MYP2-GRADE 7TH - Integrated Science

	Unit	TIME Weeks/ lessons/hours 160 - Class hours 20- Hours formal assessment	Key Concept	Related concept	Global Context	Statement of Inquiry	Assessment Criteria	Objectives	ATL SKILS Communicative skills Reserch Skills Thiking skills Social Skills Self-Management skills	Content	Textbook page reference additional resources
1	Forensic Science	20	Relationships	Evidence and Patterns	Scientific and Technical Innovation	Scientists apply ttheir knowledge and use techology to uncover evidence, identify patterns and construct arguments,enabling them to solve crimes and make new discoveries.	B: Scientific Inquiry C: Processing Data	**Criterion B: Scientific Inquiry** 1. describe a problem or question to be tested by a scientific investigation 2. outline a testable hypothesis and explain it using scientific reasoning 3. describe how to manipulate the variables, and describe how data will be collected 4. design scientific investigations. **Criterion C: Processing Data** 1. present collected and transformed data ii. interpret data and describe results using scientific reasoning 2. discuss the validity of the method 3. describe improvements or extensions to the method.	Communicative skills Research Skills Thiking skills	1. Observational evidence: Qualitative and quantitative observations. 2.Analysing the evidence:fingerprints, hair, footprints, soil, inks and dyes, blood, DNA. 3. Making Inferences: Problem Solving	Pag 2-20
2	Space: What's out there?	20	Systems	Models, scale, Development	Orienttion in time and space	The development of our understanding of the unviverse as a system is a fascinating story that has influenced soiety an continues to do so.	A: Knowing and understanding D: Reflecting on Science	**Criterio A: Knowing and Understanding** 1. describe scientific knowledge. 2. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations 3. analyse information to make scientifically supported judgments. **Criterion D: Reflecting on the impact of Science** 1. describe the ways in which science is applied and used to address a specific problem or issue	Communicative skills Research Skills Thiking skills Social Skills Self-Management skills	1. The universe as a system: Models 2. Gravity: Mass and weight 3. Light years 4. Our solar system	Pag. 140-160 Solat System Pocket: https://www.nisenet.org/catalog/exploring-solar-system-pocket-solar-system Distances in the solar System: https://sciencing.com/distances-planets-sun-light-years-8774149.html
3	Introducing Cells	20	Systems	Balance. Form and Function	Scientific and Technical Innovation	Recent research into the form and function of cells in biological systems is leading to excitig, though soemtimes controversial, developments in medicine.	A: Knowing and Understanding C: Reflecting on Science	**Criterio A: Knowing and Understanding** 1. describe scientific knowledge. 2. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations 3. analyse information to make scientifically supported judgments. **Criterion D: Reflecting on the ipact of Science** 1. describe the ways in which science is applied and used to address a specific problem or issue 2. discuss and analyse the various implications of using science and its application in solving a specific problem or issue 3. apply scientific language effectively 4. document the work of others and sources of information used.	Reserch Skills Thiking skills Self-Management skills	1.Cells and The microscope 2. The cell is a system: Animal and plant cells Organelles 3. Cellular specialization 4. The cell membrane 5. Putting cells to work	Pag 22-42
4	Healthy Body Systems	20	Systems	Consequences, Form and Function	Identities and relationships	Our health is dependent on the healthy funcioning of our body systems and this affected by our lifestyles.	A: Knowing and Understanding C: Processing Data D: Reflecting on Science	**Criterio A: Knowing and Understanding** 1. describe scientific knowledge. 2. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations 3. analyse information to make scientifically supported judgments. **Criterion C: Processing Data** 1. present collected and transformed data ii. interpret data and describe results using scientific reasoning **Criterion D: Reflecting on the ipact of Science** 1. describe the ways in which science is applied and used to address a specific problem or issue 2. discuss and analyse the various implications of using science and its application in solving a specific problem or issue 3. apply scientific language effectively 4. document the work of others and sources of information used.	Thiking skills Social Skills Self-Management skills	1. Life organizatio levels 2. The digetive system:: Organs, physical and chemical digestion. 3. The circulatory system: Function and structure (hert and blood vessels). 4. Sytems working together:	Pag. 44-62
5	Making sense of elements and compounds	20	Development	Models, Form and patterns	Orientation in time and space	Scientific discoveries over time have allowed the development of our current theories about and models of the form of matter.	A: Knowing and undrs B:Scientific Inquiry C: Processing Data D: Reflecting on Scie	**Criterio A: Knowing and Understanding** 1. describe scientific knowledge. 2. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations **Criterion B: Scientific Inquiry** 1. describe a problem or question to be tested by a scientific investigation 2. outline a testable hypothesis and explain it using scientific reasoning 3. describe how to manipulate the variables, and describe how data will be collected 4. design scientific investigations. **Criterion C: Processing Data** 1. present collected and transformed data ii. interpret data and describe results using scientific reasoning 2. discuss the validity of a hypothesis based on the outcome of the scientific investigation 3. discuss the validity of the method 4. describe improvements or extensions to the method. **Criterion D: Reflecting on the ipact of Science** 1. apply scientific language effectively 2. document the work of others and sources of information used.	Communicative skills Research Skills Thiking skills Self-Management skills	1. History of the atomic Theory 2. Atoms: atomic number and atomic mass 3. The periodic table 4. Molecules 5. Elements and Compounds	Pag. 64-82
6	Mixing and separating	20	Change	Form, transfer and disparity and equity	Fairness and development	The separation of mixtures based on the form of the individual components ca be applied to the process of making water safe to drink				1. Mixtures 2. Solubility 3. Suspensions and colloids 4. Separating a suspension: Filtration, decanting and centrifuging 5. Separating a colloid: Flocculation 6. Separatinga solution: Evaporation, distillation, desalination 7. Separating immiscible liquids 8. Cleaning water	Pag. 84-102
7	Useful Energy	20	Systems	Energy, movement and transformation	Globalization and sustainability	Careful consideration of energy movement and transformations allows us to conserve energy in our homes.	A: Knowing and understanding D: Reflecting on Science	**Criterio A: Knowing and Understanding** 1. describe scientific knowledge. 2. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations 3. analyse information to make scientifically supported judgments. **Criterion D: Reflecting on the impact of Science** 1. describe the ways in which science is applied and used to address a specific problem or issue	Communicative skills Research Skills Thiking skills Social Skills Self-Management skills	1. Forms of energy 2. Energy transformation and conservation 3. Enery transfer: Radiation, Conduction and convection. 4. Energy Resources: Renewable and Non-renewable 5. Measuring energy 6. Household energy	Pag. 104-120
8	Floating, Sinking and propulsion	20	Relationships	Model, form, function, creativity	Scientific and technical innovation	The design and use of sailing vessels depends on knowledge of form and function and is helped by the use of models.	A: Knowing and undrstanding B:Scientific Inquiry C: Processing Data	**Criterio A: Knowing and Understanding** 1. describe scientific knowledge. 2. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations **Criterion B: Scientific Inquiry** 1. describe a problem or question to be tested by a scientific investigation 2. outline a testable hypothesis and explain it using scientific reasoning 3. describe how to manipulate the variables, and describe how data will be collected 4. design scientific investigations. **Criterion C: Processing Data** 1. present collected and transformed data ii. interpret data and describe results using scientific reasoning 2. discuss the validity of a hypothesis based on the outcome of the scientific investigation 3. discuss the validity of the method 4. describe improvements or extensions to the method. **Criterion D: Reflecting on the ipact of Science** 1. apply scientific language effectively 2. document the work of others and sources of information used.		1. Buoyancy 2. Density 3. The Science of boats: Boats and ships	