



Chemistry: Acids, Bases & Indicators

Grade Level: 4th through 8th grades

Where Taught: Lab, central classroom or media center, where we can set up and see all students

Students: Up to 30 students, plus one observer

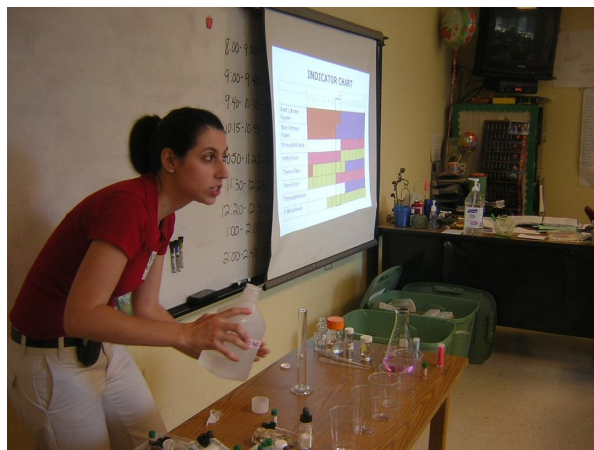
Time needed for presentation: 50 –60 minutes, plus 10 minutes between sessions to cleanup and prepare for the next session.

Georgia Performance Standards: 5th grade S5P2 c; 8th grade S8P1 e; 9th-12th grades: SC7 a

The Acids, Bases, and Indicators module is designed to educate students about chemistry and stimulate their enthusiasm for the subject. Many students view chemistry as one of the more difficult sciences, and this module is designed to convince them that chemistry is interesting, fun, and stimulating.

We begin with a brief introduction to chemistry and matter. This is followed by a discussion of the fundamental properties of acids and bases. We then discuss the use off pH indicators, including litmus paper, phenolphthalein, thymol blue, and paranitrophenol as tools for determining the acid/base characteristics of compounds.

The level of the discussion is tailored to the age and background of each class. Demonstrations are performed to reinforce the concepts presented, and to stimulate the students' curiosity. The students conduct hands-on experiments designed to give them experience in scientific thinking, methodology, and laboratory safety.



We begin with a PowerPoint presentation & demonstrations to explain the concepts of acid, base & indicator. (We bring a projector, but we need a screen or wall.)



Bio-Bus Fellows (GSU graduate and advanced undergraduate students) help students work in groups of three or four.