

Sciences - Subject Group Overview

Unit Name	Key Concepts	Related Concepts	Global Context	Statement of Inquiry	Content	MYP Objectives	Approaches to Learning
Scientific Method	Systems	Invention Evidence	Scientific and technical innovation	Systems are understood based by observing with evidence in a process aimed at creating a solution	Plan and carry out scientific investigations of various types Explain why scientific investigations should be replicated Describe the steps of scientific investigations Design, construct and evaluate a model, make models abstract and explainations Draw graphs and use them to make conclusions Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world Give several examples of scientific laws Identify the role of models	<p>Year 1 Objectives</p> <ul style="list-style-type: none"> <li>Objective A: Knowing and understanding                     <ul style="list-style-type: none"> <li>1.1. justify scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations</li> <li>1.2. use scientific knowledge and understanding to make scientifically supported judgments</li> </ul> </li> <li>Objective B: Inquiring and designing                     <ul style="list-style-type: none"> <li>1.1. justify an appropriate problem or research question to be tested by a scientific investigation</li> <li>1.2. justify a suitable prediction using scientific reasoning</li> <li>1.3. justify how to collect data and outline results using scientific reasoning</li> <li>1.4. discuss the validity of a prediction based on the outcome of the scientific investigation</li> <li>1.5. discuss the validity of the method used to collect data</li> <li>1.6. discuss the validity of the method used to collect data</li> <li>1.7. discuss the validity of the method used to collect data</li> </ul> </li> <li>Objective C: Processing and evaluating                     <ul style="list-style-type: none"> <li>1.1. present collected and transformed data</li> <li>1.2. present data and outline results using scientific reasoning</li> <li>1.3. discuss the validity of a prediction based on the outcome of the scientific investigation</li> <li>1.4. discuss the validity of the method used to collect data</li> <li>1.5. discuss the validity of the method used to collect data</li> <li>1.6. discuss the validity of the method used to collect data</li> </ul> </li> <li>Objective D: Reflecting on the impact of science                     <ul style="list-style-type: none"> <li>1.1. describe and summarize the various implications of the use of science and its application in solving a specific problem or issue</li> <li>1.2. apply scientific language effectively</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Reflection skills</li> <li>Information theory skills</li> <li>Communication skills</li> <li>Decision-making skills</li> <li>Transfer skills</li> </ul>
Environmental Science	Systems	Systems Environment Evidence	Orientation in space and time	Systems and patterns are visible through environmental indicators and resources	Describe and give examples of chemical weathering erosion and deposition Investigate and explain how the cooling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate Describe how global patterns influence local weather Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere and biosphere Differentiate between weather and climate Investigate how natural disasters have affected life in Florida Describe how human practices influence the hydrosphere and atmosphere Describe how the composition and structure of the atmosphere protects life and insulates the planet Differentiate among various sustainable and non-sustainable practices	<p>Year 1 Objectives</p> <ul style="list-style-type: none"> <li>Objective A: Knowing and understanding                     <ul style="list-style-type: none"> <li>1.1. present collected and transformed data</li> <li>1.2. present data and outline results using scientific reasoning</li> <li>1.3. discuss the validity of a prediction based on the outcome of the scientific investigation</li> <li>1.4. discuss the validity of the method used to collect data</li> <li>1.5. discuss the validity of the method used to collect data</li> </ul> </li> <li>Objective B: Inquiring and designing                     <ul style="list-style-type: none"> <li>1.1. justify an appropriate problem or research question to be tested by a scientific investigation</li> <li>1.2. justify a suitable prediction using scientific reasoning</li> <li>1.3. justify how to collect data and outline results using scientific reasoning</li> <li>1.4. discuss the validity of a prediction based on the outcome of the scientific investigation</li> <li>1.5. discuss the validity of the method used to collect data</li> <li>1.6. discuss the validity of the method used to collect data</li> </ul> </li> <li>Objective C: Processing and evaluating                     <ul style="list-style-type: none"> <li>1.1. present collected and transformed data</li> <li>1.2. present data and outline results using scientific reasoning</li> <li>1.3. discuss the validity of a prediction based on the outcome of the scientific investigation</li> <li>1.4. discuss the validity of the method used to collect data</li> <li>1.5. discuss the validity of the method used to collect data</li> </ul> </li> <li>Objective D: Reflecting on the impact of science                     <ul style="list-style-type: none"> <li>1.1. describe and summarize the various implications of the use of science and its application in solving a specific problem or issue</li> <li>1.2. apply scientific language effectively</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Critical-thinking skills</li> <li>Decision-making skills</li> <li>Information theory skills</li> <li>Transfer skills</li> </ul>
Life Science	Systems	Function Models Interaction	Scientific and technical innovation	Processes and activities are understood based by observations Patterns emerge from the interactions between models and functions within systems	Describe and identify systems in the hierarchical organization of organisms Explain components of the cell cycle Recognize and explain how cells regulate responses using genetic processes to maintain homeostasis Compare and contrast the structure and function of major organelles of plant and animal cells Identify and investigate the general functions of the major systems of the human body and describe how these systems interact with each other Compare and contrast the functions of infectious agents that may infect the human body Recognize and explain how and why organisms are classified according to shared characteristics	<p>Year 1 Objectives</p> <ul style="list-style-type: none"> <li>Objective A: Knowing and understanding                     <ul style="list-style-type: none"> <li>1.1. justify scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations</li> <li>1.2. use scientific knowledge and understanding to make scientifically supported judgments</li> </ul> </li> <li>Objective B: Inquiring and designing                     <ul style="list-style-type: none"> <li>1.1. justify an appropriate problem or research question to be tested by a scientific investigation</li> <li>1.2. justify a suitable prediction using scientific reasoning</li> <li>1.3. justify how to collect data and outline results using scientific reasoning</li> <li>1.4. discuss the validity of a prediction based on the outcome of the scientific investigation</li> <li>1.5. discuss the validity of the method used to collect data</li> <li>1.6. discuss the validity of the method used to collect data</li> </ul> </li> <li>Objective C: Processing and evaluating                     <ul style="list-style-type: none"> <li>1.1. present collected and transformed data</li> <li>1.2. present data and outline results using scientific reasoning</li> <li>1.3. discuss the validity of a prediction based on the outcome of the scientific investigation</li> <li>1.4. discuss the validity of the method used to collect data</li> <li>1.5. discuss the validity of the method used to collect data</li> </ul> </li> <li>Objective D: Reflecting on the impact of science                     <ul style="list-style-type: none"> <li>1.1. describe and summarize the various implications of the use of science and its application in solving a specific problem or issue</li> <li>1.2. apply scientific language effectively</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Communication skills</li> <li>Decision-making skills</li> <li>Information theory skills</li> <li>Transfer skills</li> </ul>
Physical Science	Relationships	Energy Science	Scientific and technical innovation	Regularly can create the relationships that have been between energy and balance	Explore the Law of Conservation of Energy Differentiate between potential and kinetic energy Measure and graph distance versus time Explore the Law of Gravity Investigate and describe Differentiate among induction, conduction, and convection	<p>Year 1 Objectives</p> <ul style="list-style-type: none"> <li>Objective A: Knowing and understanding                     <ul style="list-style-type: none"> <li>1.1. justify scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations</li> <li>1.2. use scientific knowledge and understanding to make scientifically supported judgments</li> </ul> </li> <li>Objective B: Inquiring and designing                     <ul style="list-style-type: none"> <li>1.1. justify an appropriate problem or research question to be tested by a scientific investigation</li> <li>1.2. justify a suitable prediction using scientific reasoning</li> <li>1.3. justify how to collect data and outline results using scientific reasoning</li> <li>1.4. discuss the validity of a prediction based on the outcome of the scientific investigation</li> <li>1.5. discuss the validity of the method used to collect data</li> <li>1.6. discuss the validity of the method used to collect data</li> </ul> </li> <li>Objective C: Processing and evaluating                     <ul style="list-style-type: none"> <li>1.1. present collected and transformed data</li> <li>1.2. present data and outline results using scientific reasoning</li> <li>1.3. discuss the validity of a prediction based on the outcome of the scientific investigation</li> <li>1.4. discuss the validity of the method used to collect data</li> <li>1.5. discuss the validity of the method used to collect data</li> </ul> </li> <li>Objective D: Reflecting on the impact of science                     <ul style="list-style-type: none"> <li>1.1. describe and summarize the various implications of the use of science and its application in solving a specific problem or issue</li> <li>1.2. apply scientific language effectively</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Collaboration skills</li> <li>Decision-making skills</li> <li>Information theory skills</li> <li>Critical-thinking skills</li> <li>Decision-making skills</li> <li>Transfer skills</li> </ul>