

SCIENCES (PHYSICS) MYP TERM 2 YEAR 8

TOPICS	OBJECTIVES	AREAS OF INTERACTION	ASSESSMENT CRITERIA
<p>Topic: Space travel</p> <p>Unit: light</p> <p>Unit Question How do we a plan a space Trip?</p> <p>Content/Key questions:</p> <ul style="list-style-type: none"> ✓ how could we use the energy of light in a spaceship? ✓ Could we use this energy to produce oxygen for breathing? ✓ How does light travel? ✓ What are the effects of different materials on light? ✓ What happens during reflection of light? ✓ What happens to light, when passing between different media? ✓ How best to produce colours from white light? ✓ What is the effect of adding coloured filters? ✓ How could this be useful? ✓ What is the meaning of reflection? ✓ What is the meaning of refraction? ✓ What is the meaning of opaque? ✓ What is the meaning of transparent? ✓ What is the meaning of translucent? ✓ On smooth surfaces what is the angle of incidence equal to : ✓ How could we make a pin hole camera? ✓ How could we bend light? ✓ What are the colours of the visible spectrum? 	<p>A) One world Students should be able to: make comments on the ways in which they applied science to solve the problem set as a project. Give examples of science and scientific applications and describe how these could affect people, societies and the environment. give examples of ways in which science has played a part in the development of technology, and ways in which technology has played a part in the development of science. understand that science is part of the world they live in by giving examples and commenting on ways in which science affects life, society and the world</p> <p>B) Communication in science Students should be able to: Demonstrate an understanding of basic scientific language by using appropriate scientific terminology, units of measurement and symbolic representation provide scientific information using a model .recognise the need for honesty when making models and acknowledging any help received.</p> <p>C) Knowledge and understanding Students should be able to: recognise and recall scientific information relevant to the units of work covered explain and apply simple scientific information to solve the problem set as a project. For the project set in space identify basic scientific components, relationships and patterns, both in experimental data and ideas. Identify basic scientific components found in information from different sources (internet. newspaper articles, television. scientific texts and publications) and be able to give an opinion justified by their knowledge and understanding of sciences.</p> <p>D) Scientific inquiry Students should be able to: recognise, with guidance, the problem tested by making a model. Ask questions of the type: what will happen if? why does this happen when? and become familiar with making predictions and providing simple reasoning (If 1 do this, then this will happen).</p> <p>E) Processing data collect and record data using the appropriate units and guidelines. Present data in a variety of ways using the correct modes of communication. Interpret data by identifying trends, patterns and relationships.</p> <p>F) Attitudes in science Carry out scientific investigations with guidance, using materials and techniques safely and skilfully. Work as a member of a team. Show respect for themselves and others. Deal responsibly with the living and non-living environment.</p>	<p>Approaches To Learning Students will use concepts taught /researched to utilize in making of model.</p> <p>Human Ingenuity Student has to design model, incorporating properties of light.</p>	<p>MYP Languages Assessment Criteria A)One world /6 B)Communication in science /6 C)Knowledge and D)Understanding /6 E)Scientific Inquiry /6 F)Processing Data /6 G)Attitudes in Science /6</p> <p>Each is worth 6 marks (total 36)</p> <p>The following criteria will be assessed in this unit:</p> <p>A B project for MYP assessment on how to use light energy in a spaceship.</p>

SCIENCES (CHEMISTRY) MYP TERM 2 YEAR 8

TOPICS	OBJECTIVES	AREAS OF INTERACTION	ASSESSMENT CRITERIA
<p>Topic: Space travel</p> <p>Unit: Compounds and mixtures</p> <p>Unit Question How do we plan a space t</p> <p>Content/Key questions:</p> <ul style="list-style-type: none"> ✓ What gases are present in air? ✓ What are the percentage compositions of these gases? ✓ How can we separate the useful gases from the air, particularly oxygen? ✓ What is the boiling point of oxygen? ✓ What is the boiling point of nitrogen? ✓ How could we boil something in a freezer? ✓ How could we purify/separate useful materials from waste materials in a spaceship? ✓ How could we obtain oxygen from water in a spaceship? ✓ How are elements and compounds different? ✓ What is the difference between an atom and a molecule? ✓ What happens during a chemical change? ✓ How are mixtures, elements and compounds different? 	<p>A)One world Students to know that the wide variety of compounds are made from only about 100 elements. Know some applications of selected compounds. How the knowledge of chemical changes has enriched man's source of materials for a wide variety of uses.</p> <p>B) Communication in Science Understand the basic concepts regarding elements, compounds and mixtures. Show with visual models the different elements that form compounds. Explain combining of elements and separation of compounds.</p> <p>C) Knowledge and Understanding Be able to answer the key questions. Recognise and recall scientific information relevant to the work covered. Identify basic scientific components, relationships and patterns, both in experimental data and ideas. Identify basic scientific components found in information from different sources (Internet, newspaper articles, television, scientific texts and publications) and be able to give an opinion justified by their knowledge and understanding of sciences.</p> <p>D)Scientific investigation Recognise, with guidance, the problem or research question to be tested by a scientific investigation. Ask questions of the type: What will happen if? Why does this happen when? and become familiar with making predictions and providing simple reasoning .Identify some of the materials/equipment needed, describe a simple method comment on the method and the quality of the results, with guidance suggest improvements to the method , with guidance.</p> <p>E)Processing Data Students should be able to... Produce visual representations (tables and graphs/charts), with guidance, present data in a variety of ways using appropriate communication modes (oral, written and visual representation, and use of technologies)Interpret data by identifying trends, patterns and relationships. with guidance draw appropriate conclusions based on the data.</p> <p>F) Attitudes in Science Students should: Carry out scientific investigations, with guidance, using materials and techniques safely and skilfully, work effectively as members of a team, by being guided into collaborating, acknowledging and supporting others as well as ensuring a safe working environment. Show respect for themselves and others, and deal responsibly with the living and non-living environment.</p>	<p>Approaches to Learning: Distinguish between elements, compounds and mixtures. Recognize products formed and reactants used in a chemical change.</p> <p>Human Ingenuity Devising methods and chemical materials to use in space for maximum benefit.</p>	<p>MYP Languages Assessment Criteria A)One world /6 B)Communication in science /6 C)Knowledge and D)Understanding /6 E)Scientific Inquiry /6 F)Processing Data /6 G)Attitudes in Science /6</p> <p>Each is worth 6 marks (total 36)</p> <p>The following criteria will be assessed in this unit:</p> <p>D E F A practical test: reactions of compounds</p>

SCIENCES (BIOLOGY) MYP TERM 2 YEAR 8

TOPICS	OBJECTIVES	AREAS OF INTERACTION	ASSESSMENT CRITERIA
<p>Unit: Space travel</p> <p>Unit Question How to sustain an air supply in space?</p> <p>Content/Key questions:</p> <p>What are some of the effects of too little oxygen?</p> <p>How are the reactants and products of respiration exchanged between cells and tissue fluid?</p> <p>How to the lungs perform gas exchange? What is the difference between inhaled and exhaled air?</p> <p>What is respiration?</p> <p>E) Processing data collect and record data using appropriate units of measurement, with guidance organize and transform data into simple diagrammatic forms, and visual representations (tables, graphs and charts), with guidance with guidance, present data in a variety of ways using appropriate communication modes (oral, written and visual representation, and use of technologies) and conventions (units of measurement) interpret data by identifying trends, patterns and relationships. with guidance draw appropriate conclusions based on the data, with guidance.</p>	<p>A) One world Study of respiration has led to understanding of activities such as sport and athlete's ability to perform give examples of ways in which science has played a part in the development of technology, and ways in which technology has played a part in the development of science understand that science is part of the world they live in by giving examples and commenting on ways in which science affects life, society and the world.</p> <p>B) Communication in science Students should be able to: Show understanding of aerobic and anaerobic respiration. Apply terminology to explaining respiration and gas exchanges in the lungs provide scientific information using appropriate modes of communication: oral, written, visual representation (diagrams) with guidance present scientific information in appropriate formats (such as, laboratory reports, experimental accounts, explanations, essays. expositions. audio-visual presentations) with guidance.</p> <p>C) Knowledge and understanding of science. Students should be able to: recognize and recall scientific information relevant to respiration. explain and apply simple scientific information to solve problems of obtaining a supply of air in space identify basic scientific components found in information from different sources (Internet. newspaper articles, television. scientific texts and publications) and be able to give an opinion justified by their knowledge and understanding of sciences.</p> <p>D) Scientific inquiry Identify, with guidance, the factors affecting carbon dioxide produced by plants. Determine the dependent variable and independent variable and those that must remain constant (control variables),. identify some of the materials/equipment needed, describe a simple method comment on the method and the quality of the results, with guidance suggest improvements to the method, with guidance.</p> <p>F) Attitudes in Science •Carry out scientific investigations, with guidance, using materials and techniques safely and skillfully •Work effectively as members of a team, by being guided into collaborating, acknowledging and supporting others as well as ensuring a safe working environment •Show respect for themselves and others, and deal responsibly with the living and non-living environment.</p>	<p>Approaches to Learning: Reading and understanding processes of respiration, gas exchange in the lungs and breathing. Using diagrams to show gas exchange.</p> <p>Environments: How to establish an environment in space that will ensure supply of air.</p> <p>Human Ingenuity: Linked to above issue, of establishing a system that will ensure a supply of air.</p>	<p>MYP Languages Assessment Criteria A)One world /6 B)Communication in science /6 C)Knowledge and D)Understanding /6 E)Scientific Inquiry /6 F)Processing Data /6 G)Attitudes in Science /6</p> <p>Each is worth 6 marks (total 36)</p> <p>The following criteria will be assessed in this unit:</p> <p>Criterion C: Knowledge and Understanding of Science</p> <p>Formal Assessments: A unit test will be given respiration.</p>