Sciences *(Reviewed 2023)*

IB Diploma Sciences

Biology Standard or Higher Level

Which level do I choose?
HL students are required to study the biological concepts in greater depth and complete a larger volume of work, extending the core topics studied by the SL students. Options also have Higher Level components requiring students to learn more detailed aspects.

HL students sit longer exams and are required to perform and report on more Practical work than SL students.

HL Biology students, as in any IB Diploma subject, are expected to show dedication, passion and commitment to extend themselves beyond what is expected of SL students.

As the HL course is challenging, it is recommended that students be achieving at least a B level in Year 10 Science to enable them to cope with the demands of the course.

COURSE FOCUS and OUTCOMES
This subject aims to enable learners to:

- Appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
- Acquire a body of knowledge, methods and techniques that characterise science and technology
- Apply and use a body of knowledge, methods and techniques that characterise science and technology
- Develop an ability to analyse, evaluate and synthesise scientific information
- Develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
- Develop experimental and investigative scientific skills including the use of current technologies
- Develop and apply 21st century communication skills in the study of science
- Become critically aware, as global citizens, of the ethical implications of using science and technology
- Develop an appreciation of the possibilities and limitations of science and technology
- Develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

IB DIPLOMA ASSESSMENT
Examinations - multiple choice short answer, data based questions, case study and structured essay questions
Internal Assessment (Individual investigation)

Sciences: IB Diploma

Sciences *(Reviewed 2023)*

IB Diploma Sciences

Chemistry Standard or Higher Level

Which level do I choose?
Group 4 students at standard level (SL) and higher level (HL) undertake a common core syllabus, a common internal assessment (IA) scheme and have some overlapping elements in the option studied. While the skills and activities of Group 4 science subjects are common to students at both SL and HL, students at HL are required to study some topics in greater depth, in the additional higher level material and in the common options. The distinction between SL and HL is one of breadth and depth.

As the HL course is quite challenging, it is recommended that students be achieving at least a B level in Year 10 Science to enable them to cope with the demands of the course.

COURSE FOCUS and OUTCOMES
This subject aims to enable learners to:

- Appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
- Acquire a body of knowledge, methods and techniques that characterise science and technology
- Apply and use a body of knowledge, methods and techniques that characterise science and technology
- Develop an ability to analyse, evaluate and synthesise scientific information
- Develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
- Develop experimental and investigative scientific skills including the use of current technologies
- Develop and apply 21st century communication skills in the study of science
- Become critically aware, as global citizens, of the ethical implications of using science and technology
- Develop an appreciation of the possibilities and limitations of science and technology
- Develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

IB DIPLOMA ASSESSMENT
Examinations – multiple choice, short answer and data based questions.
Internal Assessment (Individual investigation)

Sciences *(Reviewed 2023)*

IB Diploma Sciences

Physics Standard or Higher Level

Which level do I choose?

HL students are required to study the fundamental concepts of Physics in greater depth and complete a larger volume of work, extending the core topics studied by the SL students. Options also have Higher Level components requiring students to learn more detailed aspects.

HL students sit longer exams and are required to perform and report on more practical work than SL students.

HL Physics students, as in any IB Diploma subject, are expected to show dedication, passion and commitment to extend themselves beyond what is expected of SL students.

As the HL course is challenging, it is recommended that students be achieving at least a B grade in Year 10 Science and Mathematics to enable them to cope with the demands of the course.

COURSE FOCUS and OUTCOMES

This subject aims to enable learners to:

- Appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
- Acquire a body of knowledge, methods and techniques that characterise science and technology
- Apply and use a body of knowledge, methods and techniques that characterise science and technology
- Develop an ability to analyse, evaluate and synthesise scientific information
- Develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
- Develop experimental and investigative scientific skills including the use of current technologies
- Develop and apply 21st century communication skills in the study of science
- Become critically aware, as global citizens, of the ethical implications of using science and technology
- Develop an appreciation of the possibilities and limitations of science and technology
- Develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

IB DIPLOMA ASSESSMENT
Examinations – multiple choice, short answer and extended response, data analysis and short response on experimental work questions.
Internal Assessment (Individual investigation)

Sciences: IB Diploma

Mathematics *(Reviewed 2023)*

Year 10 Mathematics

The Year 10 program aims to ensure that students:

- Are confident, creative users and communicators of mathematics, able to investigate, represent and interpret situations in their personal and work lives and as active citizens
- Develop increasingly sophisticated understanding of mathematical concepts and fluency with processes, able to pose and solve problems and reason in number and algebra; measurement and geometry; statistics and probability
- Recognise connections between the areas of mathematics and other disciplines and appreciate mathematics as an accessible and enjoyable discipline to study.

These aims support the learning outcomes of the IB Mathematics programs. The aims prepare students for the IB Diploma by:

- Producing a working knowledge of mathematical concepts across varying topics in mathematics in order to solve concrete mathematical problems
- Enabling a student to choose appropriate mathematical model/s to assist in solving real life dilemma
- Using mathematics to clarify, confirm, and adjust understanding of modern society
- Extending the use of concrete knowledge of mathematical procedures in order to begin to solve abstract and unfamiliar mathematical problems.

Year 10 ASSESSMENT
Assessment will be a combination of formal exams, topic tests, and assignments that model assessment in the IB Diploma.

Mathematics *(Reviewed 2023)*

IB Diploma Mathematics

Applications and Interpretation SL

Analysis and Approaches SL & HL

Which level do I choose?

All levels of IB Mathematics are rigorous and challenging. They cover an extensive range of mathematical skills and applications at a rapid pace. In making the decision regarding which level to choose, students should consider their mathematical, especially algebraic, skill level, their organisational skills and the prerequisite of their desired university course.

Applications and Interpretation	**Analysis and Approaches**	
For students interested in social sciences, natural sciences, statistics, business, psychology, and design. This course recognises the increasing role that mathematics and technology play in a diverse range of fields in a data-rich world.	For students interested in mathematics, engineering, physical sciences, and some economics. This course recognises the need for analytical expertise in a world where innovation is increasingly dependent on a deep understanding of mathematics.	
SL	SL	HL
Students choosing this course should enjoy seeing mathematics used in real-world contexts and to solve real-world problems.	Students should be comfortable in the manipulation of algebraic expressions and enjoy the recognition of patterns and understand the mathematical generalisation of these patterns.	Students will have strong algebraic skills and the ability to understand simple proof. They will be students who enjoy spending time with problems and get pleasure and satisfaction from solving challenging problems.

COURSE FOCUS and OUTCOMES

IB DIPLOMA ASSESSMENT		
Applications and Interpretation Standard Level	**Analysis and Approaches Standard Level**	**Analysis and Approaches Higher Level**
40% Paper 1 (1 hour 30 minutes) Calculator allowed	40% Paper 1 (1 hour 30 minutes) No calculator	30% Paper 1 (2 hours) No calculator
40% Paper 2 (1 hour 30 minutes) Calculator allowed	40% Paper 2 (1 hour 30 minutes) Calculator allowed	30% Paper 2 (2 hours) Calculator allowed
		20% Paper 3 (1 hour) Calculator allowed
20% Exploration	20% Exploration	20% Exploration