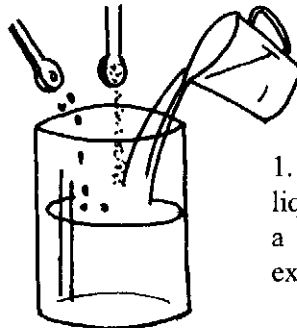


## SOAP BUBBLES

Making soap bubbles is fun.

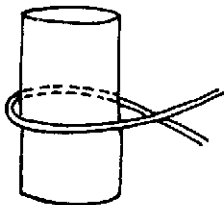
While playing with them you can also learn some basic principles of science.



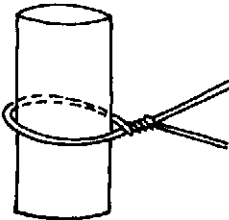
Glycerine

Water

1. Mix bits of scraped soap, detergent, liquid soap and water in a glass. Add a spoon of glycerine. Try and experiment to get the right mix.



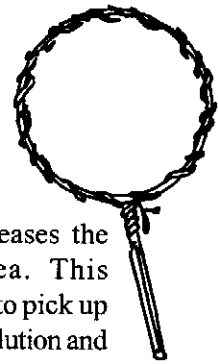
2. Wrap a piece of thin wire on a cylindrical object.



3. Twist the ends of the wire to make a handle.



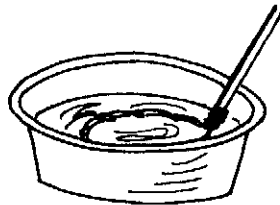
4. Wrap another wire on the circular hoop.



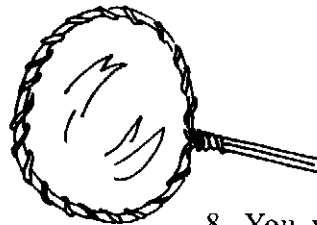
5. This increases the surface area. This enables you to pick up more soap solution and make bigger soap bubbles.



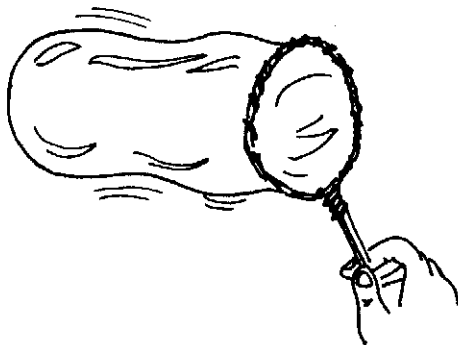
6. Bend the handle upwards at an angle of 45 degrees.



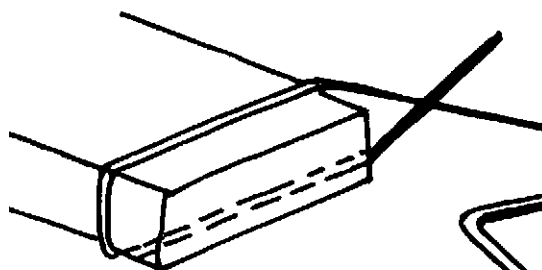
7. Dip it in soap solution.



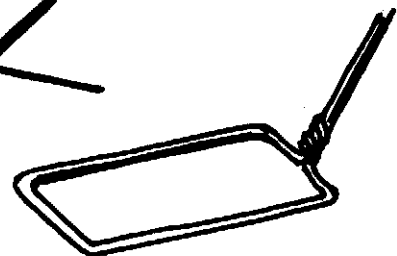
8. You will see a soap film on the hoop.



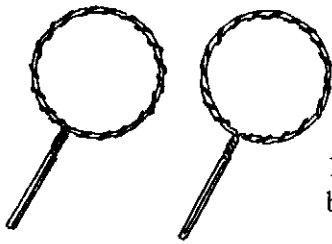
9. Now move your hand briskly to produce an elongated soap bubble.



10. Twist the wire on a rectangular piece of wood...



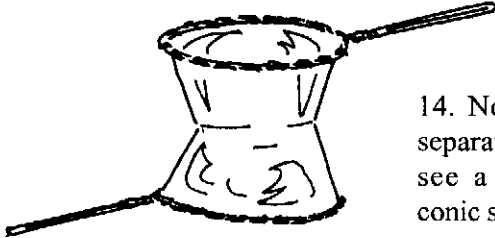
11. ...to make a rectangular soap bubble blower.



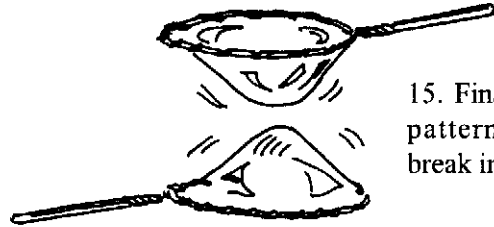
12. Make two circular bubble blowers.



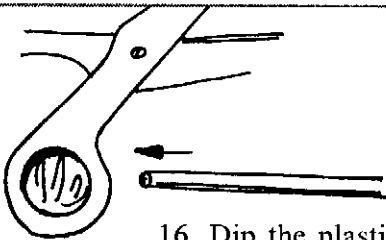
13. Dip them in soap solution and bring them close.



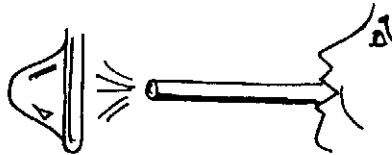
14. Now slowly separate them to see a beautiful conic section.



15. Finally the pattern will break into two.



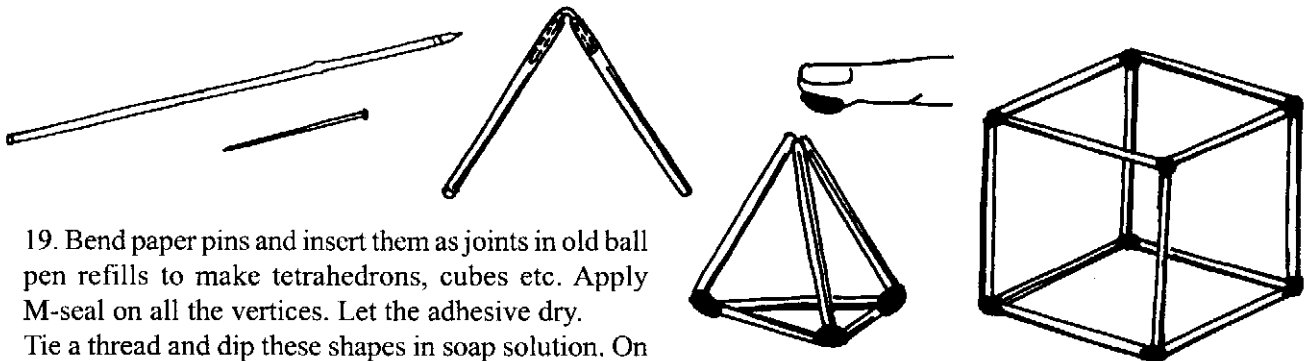
16. Dip the plastic handle of a scissors in soap solution.



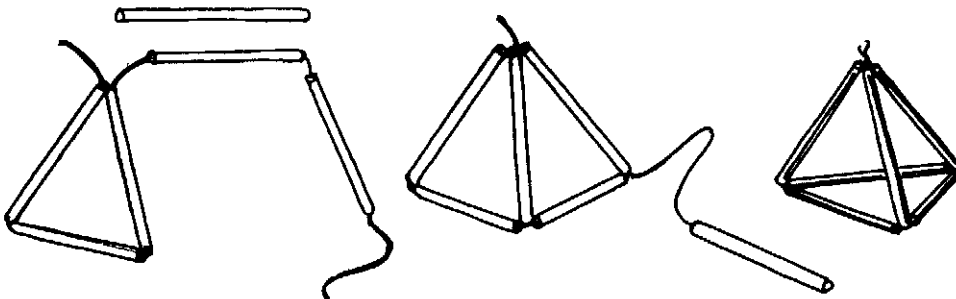
17. Blow with a plastic straw...



18. ...to produce a perfect soap bubble.



19. Bend paper pins and insert them as joints in old ball pen refills to make tetrahedrons, cubes etc. Apply M-seal on all the vertices. Let the adhesive dry. Tie a thread and dip these shapes in soap solution. On lifting, you will see an amazing pattern of soap films.



20. Cut several stiff plastic straws of the same length. Weave thread through them to make a 3-D shape like a tetrahedron. Tie the ends of the thread to keep the tetrahedron shape intact. Dip the tetrahedron in soap solution. Then remove it to see a wonderful soap film pattern.

