

# The Chemis-tree

## Introduction

When salt crystals dissolve in solution, they can be absorbed onto paper via the wicking effect that allows liquids to travel upwards. Evaporation occurs faster at the edge of the paper. In this lab, you will prepare a solution and allow it to be absorbed through blotter paper. As the liquid part of the solution evaporates, the solid will remain in the form of salt crystals, forming the “chemis-tree”! This activity takes 1-2 days.



## Materials

ammonia solution  
blotting paper  
food coloring

laundry bluing  
salt [NaCl]

## Equipment

beaker, 100-mL  
measuring spoons, 1-tsp & 1-Tbsp  
petri dish or disposable paper cups

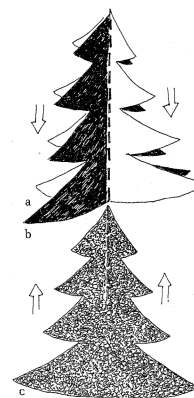
scissors  
stirring rod

## Safety Considerations

- Sometimes chemicals from previous labs still remain in glassware and on other lab equipment; wash all lab equipment before and after performing this lab.
- Wash your hands thoroughly after completing this lab.

## Procedure

1. Cut out three pieces of blotter paper in the shape of a fir tree about 4” tall.
2. Cut a small slit at the bottom of two pieces and a slit at the top of one piece so that they will slide on top of each other and form a paper tree. Use the diagram on the right for guidance.
3. In a beaker, prepare a solution containing the following ingredients:
  - 2 Tbsp water
  - 2 Tbsp laundry bluing
  - 1 tsp ammonia solution
  - 2 Tbsp salt
4. Stir the mixture until all of the salt has dissolved completely.
5. Using either a petri dish or an upside down paper cup as the base stand, pour the salt solution into the dish.
6. Place the base of the tree in the dish so that the tree stands upright.
7. If you would like to make colorful crystals, add a few drops of food coloring to the tip of each branch of the “chemis-tree”.
8. Set your “chemis-tree” in a safe location and allow it to remain undisturbed overnight.



## Clean-up

1. Scrap paper and cups must go in the trash, NOT THE SINK.
2. Dispose of any leftover solutions or solids in the sink.
3. Clean all used lab equipment with soap, water and a test tube brush.
4. Return all equipment to its proper location.
5. Wipe down your lab area and wash your hands before leaving the lab.

**Questions**

1. After waiting at least one day, what changes, if any, have occurred?

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2. Why do you think it takes so long for this process to complete?

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3. What do you think is the purpose of the laundry bluing?

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4. Name two other labs we performed this semester that are similar to this lab, and describe how they are similar for each.

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5. List one way you could change this lab and describe how your results might be different.

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