. In addition, bricks provide increased comfort in the heat of the summer and the cold of the winter.

Concrete blocks or Concrete Masonry Units (CMU) are also used to build walls. Like bricks, they are stacked and joined together with mortar, but they do not require the same amount of skill needed in brick masonry and they are heavier than bricks. The blocks are hollow inside to allow for steel bars and mortar filling, that make them stronger than normal brick walls. They are usually made of a mixture of powdered Portland cement, water, and gravel. Unlike bricks, concrete blocks are not usually damaged by extreme weather conditions. Since they do not look as attractive as brick, they are usually used to construct factory walls, garages and industrial buildings.

Cement is a key material in construction. It is a binding element, a grey powder which becomes hard after being mixed with water and allowed to dry. It can be formed using several raw materials like limestone, clay and marl. The first cements were made using burnt gypsum or lime. Ancient Romans used lime and volcanic rock. The most common modern cement is Portland cement (made of clinker mixed with small amounts of other materials) used for its strength and fast drying time. Cement is used for join bricks together, and make concrete, mortar and grout. The most widely used cement-based material is concrete.

Concrete is a building material made by mixing such natural aggregates as sand, gravel, broken stone, slag, cinder and cement together with sufficient water to produce a mixture of proper consistency. Together, these materials provide a hard, rocklike substance that is durable, fire resistant, and relatively inexpensive. It has a potential to be both solid and fluid (and so take any shape). It is a flexible, malleable material, able to undergo high compressive loads. To make it even more resistant, steel reinforced bars can be added to make reinforced concrete. There are two kinds of reinforced concrete: with ordinary reinforcement and concrete with pressed reinforcement. Most stone walls today are made using these two methods because it is fast and cheap. It is also used to support structures, such as beams and other building foundations.

9. Find English equivalents of the following words and word combinations in the text.

10. Choose any three items from above and make up sentences of your own.

11. Give Russian equivalents of the word combinations from the text.

Man-made material; sustainable construction material; interior trim; type of masonry; raw material; mortar filling; industrial building; binding element; rocklike substance; compressive loads; building foundation.

12. Choose any three items from above and make up sentences of your own.

13. Complete the following sentences according to the text.

1.is a product of trees and other fibrous plants. 2. A mixture of sand, cement and water is 3. Steel reinforced make concrete more resistant. 4 Cement is a grey 5.The most frequently used type of masonry is..... 6.....used to hold bricks and blocks together. 7. ... is a building material made of powdered Portland cement, water, and gravel.

14. Work in pairs. Use the information from the text and complete the following table.

	Wood	Brick	Block	Cement	Concrete
Advantages					
Disadvantages					

15. Discuss the following questions with your partner.

1. How can building materials be classified? 2. What do properties of materials depend on? 3. What are the major categories of wood? 4. What purposes are bricks used for? 5. What are the most important properties of bricks? 6. What types of buildings are concrete masonry units used in? Why? 7. Why is cement regarded as one of the most important building materials? 8. What is the composition of Portland cement? 9. What does concrete mixture consist of? 10. What are the main properties of concrete? 11. Why is reinforced concrete so widely used in building construction today? 12. Work on your own. Make a plan for the text. Highlight the key sentences to make a short summary. Retell the text according to your plan.