MODERN BUILDING MATERIALS: STEEL, GLASS AND METALS, PLASTIC

Lesson 9



Activity 1:Read the text about steel and complete the sentences.



Steel is resistant to corrosion, rusting and general deterioration. It can be used both for exterior as well as internal infraestructure. Steel buildings offer a longer lifetime and they cause less harm to the environment thanks to the resistance and to the durability. Because steel buildings are usually pre-fabricated or made in parts that are assembled on the construction site, they are cheaper than conventional buildings.

Nowadays steel buldings are often appreciated for their design. The flexibility of this material allows different shapes.

1. Steel can be used both for the exterior and the interior_____ of a building.
2. Steel is _____ to corrosion, rusting and general deterioration.
3. Steel buildings have a longer _____ compared to conventional concrete buildings.
4. Steel buildings are usually _____ than _____ buildings.
5. Steel allows different shapes because of its _____.

Activity 2: Read the text again and match the words to their definitions.

1 Rusting	a becoming worse in in quality or condition.
2 Flexibility	b the period of time for which a building is expected to last.
3 Deterioration	c when a metal becomes reddish brown because of air or water.
4 Lifetime	d being bent easily without breaking.

Activity 3: Read and match each paragraph with a heading.

A Advantages and disadvantages of different kinds of materials.
B Transparent buildings: problems and possible solutions.
C An interesting experiment.

Glass and metals

1. _____

Glass is a fashionable material in contemporary architecture. Transparent buildings and structures are very popular.

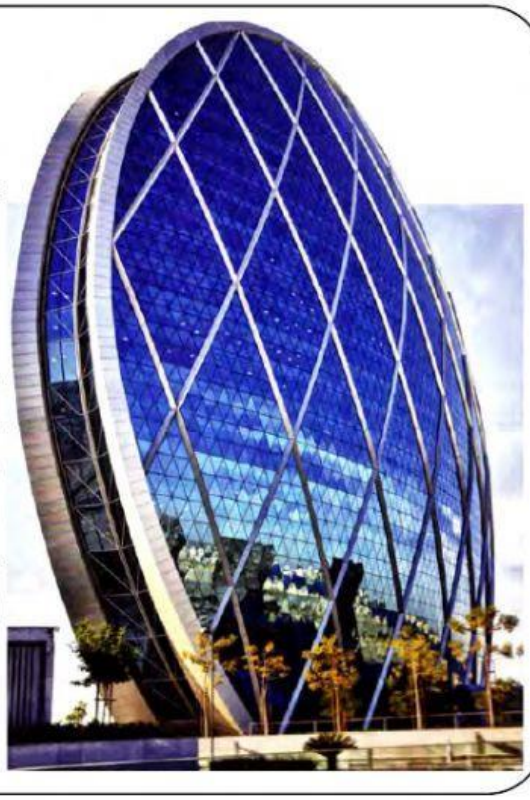
Structural glass components such as columns and beams are often required, but this material seems structurally unsafe because it is brittle. For this reason a new construction technique has been devloped using:

- very long overlapping glass segments to create glass beams.
- A small stainless steel profile that has been added to the layout of the glass beam to reinforce it.

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2. _____

To prove that glass structures can be safe, as concrete is, an experimental transparent pavilion has been designed. It combines a number of innovative ideas. Many different kinds of glass and glass systems have been used.



3. _____

Painted, stainless, weather resistant steel, aluminium have been used for supporting structures. Aluminium have some advantages: it is light, resistant to corrosion and easy to work but, it has low fire resistance. Stainless steel has good fire resistance and it is easy to keep but its price is high. Painted steel is not expensive but difficult to work on site and not resistant to corrosion.

Activity 4: Read the text again and decide if the statements are true or false.

1. Glass is very popular in contemporary architecture. _____
2. There is no way to create a glass structure that is as safe as concrete. _____
3. A transparent pavilion has been designed as an experiment that uses some innovative ideas. _____
4. There is only one type of glass in this pavilion. _____
5. Glass has also been used for supporting structures. _____

Activity 5: Read the text about plastic and choose the correct option.

Plastic products offer a number of ecological advantages: they sabe resources, have a low maintenance cost and can be recycled. They contribute to sabe energy (plastic foams are used for thermal insulation in many applications). Plastic is also useful for noise protections and insulation.

The main fields of application of these materials are pipes, insulation, wall covering flooring in houses and in public areas, and recently in window frames (made of PVC).

PVC stands for Polyvynil Chloride and it is the plastic which has seen the most rapid growth in recent times in industry. PVC is often used in piping systems because of its good chemical resistance to corrosive fluids. PVC pipes are used fora a great number of applications: to drain waste, for natural gas distribution, for electrical and communications wiring, for municipal water.



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1 Plastic products save...
A industry.
B materials.
C resources.

2 Plastic insulation is also useful for ... protection.
A recycled
B resources
C noise

3 PVC is the plastic whose use has grown more...
A recently.
B slowly.
C primary.

4 The ... fields of application of these materials are in flooring.
A alternative
B main
C useful

5 PVC has good ... resistance to corrosive fluids.
A physical
B public
C chemical

6 PVC pipes are used for ... gas distribution.
A natural
B chemical
C piping

Activity 6: Make a list of advantages and disadvantages of each material.

	Steel	Glass and Metals	Plastic
Advantages			
Disadvantages			



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