

WELCOME to IST's 10th Grade MYP Science class! We're excited to be teaching this particular course for several reasons: First, because of the fascinating content we'll cover this year: changes in chemistry, transformations in physics, and the biology of genetics, inheritance, and evolution.

I. Key Information

A. Teacher Emails:

1. Mr Kremer: bkremer@istafrica.com
2. Mr Loschi: sloschi@istafrica.com
3. ***Be sure to include "IST" in the subject so that your email gets through the spam filter!
4. Use only your IST Gmail account for school work. Keep your professional and social lives separate.

B. Managebac: All summative assessment tasks will be posted on Managebac, which will then generate a personalized assessment calendar for you. That means you'll be able to see what major tasks you have on the horizon, in all classes, at the same time. Your teachers will walk you through this interface within the first couple of weeks of the school year.

C. Moodle: ist-moodle.istafrica.com >> Grade 10 >> Science - Loschi/Kremer

1. This is where we will post all supporting documents and resources for the class. Teachers for all sections will do the same, so that the Moodle content represents what all sections of grade 10 science are doing.
2. Moodle will be updated regularly to keep up with the developments in Google Drive and Google Classroom, which brings us to...

D. Google Classroom and Drive: These platforms will help you organize your work in science class.

1. Use your IST Gmail to access the Drive and Google Classroom platforms.
2. Almost all science assignments are shared through these.
3. We can monitor your work to make sure you're on the right track, and you can ask questions while working when you're confused.

II. How Grade 10 Science Works

A. Units of Study

1. Approaches to Learning (ATLs)
2. The Chemistry of Change
3. Energy Transformations in Physics
4. Genetics, Inheritance, and Evolution
5. Cumulative Final Exam

B. Key Concepts in Science - these will be the foundation of all our units of study

1. Systems
2. Relationships
3. Change

C. Achievement Grades

1. 4 criteria, max 8 marks each [A, B, C, and D, outlined on the next page]
2. You will get a scoring rubric for each criterion
3. The rubric is attached to instructions for all graded work
4. Use the rubric as a checklist!

D. ATL Grades

1. Approaches to Learning are skills that allow you to 'learn how to learn' and which apply to all classes - not just science. ATL skills include collaborative skills (working with others), organizational skills, affective skills (managing state of mind), and reflective skills.
2. ATLs are a central focus at IST this year, and as such, you will receive an ATL rubric with each major assessment. You will get more details about this with each summative task.

E. Assessments per term - this is an *approximate list only* and is likely to change during the year

1. One independent lab report
2. One summative test
3. One "impacts of science" project

F. Unit Notes

1. Shared via Google Classroom at the start of the unit
2. Organize them in your Google Drive
3. Also embedded on Moodle
4. Basis for all summative tests
5. Will be updated throughout the unit by teachers

G. Science Assessment Criteria

1. Knowing and Understanding ("Knowledge" for short): describing scientific concepts, solving problems, and analyzing information
2. Inquiring and Designing ("Designing"): describe a question or problem, outline and explain a hypothesis, describe how to manipulate variables and collect data, and design a method to investigate the question
3. Processing and Evaluating ("Processing"): collect, organize, transform, present, and interpret data, discuss the validity of a hypothesis and the method used to investigate it, and describe improvements or extensions to the investigation
4. Reflecting on the Impacts of Science ("Impacts"): describe how science is used to solve a problem, discuss how science impacts at least one factor of society, correctly use scientific language, and document all sources completely.

**MYP SCIENCE
ACHIEVEMENT GRADE
BOUNDARIES**

If you earn this many marks...	...your MYP Science grade will be:
28 - 32	7
24 - 27	6
19 - 23	5
15 - 18	4
10 - 14	3
6 - 9	2
1 - 5	1

Appendix A: Assessment Rubrics

This is the rubric for all work assessed under Criterion A. Click on any hyperlink in the rubric to see an official MYP definition of the term, as well as our own 'student-friendly' definition.

Level	Criterion A: "Knowing and Understanding" General Descriptors for Grades 9-10 (MYP 4-5)
7 - 8	i. explain scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations iii. analyse and evaluate information to make scientifically supported judgments.
5 - 6	i. describe scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations iii. analyse information to make scientifically supported judgments.
3 - 4	i. outline scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar situations iii. interpret information to make scientifically supported judgments.
1 - 2	i. state scientific knowledge ii. apply scientific knowledge and understanding to suggest solutions to problems set in familiar situations iii. interpret information to make judgments.
0	The student does not reach a standard identified by any of the descriptors above.

This is the rubric for all work assessed under Criterion B. Click on any hyperlink in the rubric to see an official MYP definition of the term, as well as our own 'student-friendly' definition.

Level	Criterion B: "Inquiring and Designing" General Descriptors for Grades 9-10 (MYP 4-5)
7 - 8	i. explain a problem or question to be tested by a scientific investigation ii. formulate and explain a testable hypothesis using correct scientific reasoning iii. explain how to manipulate the [independent and dependent] variables, and explain how sufficient, relevant data will be collected iv. design a logical, complete and safe method in which he or she selects appropriate materials and equipment.
5 - 6	i. describe a problem or question to be tested by a scientific investigation ii. formulate and explain a testable hypothesis using scientific reasoning iii. describe how to manipulate the [independent and dependent] variables, and describe how sufficient, relevant data will be collected iv. design a complete and safe method in which he or she selects appropriate materials and equipment.
3 - 4	i. outline a problem or question to be tested by a scientific investigation ii. formulate a testable hypothesis using scientific reasoning iii. outline how to manipulate the [independent and dependent] variables, and outline how relevant data will be collected iv. design a safe method in which he or she selects materials and equipment.
1 - 2	i. state a problem or question to be tested by a scientific investigation ii. outline a testable hypothesis iii. outline the [independent and dependent] variables iv. design a method, with limited success.
0	The student does not reach a standard identified by any of the descriptors above.

This is the rubric for all work assessed under Criterion C. Click on any hyperlink in the rubric to see an official MYP definition of the term, as well as our own 'student-friendly' definition.

Level	Criterion C: "Processing and Evaluating" General Descriptors for Grades 9-10 (MYP 4-5)
7 - 8	i. correctly collect, organize, transform and present data in numerical and/or visual forms ii. accurately interpret data and explain results using correct scientific reasoning iii. evaluate the validity of a hypothesis based on the outcome of a scientific investigation iv. evaluate the validity of the method based on the outcome of a scientific investigation v. explain improvements or extensions to the method that would benefit the scientific investigation.
5 - 6	i. correctly collect, organize and present data in numerical and/or visual forms ii. accurately interpret data and explain results using scientific reasoning iii. discuss the validity of a hypothesis based on the outcome of a scientific investigation iv. discuss the validity of the method based on the outcome of a scientific investigation v. describe improvements or extensions to the method that would benefit the scientific investigation.
3 - 4	i. correctly collect and present data in numerical and/or visual forms ii. accurately interpret data and explain results iii. outline the validity of a hypothesis based on the outcome of a scientific investigation iv. outline the validity of the method based on the outcome of a scientific investigation v. outline improvements or extensions to the method that would benefit the scientific investigation.
1 - 2	i. collect and present data in numerical and/or visual forms ii. accurately interpret data iii. state the validity of a hypothesis based on the outcome of a scientific investigation iv. state the validity of the method based on the outcome of a scientific investigation v. state improvements or extensions to the method.
0	The student does not reach a standard identified by any of the descriptors above.

This is the rubric for all work assessed under Criterion D. Click on any hyperlink in the rubric to see an official MYP definition of the term, as well as our own 'student-friendly' definition.

Level	Criterion D: "Reflecting on the Impacts of Science" General Descriptors for Grades 9-10 (MYP 4-5)
7 - 8	i. explain the ways in which science is applied and used to address a specific problem or issue ii. discuss and evaluate the implications of using science and its application to solve a specific problem or issue, interacting with a factor (cultural, economic, environmental, ethical, moral, political, social) iii. consistently apply scientific language to communicate understanding clearly and precisely iv. document sources completely.
5 - 6	i. describe the ways in which science is applied and used to address a specific problem or issue ii. discuss the implications of using science and its application to solve a specific problem or issue, interacting with a factor (cultural, economic, environmental, ethical, moral, political, social) iii. usually apply scientific language to communicate understanding clearly and precisely iv. usually document sources correctly.
3 - 4	i. summarize the ways in which science is applied and used to address a specific problem or issue ii. describe the implications of using science and its application to solve a specific problem or issue, interacting with a factor (cultural, economic, environmental, ethical, moral, political, social) iii. sometimes apply understanding scientific language to communicate iv. sometimes document sources correctly.
1 - 2	i. outline the ways in which science is used to address a specific problem or issue ii. outline the implications of using science to solve a specific problem or issue, interacting with a factor (cultural, economic, environmental, ethical, moral, political, social) iii. apply scientific language to communicate understanding but does so with limited success iv. document sources, with limited success.
0	The student does not reach a standard identified by any of the descriptors above.