

GROUP 4: SCIENCES

General Science, Biology, Chemistry and Physics

With inquiry at the core, the MYP sciences framework aims to guide students to independently and collaboratively investigate issues through research, observation and experimentation. The MYP sciences curriculum explores the connections between science and everyday life. As they investigate real examples of science applications, students discover the tensions and dependencies between science and morality, ethics, culture, economics, politics, and the environment.

Scientific inquiry fosters critical and creative thinking about research and design, as well as the identification of assumptions and alternative explanations. Students learn to appreciate and respect the ideas of others, gain good ethical-reasoning skills and further develop their sense of responsibility as members of local and global communities.

The MYP sciences group aims to encourage and enable students to:

- develop inquiring minds and curiosity about science and the natural world
- acquire knowledge, conceptual understanding and skills to solve problems and make informed decisions in scientific and other contexts
- develop skills of scientific inquiry to design and carry out scientific investigations and evaluate scientific evidence to draw conclusions
- communicate scientific ideas, arguments and practical experiences accurately in a variety of ways
- think analytically, critically and creatively to solve problems, judge arguments and make decisions in scientific and other contexts
- appreciate the benefits and limitations of science and its application in technological developments
- understand the international nature of science and the interdependence of science, technology and society, including the benefits, limitations and implications imposed by social, economic, political, environmental, cultural and ethical factors
- demonstrate attitudes and develop values of honesty and respect for themselves, others, and their shared environment

Main Objectives

A) Knowing and understanding

In order to reach the aims of sciences, students should be able to:

- explain scientific knowledge
- apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations
- analyze and evaluate information to make scientifically supported judgments

B) Inquiring and designing

In order to reach the aims of sciences, students should be able to:

- explain a problem or question to be tested by a scientific investigation
- formulate a testable hypothesis and explain it using scientific reasoning
- explain how to manipulate the variables, and explain how data will be collected
- design scientific investigations

C) Processing and evaluating

In order to reach the aims of sciences, students should be able to:

- present collected and transformed data
- interpret data and explain results using scientific reasoning
- evaluate the validity of a hypothesis based on the outcome of the scientific investigation
- evaluate the validity of the method
- explain improvements or extensions to the method

D) Reflecting on the impacts of science

In order to reach the aims of sciences, students should be able to:

- explain the ways in which science is applied and used to address a specific problem or issue
- discuss and evaluate the various implications of the use of science and its application in solving a specific problem or issue
- apply communication modes effectively
- document the work of others and sources of information used

