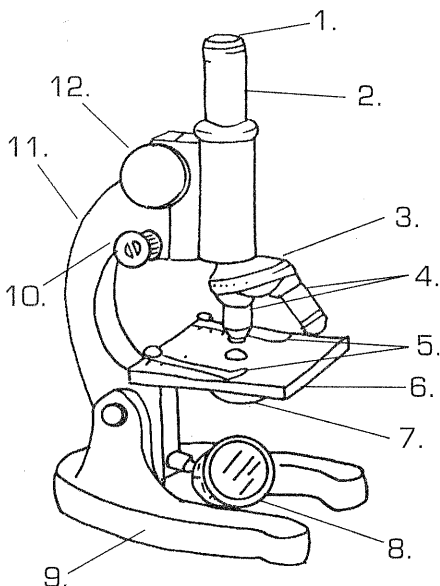


LABORATORY SAFETY PROCEDURES

- Make sure that all chemicals are properly labeled and stored.
- Be sure there is easy access to fire extinguishers, first-aid kits, safety shower, fire blankets, running water, and eyewash stations from the laboratory.
- Wear proper eye protection devices when participating in or observing experiments involving potential eye hazards.
- Use heat-safety items such as safety tongs, asbestos mittens, aprons and rubber gloves.
- Confine long hair and loose clothing. Laboratory aprons should be worn at all times.
- Carefully read all labels and instructions.
- If you spill a chemical, wash it off immediately with water, and report the spill immediately.
- When heating a liquid in a test tube, hold the tube with a holder.
- When heating a solid in a test tube, place the tube in a stand and move the flame of the burner back and forth to evenly heat the contents.
- Never eat or drink in the lab or use lab containers as food or drink containers.
- Never inhale or taste any substance in the lab.
- Never point the open end of a heated test tube toward yourself or any other person.
- Work areas, including floors and counters, should be kept dry. Never handle electrical equipment with wet hands.
- If fire breaks out, smother it with a fire blanket or heavy coat, or use a safety shower. Never run!
- When cleaning up, return all materials properly, turn off all gas and water, disconnect electrical plugs, dispose of chemicals and materials properly, and wash your hands thoroughly.

PARTS OF A COMPOUND MICROSCOPE



1. **Eyepiece** (contains the magnifying lens)
2. **Body tube** (separates eyepiece & lenses)
3. **Nosepiece** (holds objective lens and can be rotated to change magnification)
4. **Objective lenses** (a low-power lens {10x magnification} & a high-power lens {40x magnification})
5. **Stage clips** (hold slide in place)
6. **Stage** (table on which slide is placed)
7. **Diaphragm** (regulates the amount of light in tube)
8. **Mirror** (reflects the light upward)
9. **Base** (supports the microscope)
10. **Fine adjustment knob** (moves body tube for fine focus)
11. **Arm** (supports all components above the base)
12. **Coarse adjustment knob** (moves body tube for coarse focus)

25 SIMPLE MICROSCOPE INVESTIGATIONS

1. **Yarn and thread:** Examine a variety of weights and textures of ribbon, rope, twine, yarn, and string.
2. **Mold:** Observe the structure of mold on bread or fruit. Leave the moldy food on a slide for one day. Note the changes that have occurred since the first observation.
3. **Cloth fibers:** Compare the structures of cotton, rayon, nylon, silk, and polyester.
4. **Fingerprints:** Press a finger on carbon paper or an inkpad and then on clean paper to make a print. Examine the fingerprint.
5. **Insects:** Collect a variety of dead insects and study their different structures.
6. **Onionskin:** Peel a very thin layer from the white skin of an onion. Locate cells and examine their structures.
7. **Pepper:** Note the structure of pepper. Compare the magnified pepper to salt, sugar, and any other spices.
8. **Iron filings:** Observe several iron filings. Look for ways that they vary in size and shape.
9. **Money:** Observe the different patterns and markings of various coins and bills.
10. **Hair:** Compare hairs of different people and animals. Examine samples of different colors and thickness.
11. **Chalk:** Rub a piece of chalk on sandpaper and cut a sample to make a slide. Examine the chalk dust and the sandpaper.
12. **Water:** Collect water samples after a rain from puddles, leaves, and grass. Examine a drop from each surface and compare it to a drop of tap water, soapy water, salt water, etc.
13. **Color printing:** Study different colors and patterns in colored newspaper comics.
14. **Crystals:** Compare the crystal shapes of Epsom salts, boric acid, baking soda, bicarbonate of soda, copper sulfate and other crystals.
15. **Seeds:** Collect seeds and compare their shapes, structures, and interiors.
16. **Foods:** Examine parts of fruits, vegetables, cereals, breads, and other foods.
17. **Wood shavings:** Compare wood shavings from a variety of trees.
18. **Soil:** Study the differences in samples of clay, sand, and earth.
19. **Feathers:** Find and examine feathers from different birds.
20. **Rocks:** Look for crystals of varying sizes in pieces of rock.
21. **Salt:** Look for cube-shaped crystals.
22. **Sugar:** Look for interesting crystal shapes. Place a drop of water on the slide and watch the crystals dissolve.
23. **Soap:** Examine and compare shavings from different kinds of soap.
24. **Potato starch:** Scrape a potato and study the starch granules.
25. **Printing:** Study words printed on paper, cloth, or plastic.