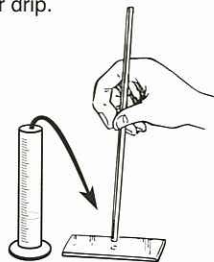


OBSERVATION OF POLLEN

With a pair of tweezers, take out a piece of filament from the flower. Slightly shake the filament such that a little amount of pollen fall onto the slide (too much pollen will make observation difficult). At last, you may want to put on the glass cover.



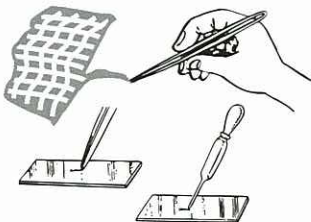
2. With a small stick or a pipette, take out a small amount of salt water and drip it on a blank slide. Do not over drip.



3. Observe how crystals are gradually formed while viewing through the microscope.

OBSERVATION OF FIBROUS TISSUE

Try to get a piece of worn fabric or a piece of thread. If the piece of fabric is torn or run, you may see some threads on its edge. Take a closer look. You will discover that each piece of thread can be separated into small pieces, which are called "filaments" or "fibres". Place a small quantity of fibres on a blank slide and drip one drop of water on it with the point of a pipette. You can put on the cover glass and observe under the microscope.



OBSERVATION OF STARCH

1. Ask your parents to cut a thoroughly washed potato into 2 pieces.



2. Rub the cut surface of the potato with a blank slide as it is illustrated below, until white liquid is formed on the surface of the glass.



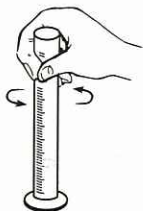
3. With a stick or a pipette, take a small amount of this white liquid from the slide and paste a very little amount on the center of the blank slide. Make sure the stick is absolutely clean.



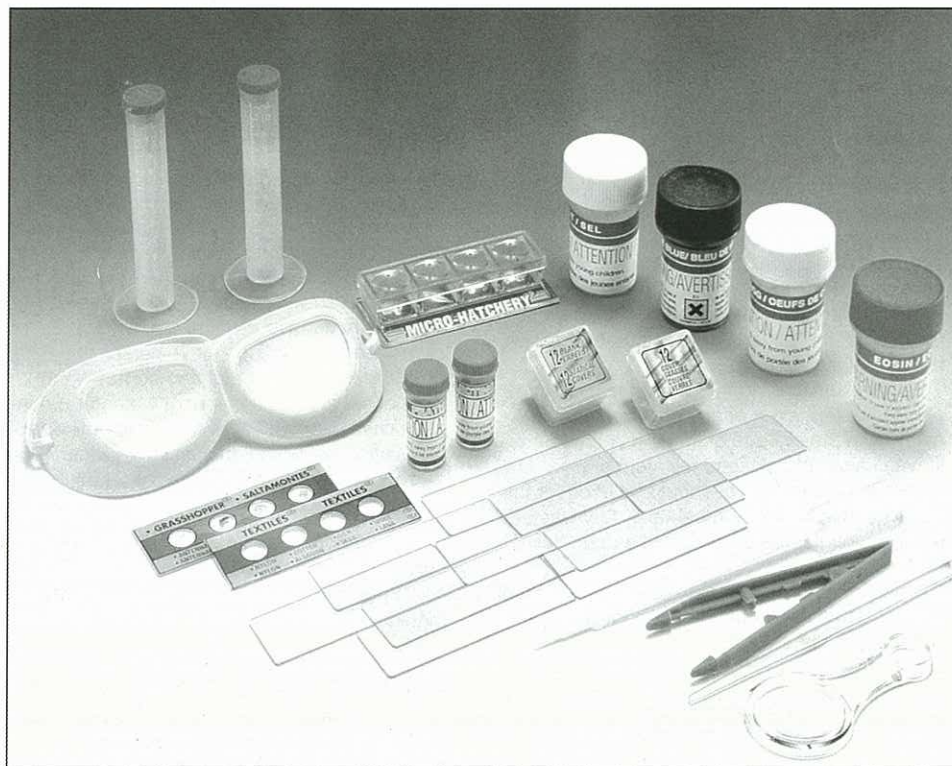
Cover the sample with a cover glass before observation under the microscope.

OBSERVATION OF SODIUM CHORIDE (SALT)

1. Fill a cylinder with warm water until the water level reaches 1/4 of its height. Dissolve salt into the water. Add more salt until the salt does not dissolve anymore. Swirl the cylinder constantly while dissolving the salt.



SLIDE MAKING KIT



INSTRUCTIONS

WARNING! ONLY FOR USE BY CHILDREN OVER 10 YEARS OLD. THIS TOY CONTAINS FUNCTIONAL SHARP NEEDLE, ALSO FUNCTIONAL SHARP EDGE ON SCALPEL AND SLICER. THESE TOYS ARE NOT SAFETY PROTECTIVE DEVICES. TO BE USED SOLELY UNDER THE STRICT SUPERVISION OF ADULTS THAT HAVE STUDIED THE PRECAUTIONS GIVEN IN THE EXPERIMENTAL SET.

CAUTION! CONTAINS SOME CHEMICALS WHICH ARE CLASSIFIED AS A SAFETY HAZARD. READ THE INSTRUCTIONS BEFORE USE, FOLLOW THEM AND KEEP THEM FOR REFERENCE. DO NOT ALLOW CHEMICALS TO COME INTO CONTACT WITH ANY PART OF THE BODY, PARTICULARLY THE MOUTH AND EYES. KEEP SMALL CHILDREN AND ANIMALS AWAY FROM EXPERIMENTS. STORE THE SLIDE MAKING KIT OUT OF REACH OF SMALL CHILDREN. EYE PROTECTION FOR SUPERVISING ADULTS IS NOT INCLUDED. MAKE SURE ALL CONTAINERS ARE WELL CLOSED AND STORED CORRECTLY AFTER USE.

ADVICE FOR SUPERVISING ADULTS

- Read and follow the instructions, the safety rules and the first aid information. Keep them for reference.
- The incorrect use of chemicals can cause injury and damage to health. Only carry out those preparations which are listed in the instructions.
- This slide making kit is for use only by children over 10 years old.
- Because children's abilities vary so much, even within age groups, supervising adults should exercise discretion as to which preparations are suitable and safe for them. The instructions should enable supervisors to assess any preparation to establish its suitability for a particular child.
- The supervising adult should discuss the warnings and safety information with the children before commencing the preparations. Particular attention should be paid to the safe handling of the materials in the bottles (i.e. the dyeing solution).
- The area surrounding the preparation of slides should be kept clear of any obstructions and away from the storage of food. It should be well lit, ventilated and close to a water supply.
- A separate tin or bucket should be used for the disposal of solid waste materials. Any wasted solution should be poured down a drain but never into a sink.
- To be used solely under the strict supervision of adults that have studied the precautions given in the experimental set.

EXPLANATION OF BOTTLES

EOSIN

Powder : To be mixed with water.

Examples for use: For observation of the stems and roots of plants, also observation of blood and muscle cells.

WARNING: Do not swallow. In case of accident, call a doctor. Keep away from young children.

METHYLENE BLUE

Powder: To be mixed with water.

Examples for use: For observation of: Cellular tissue of plant's leaf, blade, and stem; mushrooms, molds, and bacteria; blood and muscle cells.

WARNING: Harmful. Do not swallow. In case of accident, call a doctor. Keep away from young children.

SODIUM CHLORIDE (SALT)

Please refer to last page for usage.

SHRIMPS EGGS: Please refer to later detailed explanation.

IMPORTANT TELEPHONE NUMBERS

Poison Center:	
Hospital:	
Fire Department:	
Doctor:	

SAFETY INFORMATION

General First Aid Information

- In case of eye contact: Wash out eye with plenty of water, holding eye open if necessary. Seek immediate medical advice.
- If swallowed: Wash out mouth with water, drink some fresh water. Do not induce vomiting. Seek immediate medical advice.
- In case of inhalation - move person to fresh air.
- In case of skin contact and burns: Wash affected area with plenty of water for 5 minutes.
- In case of a cut: Wash the cut in antiseptic solution, or, failing this, in clean water. Then put on a plaster. In case of any larger injury you should get first aid treatment.

In case of doubt seek medical advice without delay. Take the chemical together with the container with you. In case of injury, always seek medical advice.

SAFETY RULES

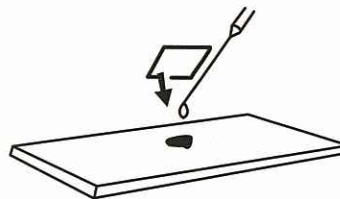
- Do read these instructions before use, follow them and keep them for reference.
- Do keep young children and animals, and those who are not wearing eye protection away from the experimental area.
- Do always wear eye protection.
- Do store slide making kit out of reach of young children.
- Do clean all equipment after use.
- Do wash hands after carrying out preparations.
- Do not use any equipment which has not been supplied with the set.
- Do not eat, drink or smoke in the experimental area.
- Do not allow chemicals to come into contact with the eyes or mouth.
- Do not put foodstuffs in original container. Dispose of immediately.
- Do make sure that all containers are fully closed and properly stored after use.

HOW TO MAKE A PREPARED SLIDE

If the given sample is not thin and transparent, it cannot be observed by the microscope as the light from the reflector or the light source does not pass through it. Fibres, pollen, wool, or salt will be easy to observe and do not need a cover glass. Clear samples are stain first with a drop or two drops of methylene blue, Eosin or other dyeing solutions available on the market. **(Note: These are dyeing solutions and therefore could cause staining of clothing, carpets, and fabrics. Special care should be taken when handling these solutions. Also read again on page 1, the safety information associated with these solutions.)**

1) Temporary mount

Wipe the slide and cover glass clean. Thin the sample with a razor blade **(Note: The blade is very sharp so handle with extreme caution)** or similar, then pick it up with tweezers and put it on the centre part of the glass slide. Put one drop of water on the sample with a dissecting needle, or if the sample is clear, use one drop of the above mentioned dyeing solutions **(Note: The needle has a sharp point so handle with extreme caution)** and then gently put the cover glass on it, taking care not to trap any air bubbles. Remove any excess water or dyeing solution with blotting paper. Now it is ready for observation. **(Remember to wash your hands after doing the preparation and remember to dispose the dyeing solutions according to the instructions given on page 1.)**



2) Permanent mount

Wipe the slide and cover glass clean as above **(Temporary mount)**. Proceed as above but before covering the slide with the cover glass, add a few drops of gum media (or Canada balsam) solution or transparent adhesive glue with a dissecting needle to the slide. Push down on the cover glass with tweezers or the like to fix it in place and leave to dry for about a day.

RAISING A FAMILY OF BRINE SHRIMPS

(NOT FOUND IN ALL SETS)

It is relatively easy to rear a batch of brine shrimps in the home laboratory. The tiny crustaceans are excellent specimens for the microscope studies, being similar in many ways to their bigger relatives, the lobsters, crabs, and crayfish. Furthermore, the brine shrimps enrich the diet of aquarium dwellers. What makes the brine shrimp easy to raise is that its eggs hatch in a relatively short time, from twenty-four to forty-eight hours. The eggs are sold dried in small bottles or vials. Dried eggs remain alive for five years or more if they are stored in a cool dry place. Almost every aquarium shop carries a supply of the dried eggs of the brine shrimp.

In order to hatch eggs, first of all float them in a container of sea water. If sea water is unavailable, prepare a brine solution by adding two teaspoons of table salt to a quart of water.

Sprinkle some brine shrimp eggs over salt solution and allow it to stand at room temperature (70-80°F/21-26°C) for a day or two. The eggs will hatch into the nauplius larvae which is the early life stage of most crustaceans. To bring the larvae to maturity, transfer a small number to another container, for if they are left to fend for themselves in the original culture they will begin to suffer from lack of oxygen and die off shortly.

Prepare some fresh brine solution and add a small quantity of yeast to serve as food for the developing larvae. With a pipette, transfer some of the new culture and allow them to grow to maturity. Examination of the culture at frequent intervals will reveal the entire life cycle of the brine shrimp, *Artemia salina*. Be sure to observe the dried eggs, hatching eggs, nauplius larvae, and the mature shrimp. When brine shrimps are fed to aquarium dwellers, they should be strained out of the brine solution with a piece of fine meshed cloth. It is wise to wash the brine shrimp with fresh water before introducing them to the aquarium as the sudden increase in salt content may be harmful to fish.

