

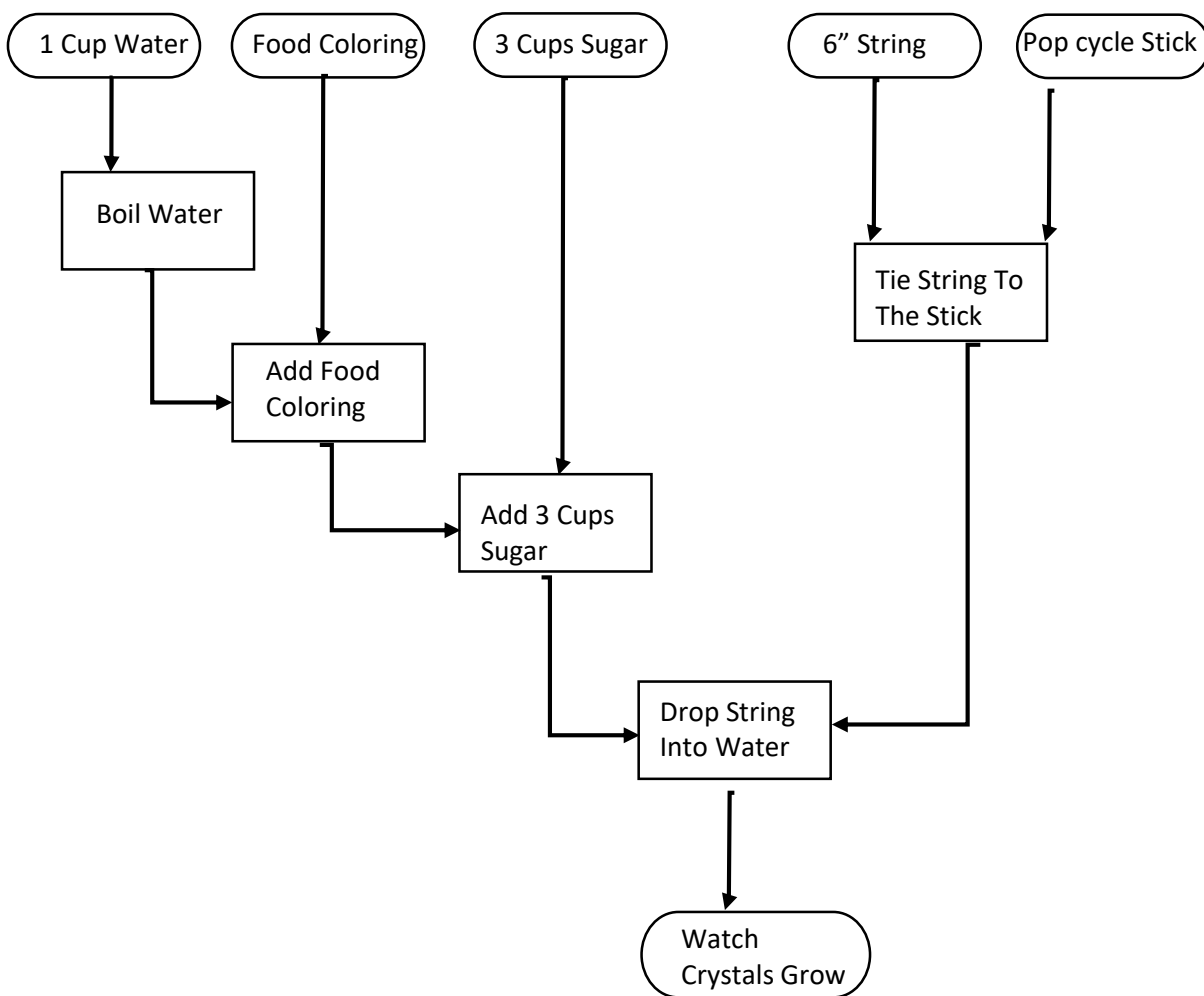
Sugar Crystals (C<sub>12</sub>H<sub>22</sub>O<sub>11</sub>)

Material

- Clear container for holding two cups of liquid
- Measuring cup for boiling water
- 3 Cups Sugar
- 1 Cup Water
- 1 pop cycle stick
- 1 6" Thread
- 1 6" string
- 1 6" cord
- Food Coloring

Experiment

- Tie the three strings to the popcycle stick about 1 inch apart.
- Boil 1 cup of water in the measuring cup.
- Add food coloring to boiling water.
- Add sugar to boiling water.
- Suspend pop cycle stick over the water so the strings/tread hangs in the water.



# CHEMISTRY

# Growing Crystals

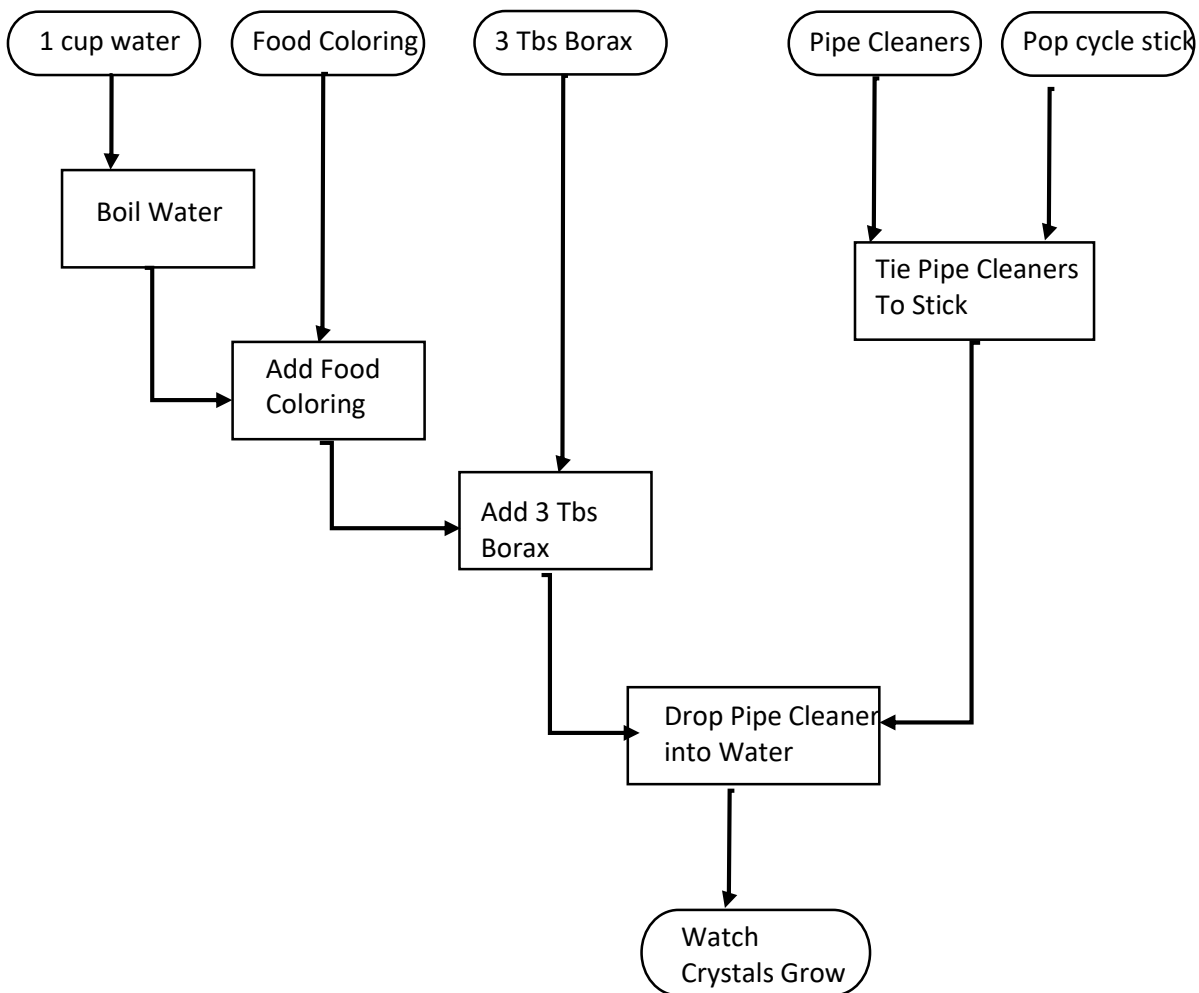
## Borax Crystals ( $\text{Na}_2\text{B}_4\text{O}_7$ )

### Material

- Clear container for holding two cups of liquid
- Measuring cup for boiling water
- 3 tablespoons borax
- 1 cup water
- 1 pop cycle stick
- Pipe Cleaners

### Experiment

- Wrap the end of pipe cleaner to pop cycle stick.
- Boil 1 cup of water in the measuring cup.
- Add 3 tablespoons of borax to boiling water.
- Suspend pop cycle stick over the water so the pipe cleaner hangs in the water.



**Epsom Salt Crystals ( $\text{MgSO}_4$ )**

## Material

Clear container for holding two cups of liquid

Measuring cup for boiling water

Food Coloring if desired

½ cup Epsom salt

1/2 cup water

## Experiment

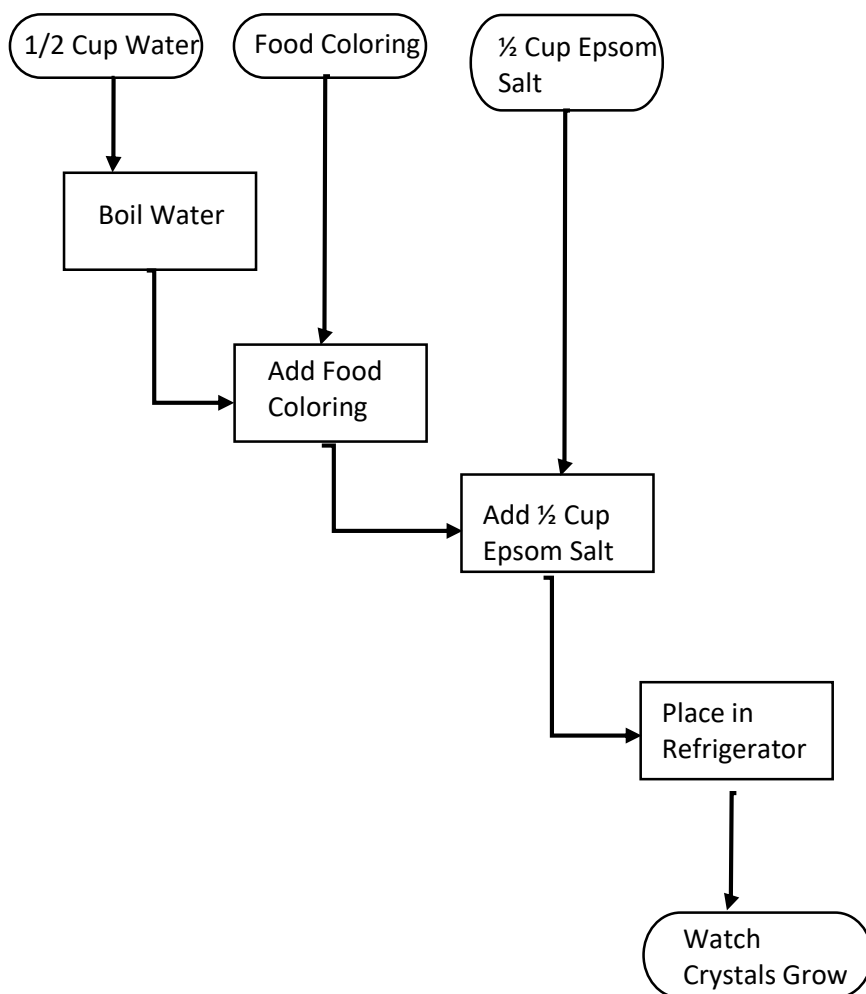
Boil 1/2 cup of water in the measuring cup.

Add ½ cup of Epsom salt to boiling water.

Pour the water and salt into a clean container.

Place the cup with the water and salt in the refrigerator.

These crystals are very fragile so handle with care.



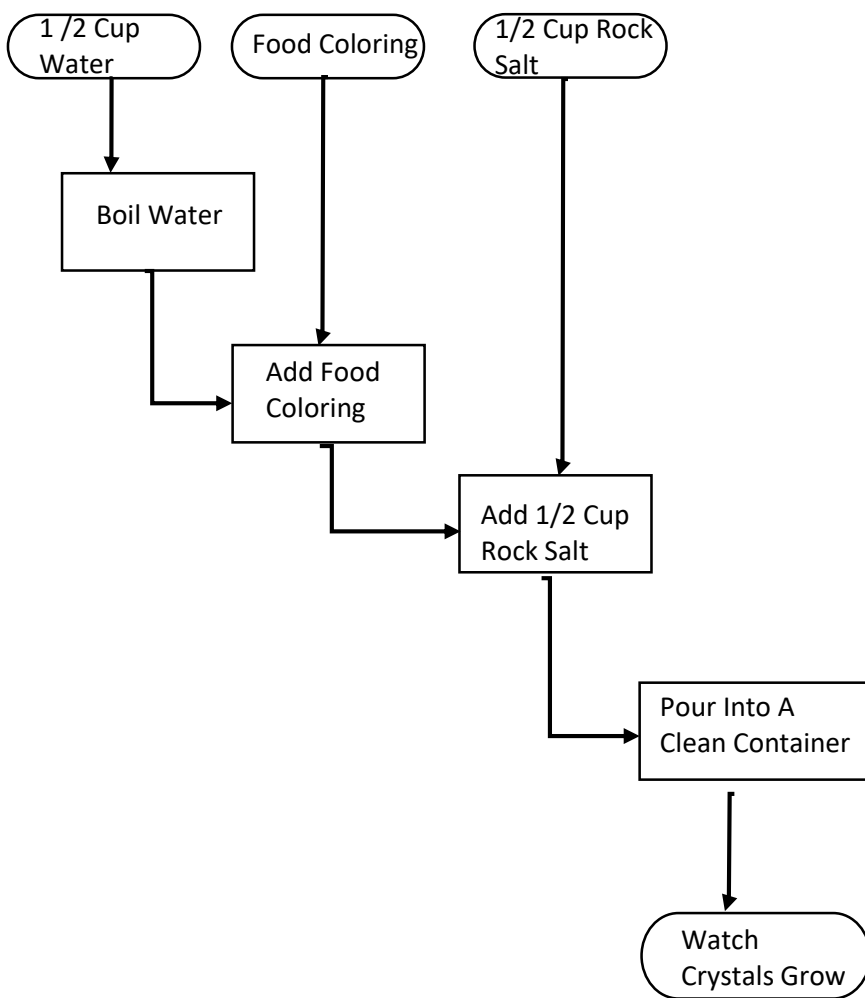
**Rock Salt (NaCl + impurities)**

Materials

- Clear for holding two cups of liquid
- Measuring cup for boiling water
- 1/2 cup rock salt
- 1/2 cup water

Experiment

- Boil 1/2 cup of water in the measuring cup.
- Add 1/2 cup of rock salt to boiling water.
- Pour the water and salt into a clean container.
- Watch the crystals grow.



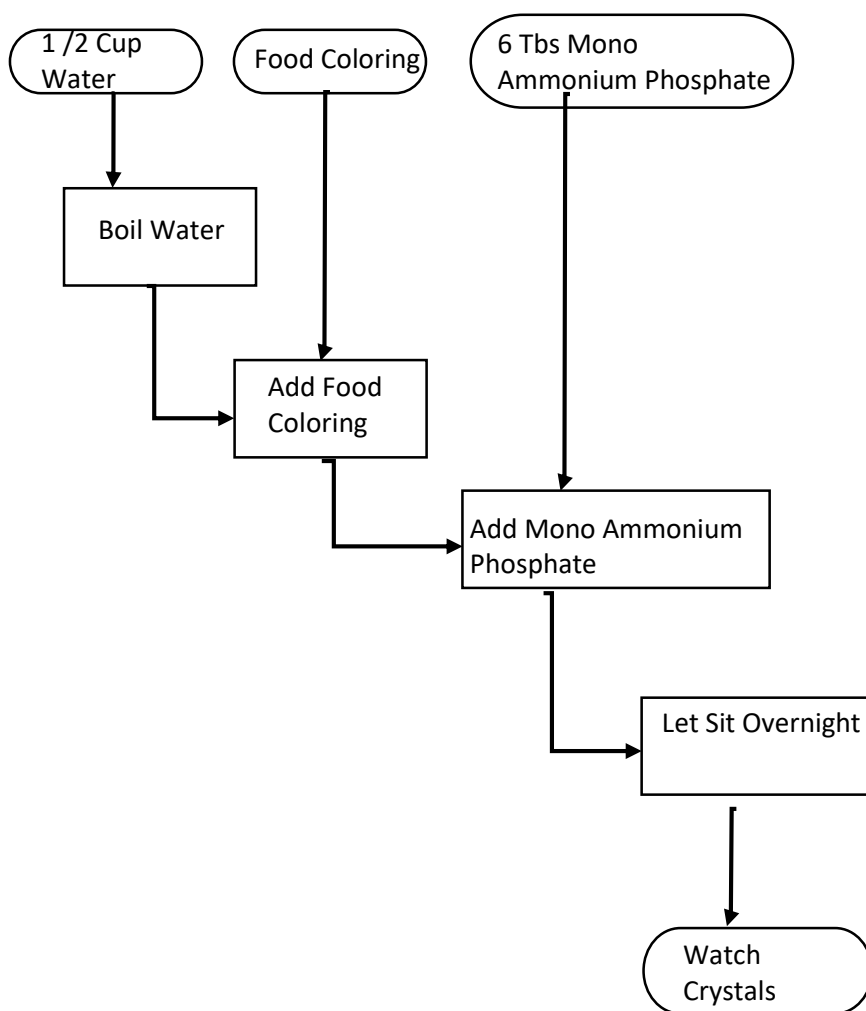
**Monoammonium Phosphate Crystals ( $\text{NH}_4\text{PO}_4$ )**

## Material

Container for holding two cups of liquid  
Measuring cup for boiling water  
6 Tablespoons mono ammonium phosphate  
1/2 cup water  
Food coloring is optional

## Experiment

Boil 1/2 cup of water in the measuring cup.  
Add mono ammonium phosphate to the boiling water.  
Let sit overnight.



**Sulphur (S)**

Material

Powdered sulfur

Pan with a lid (If the Sulphur catches on fire, put the lid on the pan to put the fire out.)

Experiment

Place sulfur in the pan and melt it over a flame.

Be careful that it doesn't catch fire.

If it catches fire, place a lid on the pan until the fire is extinguished.

Remove from the heat and watch the crystals grow.

