Name: _____ Group: _____ Date: _____

Tech labs

TECH 2

The modification of properties

PROGRAMS:	ST, EST, AST
LAB TYPE:	Experiment
CONCEPT:	Modification of properties (degradation, protection)
STUDENT BOOK:	Chapter 12, page 392

GOAL

Compare the degradation of a piece of wood with that of a piece of low-density fibreboard when both are soaked in water for the same length of time.

1. What is the independent variable in this lab?

_____

_____

2. What is the dependent variable in this lab?

_____

_____

HYPOTHESIS

I think that _____

_____

because _____

MATERIALS

- piece of wood (at least 25 mm × 125 mm)
- 2 universal clamps
- 2 retort stands
- ruler
- 1000-g weight
- 500-g weight
- piece of low-density fibreboard (at least 25 mm × 125 mm)
- plastic container (with lid), filled with water

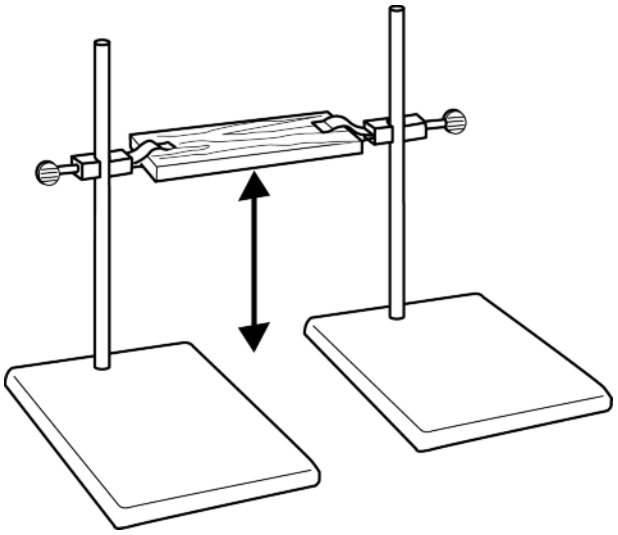
PROCEDURE


1. Firmly clamp the piece of wood at both ends, using the universal clamps.
2. Attach the clamps to the retort stands.

→

Name: _____ Group: _____ Date: _____

3. Adjust the height of the piece of wood to 25 cm above the base of the retort stand. The piece of wood should be parallel to the work surface (see the diagram below).



4. Place the 1000-g and 500-g weights in the middle of the piece of wood.
5. Measure the height of the lowest point of the piece of wood above the base of the retort stand. Record the result.
6. Remove the weights.
7. Repeat steps 1 to 6 with the piece of fibreboard.
8. Soak the piece of wood and the piece of fibreboard in water for at least a week.
9. Remove the piece of wood and the piece of fibreboard from the water. Wipe off the excess water.
10. Repeat steps 1 to 6 with each of the two damp pieces.
11. Clean up and put away the materials.

RESULTS

Record your results in the table below. Give your table a title.

Title: _____

Material	Height above the stand base before soaking (cm)	Height above the stand base after soaking (cm)	Difference in height (cm)
Wood			
Fibreboard			

Name: _____ Group: _____ Date: _____

ANALYSIS OF THE RESULTS

1. What type of constraint does this lab demonstrate?

2. With respect to the constraint mentioned in question 1, how did water affect the resistance of the materials? Explain your answer.

3. Of the two materials, which degraded more? Explain your answer by referring to your results.

4. What do you think would happen if you placed weights on the materials after a longer period of soaking?

5. What do you think would happen if you placed heavier weights on the materials?

CONCLUSION

1. What do you conclude from this lab?

2. Was your hypothesis confirmed or not? Explain your answer.

APPLICATION

You need to build a fence next to a pool with a fountain. What precautions must you take when you buy your wood?