



Sciences Course Outline

IB Mission Statement

The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.

Bladins International School Mission Statement

The mission of Bladins International School is to fully develop the student's intellectual, aesthetic, emotional, physical and moral potential and, as a school, serve as an example of educational excellence.

Teaching and Learning within the Middle Years Programme at Bladins

The Middle Years Programme is designed to challenge teenagers in a number of ways. As part of the Middle Years Programme the students at Bladins IS are given an awareness of the ever changing world through a challenging and demanding curriculum, fostering an appreciation and a love for learning. The curriculum at Bladins IS enables students to make connections between the subjects and the concepts taught, in context of today's world.

Together with the IB Learner Profile attributes, our students are encouraged to inquire, take action and reflect on their learning. Through a conceptual approach to teaching and learning students are taught how to view subject content through a variety of frameworks and make associations between subjects.

The programme allows students to build on their personal strengths and to embrace challenges in subjects in which they might not excel. The MYP offers students opportunities to develop their potential, to explore their own learning preferences, to take appropriate risks, and to reflect on, and develop, a strong sense of personal identity. (MYP:From Principles into Practice, 2014)

Aims of the Sciences Course at Bladins International School

The aims of the teaching and learning of MYP Sciences. are to encourage and enable students to:

- ◆ understand and appreciate science and its implications
- ◆ consider science as a human endeavour with benefits and limitations
- ◆ cultivate analytical, inquiring and flexible minds that pose questions, solve problems, construct explanations and judge arguments
- ◆ develop skills to design and perform investigations, evaluate evidence and reach conclusions
- ◆ build an awareness of the need to effectively collaborate and communicate
- ◆ apply language skills and knowledge in a variety of real-life contexts
- ◆ develop sensitivity towards the living and non-living environments
- ◆ reflect on learning experiences and make informed choices.

MYP Objectives

A: MYP 1	MYP 3	MYP 5
<i>At the end of the first year, students should be able to:</i>	<i>At the end of the third year, students should be able to:</i>	<i>At the end of the fifth year, students should be able to:</i>
outline scientific knowledge	describe scientific knowledge	explain scientific knowledge
apply scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations	apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations	apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations
interpret information to make scientifically supported judgments.	analyse information to make scientifically supported judgments.	analyse and evaluate information to make scientifically supported judgments.

B: MYP 1	MYP 3	MYP 5
<i>At the end of the first year, students should be able to:</i>	<i>At the end of the third year, students should be able to:</i>	<i>At the end of the fifth year, students should be able to:</i>
outline an appropriate problem or research question to be tested by a scientific investigation	describe a problem or question to be tested by a scientific investigation	explain a problem or question to be tested by a scientific investigation
outline a testable prediction using scientific reasoning	outline a testable hypothesis and explain it using scientific reasoning	formulate a testable hypothesis and explain it using scientific reasoning
outline how to manipulate the variables, and outline how data will be collected	describe how to manipulate the variables, and describe how data will be collected	explain how to manipulate the variables, and explain how data will be collected
design scientific investigations.	design scientific investigations.	design scientific investigations.

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C:		
MYP 1	MYP 3	MYP 5
<i>At the end of the first year, students should be able (with modifications) to:</i>	<i>At the end of the third year, students should be able (in more complex activities) to:</i>	<i>At the end of the fifth year, students should be able to:</i>
collected and transformed data	present collected and transformed data	present collected and transformed data
interpret data and outline results using scientific reasoning	interpret data and describe results using scientific reasoning	interpret data and explain results using scientific reasoning
discuss the validity of a prediction based on the outcome of the scientific investigation	discuss the validity of a hypothesis based on the outcome of the scientific investigation	evaluate the validity of a hypothesis based on the outcome of the scientific investigation
discuss the validity of the method	discuss the validity of the method	evaluate the validity of the method
describe improvements or extensions to the method.	describe improvements or extensions to the method.	explain improvements or extensions to the method.

D:		
MYP 1	MYP 3	MYP 5
<i>At the end of the first year, students should be able to:</i>	<i>At the end of the third year, students should be able to:</i>	<i>At the end of the fifth year, students should be able to:</i>
summarize the ways in which science is applied and used to address a specific problem or issue	describe the ways in which science is applied and used to address a specific problem or issue	explain the ways in which science is applied and used to address a specific problem or issue
describe and summarize the various implications of the use of science and its application in solving a specific problem or issue	discuss and analyse the various implications of the use of science and its application in solving 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 scientific language effectively	apply scientific language effectively	apply scientific language effectively
document the work of others and sources of information used.	document the work of others and sources of information used.	document the work of others and sources of information used.

Sciences topics include:

Science units and activities in MYP 1 through to MYP 5 are:

The taught and assessed curriculum in each year of Sciences throughout MYP1-5 may include:

Habitats	Elements, mixtures and compounds	Forces
Cells and organisms	The Periodic table	Energy
Ecology	Matter	Space
Genetics	Chemical Bonding	Mechanics
Reproduction	Reaction Kinetics	Radioactivity

Assessment in Science

Assessment is intended as an extension of the learning process for students, and this course gives students many different ways to demonstrate their understanding and skills. There are various assessment tools used in science. These include observations, tests, peer assessments, performance tasks, group tasks and rubrics.

In science, students are assessed on more than their physical ability to perform. A variety of skills and attitudes including leadership, sportsmanship, preparation, and participation also contributes to their achievement during the year.

In MYP 1 through MYP 5 student achievement in Science is assessed against the following four criteria:

- Knowing and Understanding:** Students develop scientific knowledge (facts, ideas, concepts, processes, laws, principles, models and theories) and apply it to solve problems and express scientifically supported judgments.
- Inquiring and Designing:** Intellectual and practical skills are developed through designing, analysing and performing scientific investigations. Although the scientific method involves a wide variety of approaches, the MYP emphasizes experimental work and scientific inquiry.
- Processing and Evaluating:** Students collect, process and interpret qualitative and/or quantitative data, and explain conclusions that have been appropriately reached. MYP sciences helps students to develop analytical thinking skills, which they can use to evaluate the method and discuss possible improvements or extensions.
- Reflecting on the impacts of science:** Students gain global understanding of science by evaluating the implications of scientific developments and their applications to a specific problem or issue. Varied scientific language will be applied in order to demonstrate understanding. Students are expected to become aware of the importance of documenting the work of others when communicating in science.

Students achieve a level from 0-8 in each criterion and these are added together to calculate the final overall achievement level in sciences using the following table.

Final achievement Level	1	2	3	4	5	6	7
Total mark/32	1-5	6-9	10-14	15-18	19-23	24-27	28-32