

Stalactite and Stalagmite Formation (Sedimentary)



Objective:

To grow crystals that model speleothems found in caves like Crystal Cave and Carlsbad Cavern.

Materials:

1. Two 500ml beakers or containers
2. Water
3. Salt
4. Wax paper or clear wrap
5. Yarn or thick string
6. Paper and pen to record your observations
7. Food Coloring, ink or poster paint (Optional)



Procedure:

1. Fill each container with boiling water
2. Stir in salt until no more salt will dissolve
3. Add color(poster paint,, ink or food coloring
4. Place the containers with the saturated salt solution 10cm apart on top of wax paper
5. Stretch a 20cm long piece of yarn between each container. Make sure that at least 5cm of string is in the salt solution
6. Record your initial observations (Draw and describe)
7. Over the next five days observe the containers, the string and the wax paper. Record your observations (Draw and describe)

Observation Questions:

1. What happened to the solution in the containers?
2. How is this experiment similar to the formation of stalactites in caves?
3. How is this experiment similar to the formation of stalagmites in caverns?
4. Explain how columns can be formed in side caverns
5. In nature do speleothems form above, below or in the zone of saturation? Support your answer with a labeled diagram.

Follow-up:

See if you can create any other cave formations such as soda straws or cave pearls
Try other solutions like Borax or Laundry soda or Alum observe the crystal formations.

Video Support:

National Geographic- Mysteries Underground