Science

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Subject Overview:

Science is the way of knowing and doing that helps students to gain a deeper understanding of the world. Scientific knowledge is a set of explanations for things in the world that are continually tested and changed in the light of current evidence. Scientists work in ways which influence the conclusions they make. People who understand how scientists work are more likely to make thoughtful and critical decisions about their lifestyle, health and environment. Working scientifically involves investigating, understanding and communicating. Physically, the department has 6 laboratories including specialised Physics, Biology, Chemistry and Research labs, with ICT facilities (wireless internet, two laptop trolleys and projector systems) and a fully equipped Aquaculture Centre which provide pathways to the local fishing industry. The dedicated Science staff members are either specialist in their own scientific fields who deliver and integrated curricula with a Literacy and Numeracy focus.

Middle School Pathway:

Science in the Middle School is based on the National Curricula Framework. Science teaches students to investigate, understand concepts and theories as well as the scientific method which is used to define, expand and improve what is currently known. The skills of communication, Inquiry Learning, use of practical equipment and working in groups are practiced. Embedded literacy skills in Science expect students to explore types of text (cause/effect, problem/solution, compare/contrast, defining and describing), learn scientific terminology, practice communication skills (effectively analyse, argue, justify and generalise) and use texts appropriate to Science such as reports, essays and multimedia presentations. Embedded ICT skills assist students to use the Internet for research and the programs Word, Excel, databases, PowerPoint and Clickview to present their assignments. The curriculum covers the four distinct areas of Biology, Geology, Physics and Chemistry with an Introduction to Aquaculture unit in Year 9.

Senior School Pathway:

Science is rewarding! Students who study Science in the Senior School begin to answer the eternal and fundamental questions of “how?, “why?” and “what happens if?” which all of us have been thinking about since before we began to talk. Science is one of the most exciting and challenging subjects in the PLHS curriculum. The following courses are offered:

Year 10: Compulsory 1 semester minimum of science. Trialling the National Curriculum in 2014.
Full Year – for students wishing to study science in Stage 1 or 2 (Chemistry, Physics, Psychology and Biology).
Topics include; Investigating Reactions, Periodic Table, Electrochemistry, Inheritance, Evolution, Road Science, Space, Our Energy Future, Introductory Psychology and Marine Science.
OR
Semester or combination of these sciences for Year 11: Aquacultural Science or Minerals/Metals/Mining

Year 11 (Stage 1): Chemistry, Physics, Psychology, Aquaculture (Semester or full year)
Biology: General, Biology: Physiology, Biology: Marine Studies, Earth Science, Nutrition (Semester subjects)

Year 12 (Stage 2): Chemistry, Physics, Biology, Psychology, Aquaculture, (Full year subjects)

Achievements in Science:

Students at PLHS are able to participate in State and National programs including Siemens Science, Questacon Smartmoves, Rio Tinto Science Competition, Science Week celebrations and competitions, Science & Engineering Challenge, Chemistry Quiz (8-12), Spirit of Science and National Youth Science Forum.
SCIENCE PATHWAYS

Year 8
Year 9
Year 10
Stage 1
Stage 2

SCIENCES A
SCIENCES B

Complete 2 semesters of Science A and B to continue to Stage 1

Chemistry
Physics
Psychology
Biology
Gen/Physio
Nutrition
Workplace Practices: Aqua
Scientific Studies Marine Science
Scientific Studies Earth Science

OR

Aquatic Science
Minerals/Metals/Mining

Scientific Studies Earth Science

Workplace Practices: Aqua

Chemistry
Physics
Psychology
Biology