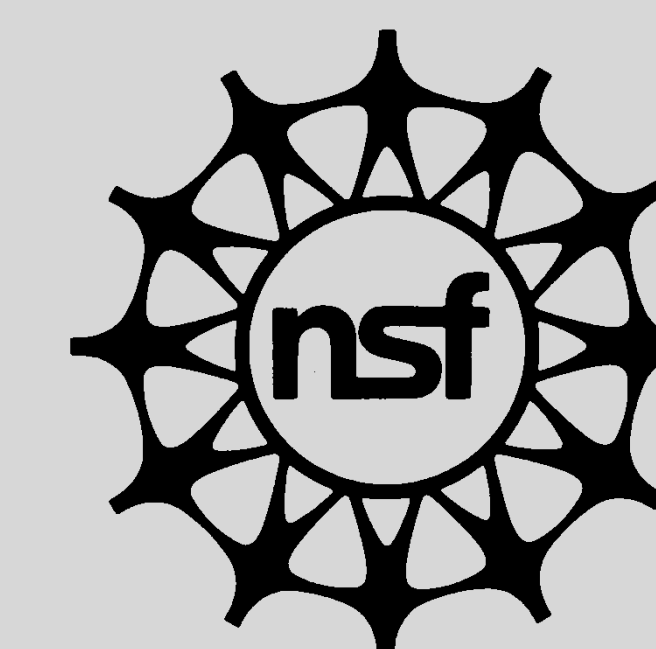


Introduction to Basic Cancer Biology Part II

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Lorraine Elementary School # 72



Introduction

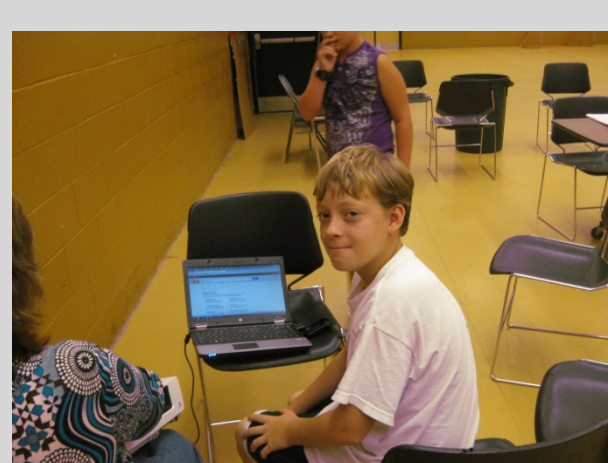
Students from Lorraine Elementary School examined the structure of cells. They learned how normal cells mutate into cancer cells.



They learned about various body systems and how to prevent disease.

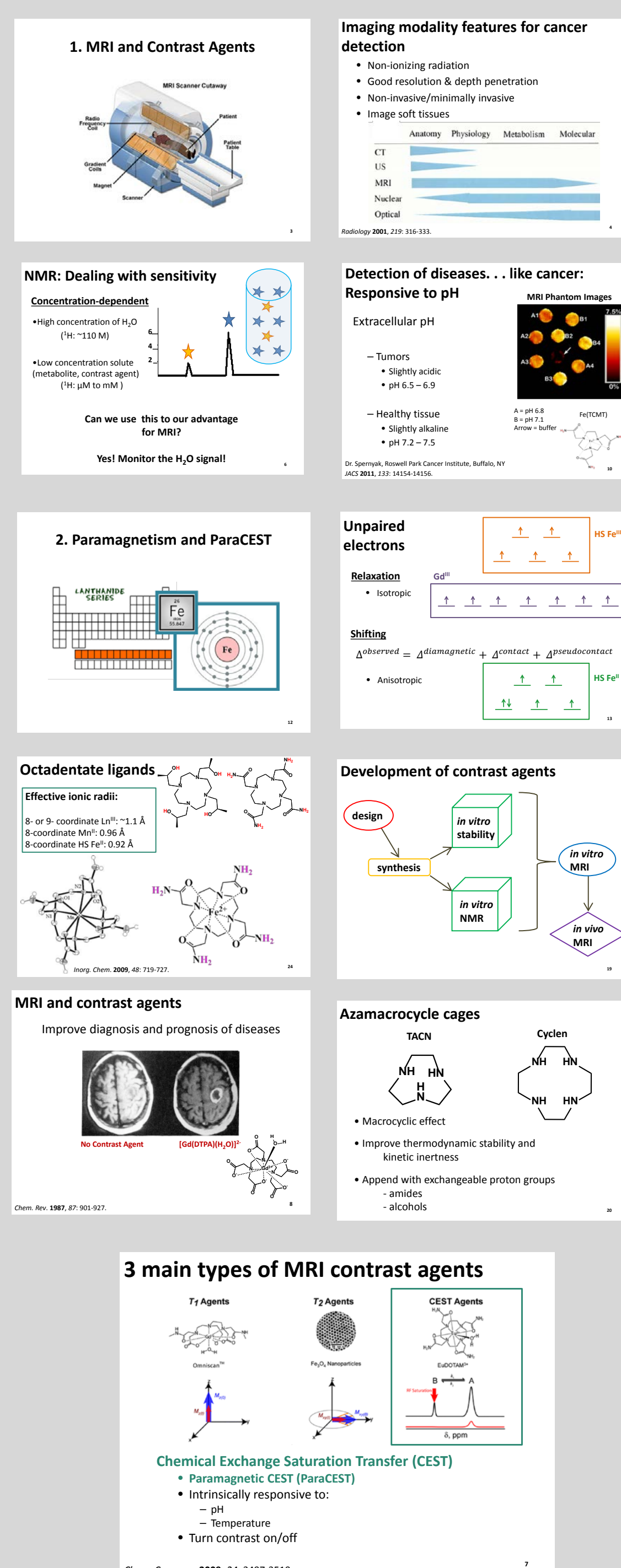


Grade 8 curriculum topics include cell theory, cell processes, genetics and microscopes.



Summer Research

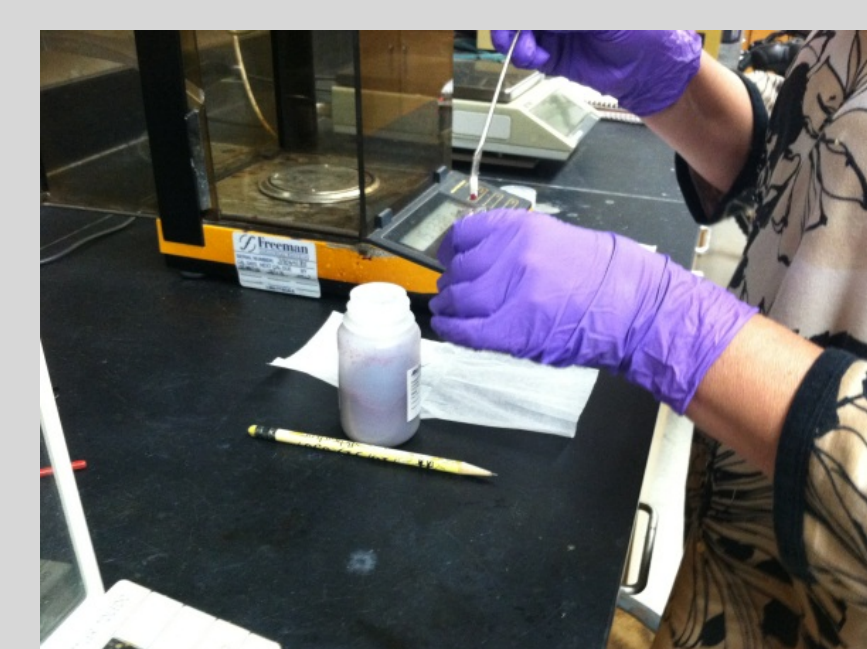
Dr. Sarina Dorazio has been looking at iron complexes that appear promising as contrast agents for use with MRI. We carried out a related investigation by creating two ligands. We used cyclen and cyclam and added s-propylene oxide to both. The resulting compounds were labeled STHP and LOCO. Our goal was to synthesize two cobalt complexes. We had to see if over time the reaction had come to completion. We did this by using the mass spectrometer. Many science tools were used including NMR, mini vortexer and UV-VIS. Much of the work in the lab relates to characterizing different metals.



MRI contrast agents



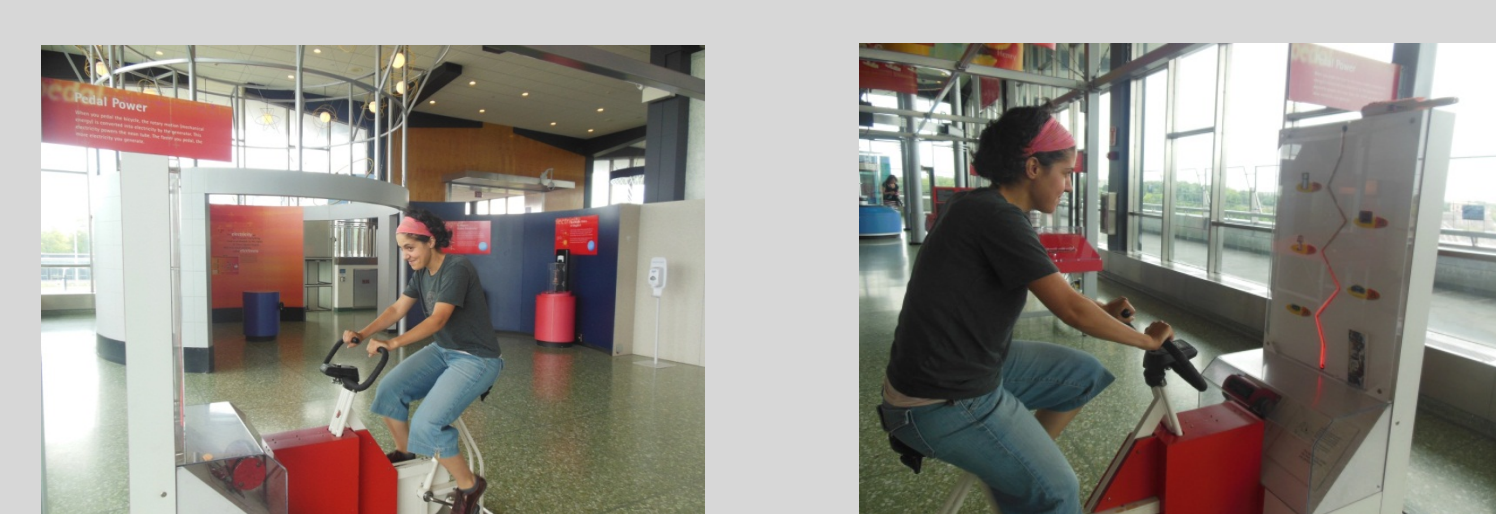
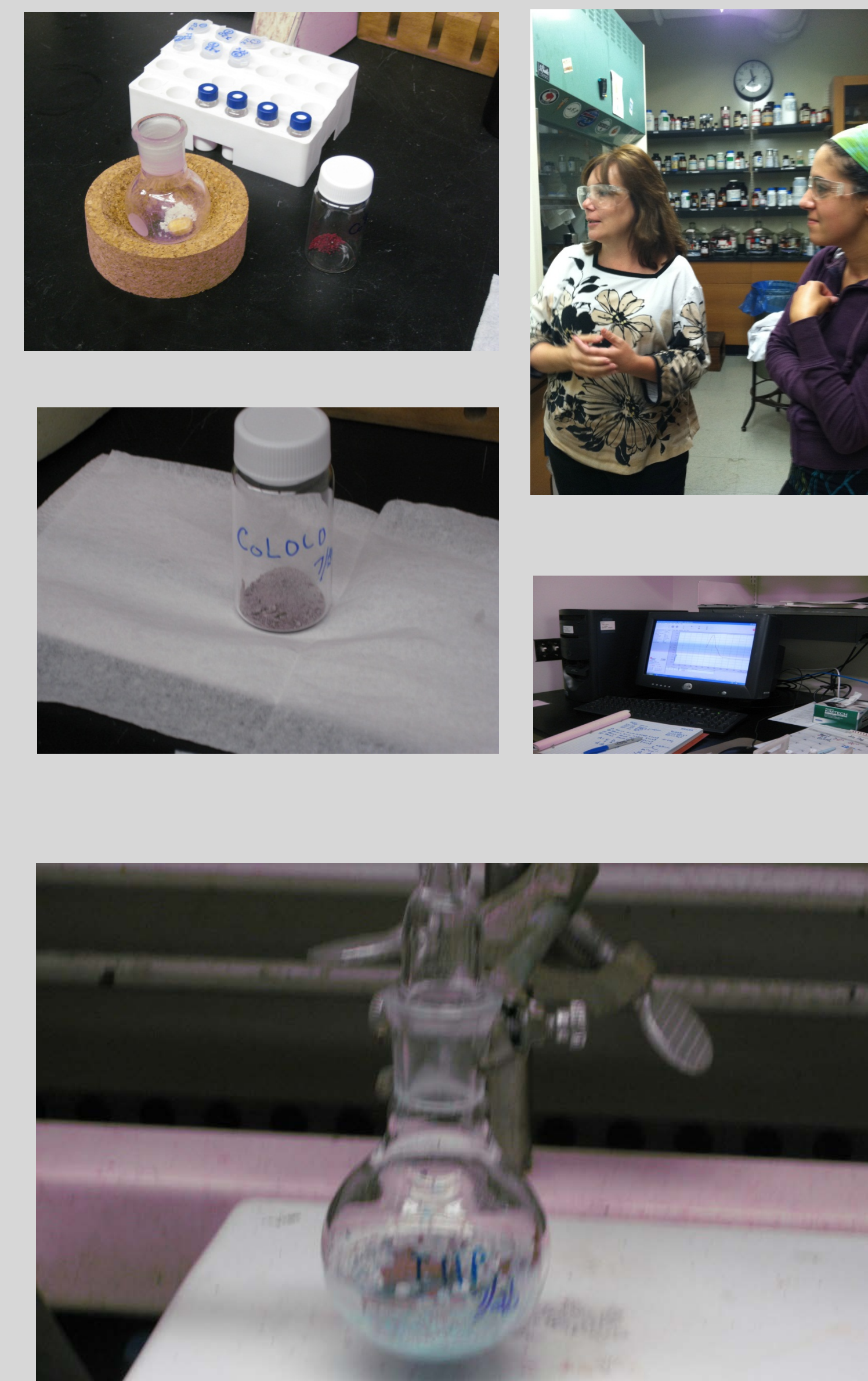
Grade 7 curriculum includes energy, electricity, magnetism, waves, solutions, pH, the periodic table, atoms, elements and compounds.



Field investigations included trips to Roswell Park's miniature MRI that images small organisms (mice, rats) and the Niagara Falls Power Vista.



Grade 7 curriculum added to program



Implementation

Direct Implementation

Students will use graduated cylinders and balances to make metric measurements. Students will synthesize various compounds. Students will use a journal to record experimental data.



Indirect Implementation

Using the NMR required a high level of care. If a person improperly uses the machine causing a malfunction it can impact many others and their projects. I will increase the time I spend on lab safety. I will emphasize the importance of working with others after seeing the real need to cooperate in a scientific setting.



Transformative Implementation

Peer to Peer mentoring is beneficial to mentor and mentee alike. I will continue to use peer to peer mentoring as a classroom instructional strategy. This shift in teaching practice capitalizes on the importance of peer relationships for adolescents. Participants can benefit by improving communication and leadership skills.

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