

Innovation in Manufactured Wood Products and Construction

Questions and Answers for Video Lesson

Technology



Activity information

Level:	Junior secondary school Years 7 – 10
Duration:	1 lesson
Preparation:	Watch the video lesson titled “Innovation in Manufactured Wood Products and Construction” and answer the following questions.
Summary:	Students will learn about the different types of manufactured wood products and about innovative techniques to produce manufactured wood products.

Questions

- 1. Define manufactured wood products. What other name is commonly used for these products?

2. What types of wood are used in manufactured wood products?

- 3. Which two wood properties are considered important when innovating for new manufactured wood products?

4. Explain how plywood is made.

5. What property makes plywood and oriented strand board (OSB) suitable for structural wood paneling used in building construction?

6. How is laminated veneer lumber (LVL) made?



7. What makes LVL superior to many solid wood products? List some uses.

8. How is cross laminated timber (CLT) made? List some uses.



9. Which manufactured wood product is a good substitute for load bearing timber requiring wide spans, such as for use in multi-storey buildings?

10. How is wood plastic composite made? List some uses.

11 How can using and substituting with wood products help address climate change?



12. Which was the main manufactured wood product used to build the environmentally friendly 'Forte' building illustrated?

Class Challenge



Look around your school and identify a new sitting area that could be developed for students using manufactured wood products. In groups, draw up a creative design that both looks good and is functional given limitations such as slope and drainage, and location of trees for shade. You might like to include things such as plastic wood composite paving and bench seats for example. Let your imagination run wild and see what you and your friends can come up with.

ANSWERS to Questions

1. They are composite wood products made by binding wood fibres, particles or veneers together with glues, and are also known as 'Engineered Wood Products'.
2. Low quality logs, wood scraps from timber mills, and recycled wood from demolition and construction sites.
3. Strength and durability (weather resistance).
4. Thin sheets of veneer wood are piled in cross oriented directions and bonded together with glue under high pressure and temperature.
5. Strength, which is obtained from the cross orientation of fibres.
6. Thin sheets of veneer wood are bonded together into sheets with fibres (the grain) running parallel.
7. It doesn't warp or shrink like many solid wood products. Rafters, beams, joists and studs.
8. By gluing alternate solid wood boards' together perpendicular to each other. Framing, walls and flooring.
9. Timber concrete composite.
10. Mixing sawdust with recycled plastic, adding colourants and ultra-violet radiation stabilisers, and compressing under heat. Outdoor decking, fences, cladding and window frames.
11. Wood products, including manufactured wood products, store carbon for the life of the product, and where these are substituted for alternative building products that use fossil fuels such as steel and concrete, this reduces the amount of carbon emitted into the atmosphere and the potential impact of global warming and climate change.
12. Cross laminated timber (CLT).