

Title of Lesson Plan	Moisture Content Activity
Prepared By	Jeff Wykrent
City and State	Paw Paw, Michigan
Grade Level(s)	6-12
Keywords (subjects covered)	Moisture content, green wood, oven/kiln dry, air dried, shrinkage / swelling, dimensional changes
Brief Description	Students will measure the moisture content in wood used for furniture making.
Total Time Required	2 or 3 periods or all year if using the air drying method
Setting	Woodshop or Science Class
Lesson Objectives/Goals	To understand how wood may shrink or swell depending on the moisture content of wood.
Materials Needed	-Small vented oven (may be done without...it just takes a year to dry wood then) -Scale to measure weight -Freshly cut logs / tree
Standards Addressed	NA
Procedure	<p>Students will learn about moisture content and dimensional changes in wood due to moisture. Students will practice using the MC formula:</p> $\text{Wet Weight (M)} - \text{Oven Dried Weight (OD)} / \text{Oven Dried Weight} \times 100 = \text{Moisture Content}$ <p>After discussing the changes in dimension students will record the wet or green wood's weight and dimensions.</p> <p>Students will then place samples in the oven for 24 – 36 hours (If air drying samples should be left in a well ventilated area until the end of the year. It is good to have last year's samples to compare during the next day so the students can complete the lesson).</p> <p>Review "Dimensional Changed in Wood" from OSU extension program.</p> <p>After 24 – 36 hours, the wood that is removed from the oven will be measured and recorded and compared to when it was wet.</p> <p>Students will then use the moisture content formula to determine the MC of the wood.</p>
Assessment	Lab will be collected and graded.
Literature Cited/References	Oklahoma State University Extension Program "Dimensional Changes in Wood" Hand out.
Forestry Tour Attended	Lake States 2008

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