

# Favorite Science Lab Topics

30 minutes in the Mobile Lab Classroom



## From The Science Academy Mobile Lab PreK - 8th Grades

The topics below are favorite topics on the mobile lab! Additional topics can also be developed and taught for longer sessions by request. Students are consistently encouraged to learn problem solving techniques using the scientific method. They use scientific drawing and labeling in developing observation skills.

Most of the topics below are compatible with the standard price menu for 30 minute lab classes. (Some topics require an additional supply fee.)

**Insects:** learn about insect identification & mounting for display; observe the insects from around the world in the mobile lab collection. Mount a lubber grasshopper to take home.

**Geology:** identify and study three different kinds of rocks; observe the extensive rock and mineral collection on the mobile lab; test rocks including UV light and chemical testing. Take home the rock specimens.

**Microscopy:** learn to use a compound microscope; build a simple hand-held microscope; collect microscopic samples. Take home the hand-held microscope and samples.

**Ocean Organisms:** observe ocean organisms under the microscope; observe preserved specimen including a shark with pups; Take home a single magnifying glass and a micro-shell collection.

**Chemistry:** make a gas indicator with plastic test tubes, tubing, and caps; use alka-seltzer tablets to make carbon dioxide gas; observe liquid to gas formation in a distillation apparatus. Take home the apparatus.

**Chemistry:** determine the level of pH (potential hydrogen) of different substances using a wide range litmus paper. Take home litmus paper, test tubes, and a pipet for testing.

**Paleontology:** observe fossils including trilobite, ammonite, squid, & fern fossils; cast a fossil in clay; learn about carbon 14 dating. Take home the fossil cast and imprint.

**Electromagnetism:** learn about Michael Faraday and Thomas Edison; experiment with and make a coil around a nail with a "D" battery. Take home the electromagnet.

**Genetics:** learn about the "Genome" project and make a habitat for two different kinds of fruit flies. Watch them mate and lay eggs over three weeks. Take home the habitat.

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[www.ScienceAcademySite.com](http://www.ScienceAcademySite.com)

**Entomology:** learn about crickets and make a habitat with two crickets to take home.

**Chromotography:** learn about hidden colors and use a mystery solution to separate the elements. Take home samples of colorful elements.

**Meteorology / Severe Weather Systems:** learn about atmospheric pressure; identify forces in a vortex; observe a simulated tornado. Take home a cloud and weather system chart.

**Electronics:** learn about Thomas Edison, the telegraph and Morse code. Assemble a basic telegraph machine to take home.

**Physics / Extreme Temperatures:** Learn about temperature and observe extreme cold with natural elements 50 degrees below 0. Make a thermometer to take home.

**Life Science / Owl Pellets:** Learn about the food chain and predator / prey relationships; dissect owl pellets and try to identify what an owl has eaten by separating the parts.

**Physics / Light & Color:** Learn about Isaac Newton's color circle and the colors that make up visible light. Take home a color circle chart and a light separating device.

**Chemistry / Helium - Lighter than air!:** learn about and experiment with the element helium. Take home balloons with helium and with oxygen and nitrogen.

**Entomology / Butterflies:** learn about the life cycle and characteristics of butterflies; mount a section of a butterfly wing to observe under the microscope and take home. Take home a hand-held magnifier.

**Physics / Buoyancy and Density:** learn about what makes things float and the water displaced by an object. Make and take home a hygrometer with the element iron and pipets.

**Anatomy / The Life Giving Heart:** learn about the function of the heart. Make a model that simulates how the heart pumps.

**Physics / The Atomic Theory:** learn about atoms and molecules and how they stick together. Make an atom model to take home.

**Chemistry / Copperplating:** learn about the movement of atoms in a solution; watch copper atoms travel through a solution and stick to silver. Take home a copper-plated quarter.

**Chemistry / Crystals:** learn how crystals grow; observe mineral crystals on the lab. Take home a growing copper crystal.

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**Chemistry / Carbon:** learn how to take elements apart; extract carbon from sugar. Take home a piece of the carbon that is extracted.

**Earth Science / Volcanology:** learn about how liquid lava is formed; make real lava. Take home a volcano model.

**Physics / Measurement:** learn about using the metric system to measure. Make and take home a simple balance.

**Zoology / Animals:** learn about characteristics of animal coverings; observe animal specimen in the lab. Take home samples of animal coverings.

**Christmas Chemistry and Botany:** learn about the properties and significance of gold, frankincense, and myrrh and observe the distillation of myrrh. Take home samples.