



LESSON 4: SUSTAINABLE STRUCTURES

SUBJECT

Sustainable Structures: Flooring

AGE RANGE

15-18

LESSON PLAN

4 of 4

WHAT IS ECOLOGICAL FLOORING

Ecological flooring or sustainable flooring - refers to flooring materials which have very minimal or no negative impact on the natural environment. This includes sustainable methods of harvesting, most often involves flooring made with organic or biodegradable materials, production typically leaves almost no waste, and this type of flooring generally has little impact on the environment when disposed of.

SUSTAINABLE MATERIALS USED IN FLOORING

- **Carbon neutral flooring:** These floors play a vital role in addressing climate change by reducing the carbon footprint of a home, improving indoor air quality and promoting the use of renewable materials.
- **Reclaimed wood:** This involves use of wood from old buildings like barns or even wine barrels - the wood is rescued and repurposed. It eliminates the need to cut down fresh trees and offers leftover timber a second chance.
- **Natural clay:** Tiles or flooring made up of natural clay, ideally sourced close to the building. This form of flooring is durable and works well in various climates.
- **Cork flooring:** Cork flooring is made from the bark of cork oak trees, which is a renewable and biodegradable resource. The tree is not harmed in the process of harvesting its cork because the bark eventually grows back.
- **Natural stone flooring:** Known for their toughness and longevity, some varieties of stone, such as slate or travertine, are regarded as environmentally benign. They are made of natural materials and don't release any dangerous chemicals.
- **Bamboo flooring:** Bamboo is durable and can be grown in various climates for a continuous harvest, this type of flooring is also easy to install.

ENVIRONMENTAL HAZARDS FROM TRADITIONAL FLOORING OPTIONS

- Many traditional flooring options, such as carpets and vinyl, contain toxic chemicals like chlorine, phthalates, styrene and/or formaldehyde.
- Laminate flooring can mimic the appearance of hardwood at a lower cost, however, it often contains formaldehyde-based adhesives, which can emit VOCs.
- The production of traditional flooring materials often involves energy-intensive processes and the extraction of non-renewable resources, cumulatively these types of materials are contributing to the stress and harm of mother earth.
- Disposal of non-biodegradable flooring materials contributes to landfill waste.