Next Generation Science Standards

Chemistry

This full year course is designed to provide motivated students with an understanding of the important role chemistry plays in their lives. This course challenges students to apply their understanding of chemistry to everyday situations. The curriculum includes topics such as Classification of Matter and the Atom, Chemical Bonding and Nomenclature, Measurements and Chemical Quantities, States of matter and Solutions, and reactions Kinetics, Thermochemistry and Chemical Equilibrium. The course will address the needs of all learners through an interesting, problem-based approach to learning about the substances that make up our world. The laboratory portion of chemistry is designed to give students hands-on experiences to reinforce concepts introduced in class. Mathematical skills required for this class include an understanding of ratios, percent and solving problems by substitution.

Physics

This course has been structured to provide students with the opportunity to explore phenomena of the world around them from the perspective of motion and energy. Students will explore topics such as motion, forces, momentum, work & energy, electricity, magnetism, and waves by participating in observational experiments, designing and testing experiments, and developing skills in data analysis and representing situations with mathematical models. Modeling and inquiry strategies will assist students in developing strong conceptual understanding, a basis for mathematical models and application of concepts. Throughout the year, students partake in engineering design projects to showcase their understanding of concepts.

Scope and Sequence, Curriculum Maps, Unit Plans and suggested activities are located at the State of NJ Department of Education Website, therefore no separate, written curriculum was created for Chemistry or Physics. Teachers, parents and administrators can access the standards here:

https://www.nj.gov/education/standards/science/Sci9-12.shtml

And the units and instructional materials here:

https://openscied.org/curriculum/high-school/high-school-instructional-materials/