

Hardwood Veneer Lesson Plan

Keywords: veneer, saw log, furniture, woodworking

Lesson Plan Grade Level: 6th- 8th

Total Time Required For Lesson: 50 minutes

Setting: Classroom

Subjects Covered: Science

Topics: Wood Products, Manufacturing

Goals For The Lesson:

Students will be capable of identifying and discovering the uses of hardwood veneer.
Students will gain an understanding of the process of manufacturing hardwood veneer.

Materials Needed:

Hardwood Veneer fliers (From The Woods Series)

Hardwood Veneer Pretest

Hardwood Veneer Posttest

Paper

Pencils

Appendix 1

Ruler with millimeters (calipers will also work if available)

Sample of veneer (contact furniture stores, wood makers, veneer mill etc. for samples)

State Standards Addressed: *E&E Standards:* 4.2.7, 4.8.7

Teaching Model: Experiential Learning Model (Experience, Share, Process, Generalize, Apply)

Methods:

Preparation:

Read through the entire lesson to ensure your understanding of the material and activity.

After reading the lesson, walk through the school and identify products with hardwood veneer. Determine locations where the students will be permitted to walk through during class time.

Doing The Activity:

Introduction to the lesson:

Demonstrate 0.6 millimeters to the students, on a ruler. Ask the students to describe objects/ products that may have the measurement (such as a thick piece of paper).

Explain to the students that they will be learning about a material that can have a 0.6 millimeter measurement and yet still create beauty.

Steps:

(Experience and Share Stages 30 minutes)

1. Administer the pretest to the students; explain that the purpose of the pretest is test knowledge the students already have acquired on the subject. (allow approximately 7 minutes for the test then collect)
2. Ask the students if they have any comments concerning the pretest.
3. Present the veneer samples to the class.
4. Display the *Hardwood Veneer* flier and hand out. Explain to the students that they will be working in groups to read the information.
 - After the students have completed reading the flier, ask if there are any questions concerning the reading.
 - Ask the students to provide an example of hardwood veneer, if possible within the classroom.
 - Refer the students to the illustrated diagram *The step by step process of making veneer* in the flier and discuss.
 - Again present the veneer sample to the class, tell them there are a few ways to determine if veneer has been used on a product.
 - **One way to determine if an item or object is covered with veneer is look underneath it; if you notice particle board or massonite then you know there is probably veneer or artificial veneer covering the product. (if possible present an example)
 - **Also by looking closely at the edges of an item you may see the thickness of the side of veneer. (if possible present an example)
 - ** When 2 pieces of veneer are used to cover a product the pattern of grain is often matched in a symmetrical manner that would not be natural if the surface was solid wood.
5. Explain to the students they will be searching for hardwood veneer products throughout the school (the areas that you have designated).
 - * The students will create a list.
 - * Go over all expectations (hallway behavior etc.)
 - * Ask the students to line up with their paper and pencil.
 - * Escort the students through the designated areas; allow time for students to document their findings.

(Share and Process Stages 10 minutes)

6. After you have returned to the classroom ask the students to share their lists.
7. Ask the students if they have any other comments

(Generalize and Apply Stages 10 minutes)

8. Prepare the students for the posttest, and complete the discussion questions (Appendix 1).
9. Ask the students if there are any further questions.
10. Administer the posttest. Collect.
11. Ask the students if they have any questions or comments concerning the posttest.

Assessment:

The students will be evaluated through participation during discussions

Students will be assessed through the completion of the activity

The students will be evaluated upon completion the post test.

Conclusion To The Lesson: “This completes today’s lesson on hardwood veneer. Does anyone have any further comments concerning the lesson?”

References and Resources:

Hardwood Veneer flier (From the Woods Series)
The Pennsylvania State University
112 Agricultural Administration Building
University Park, PA 16802

This lesson was prepared by Katie Roth, Middle School Teacher and Sanford Smith, Extension Specialist Penn State School of Forest Resources.

Appendix 1- Review Questions- Hardwood Veneer

1. What is the purpose of hardwood veneer? (*to cover a less attractive item*)
2. What raw material is used to make hardwood veneer? (*high quality veneer logs*)
3. Name 2 trees used to make hardwood veneer in Pennsylvania. (*black cherry, red oak, black walnut, sugar maple, tulip poplar, or white ash*)
4. Ask the students to refer to the illustration 'The step by step process of making veneer', in the flier and discuss.
5. Explain the role of a debarker. (*removes bark from a log*)
6. Explain the process of 'slicing' logs. (*log moves across a knife to create individual slices of veneer*)
7. Explain the method of 'peeling' logs. (*the log is turned against the knife and veneer "peels off the log"*)
8. What is 'sliced' veneer generally used for? (*valuable furniture*)
9. What are a few uses of 'peeled' or rotary cut veneer? (*plywood, kitchen cabinets, chairs*)
10. Describe plywood. (*several sheets of glued veneer laminated or pressed together*)
11. What is artificial veneer? (*anything that attempts to look like real veneer*)