

**ECO-PRODUCTS**

By Joseph Sanford ([wdginc@gmail.com](mailto:wdginc@gmail.com) )

**DEMONSTRATION/DISCUSSION**

**This module is part of the Engineering-Green Tech Series and is to be used in one session between other lines of instruction or when school schedules create voids in the mentor’s outline. It is stand-alone and can also be used as part of a larger curriculum path to educate students on engineering and architecture in other parts of the world.**

**Educational Goals**:

Students will:

* Learn about a new products available on the market now for use in green construction
* Find out how consumer desire can drive a market to change—demand for healthier, more eco-sensitive housing causes Architects and Builders to demand new products, which manufacturers respond to with new, safe, healthier , and more efficient products.
* Learn about the issues with the manufacture and use of current materials and how they affect health and natural resources
* Be introduced to some current products which perform the same functions as normal products but which do so with much more eco-sensitivity.

Ov**erview**: This module consists of a Power Point document which introduces the students to the idea of the growing desire of homebuyers to have homes which are sensitive to the environment, healthier, more cost-effective, and which do not use natural resources in a flagrant way.

**Content:** The Power Point covers this subject adequately. It is mostly an introduction to this topic. It consists of some reading panels, some graphics, and a couple of videos.

**Time**: Approximately 1-1.5 hours. Mentor can embellish with questions and other data they collect on their own. It is recommended to ask questions about the products so the students get firmly in their minds how these relate to the home and how installing these products can be better for the occupants and the environment.

**Materials Needed**:

* Computer and Projector

**Directions**: Very simple…run the Power Poing on the projector, read it, ask questions about what they are seeing, and inform them of the positive impact on the homeowner and the environment gained by using these products. The main thing the student’s take away is to understand how using these products in one home is good, but using them in a million homes over time will seriously change how we live on the earth.

**Topics to Discuss**:

* + Discuss how homes are made—they are designed by someone who lays out the walls, floor, roof, windows and doors, yes. But also this person, along with the Builder or Homeowner, choose the materials and systems which go into that home, such as carpet, paint, plumbing and electrical fixtures, appliances, heating and cooling equipment, cabinets, trim, sheetrock, and the actual lumber, insulation siding, roofing, and so on. Each of these products can be found in either non-eco-sensitive modes and in eco-sensitive modes. The choice is made whether or not to have a healthier home, or to simply go with what we have always done with conventional materials, but take risks with the health of the occupants and the rampant use of natural resources and energy supplies as we do now.
  + Ask whether or not the students believe this is a good approach to building.
  + Note that this will probably become the standard in a few years, as more and more buyers want this and Architects and Builders want to supply those kind of buildings.
  + Ask if the students can think of other products which could be changed or developed which could fit into this category.

M**entor Notes**: Keep the students focused on the building process and the use of materials, not only in the final use in the home, but also in the sourcing and manufacturing process. In other words, the entire cycle of the product from design decisions, to sourcing of raw material, the actual manufacturing process and how it uses power and water, to the transportation of the product, to the final installation and use in the home.