



# Course Syllabus

SY 2011-12

---

**COURSE TITLE:** Science – Grade 8: Physical Science

**PREREQUISITE:** N/A

**DESCRIPTION:** In science, a special emphasis is placed on the research process in all grades. This includes making decisions about the generation and testing of ideas; prediction, measurement, data collection and representation; evaluation of sources of information; collaborative investigation; interpretation and communication of findings; evaluation and verification of findings and considerations relating to the social context of research. Physical Science students conduct scientific investigations that involve the determination of variables, repeated trials, data collection, and conclusions determining valid analyses. Students share their work using written reports and other presentations. The eighth grade curriculum stresses a deeper understanding of nature and the structure of matter and energy than in earlier grades. Major areas of study are: The Periodic Table, physical and chemical changes, nuclear reactions, temperature and heat, sound, light, electricity and magnetism, as well as work, force, and motion.

**MAIN TOPICS:**

- Investigate the basic nature of matter.
- Understand structure and investigate models of the atom.
- Understand the *Law of Conservation of Matter and Energy* and relationship to changes in matter.
- Investigate forms of energy and their transformations.
- Understand temperature scales and heat transfer.
- Understand characteristics of sound and light and their technical applications.
- Understand principles and technical applications of work, force, and motion.
- Investigate and understand basic principles of electricity.

**CREDIT INFO:** N/A