

## IB PYP Curriculum Map: Grade 2 How the World Works

<b>Transdisciplinary Theme</b>	How The World Works	<b>Central Idea</b>	Machines serve a purpose and meet needs in innovative ways.	<b>Subject Integration</b>	ICT Science	<b>Dates</b>	29th January-16th March
<b>Learner Profile Attributes &amp; Attitudes</b>	Inquirers Risk Takers Reflective	<b>Targeted Approaches to Learning</b>	Thinking skills: research, acquisition of knowledge, synthesis, evaluation. Social Skills: Co-operating Research skills: planning, observing.	<b>Lines of Inquiry &amp; Concepts</b>	<ul style="list-style-type: none"> <li>Forces (causation)</li> <li>Simple and Complex Machines (function)</li> <li>Evolution and impact of machines (connection).</li> </ul> Concepts: Causation, function, connection.		
<b>Summative Assessment</b>	Goal: Invent a machine that makes an object move. Product/performance: Students will design and create a compound machine from different materials. Students will hypothesize, plan, build, test and reflect on the function of their created machine.  Success indicators: The children will present these to their peers, demonstrating how an object moves. Can the children discuss the force that it is using? Can the children reflect on improvement points, do they have a purpose for their machine?			<b>Key Questions</b>	<ul style="list-style-type: none"> <li>How do forces and energy work?</li> <li>What are simple machines?</li> <li>How are different simple machines used?</li> <li>What is a compound machine?</li> <li>How do inventions impact our lives?</li> </ul>		
<b>Unit of Inquiry Integrated and Stand-Alone Learning Outcomes</b>							
<b>Literacy</b>	Students will write a summary of the main idea identified in information texts that they read. They will use the framework of the scientific method including hypothesizing, concluding and reflecting during writing activities. Students will write explanation texts about how their simple and compound machine models work. They will continue to develop writing a recount text type about personal experiences using simple similes and metaphors to describe experiences. They will continue to develop their writing editing (title, paragraphing, punctuation) skills for information, explanation and recount text types. The children will use several pre-writing strategies with guidance e.g. mind maps, brainstorm, graphic organizers. Students will use 3+ provided success criteria for effective writing. They will publish their work in handwritten format independently. Understanding that explanatory writing includes: a title, labelled diagrams, arrows or boxes help the reader understand what happens and why, connectives are used e.g. because, so. During reading sessions, students will continue to develop reading comprehension strategies by questioning, inferring, visualising and summarising. They will analyse the structural features of explanation and narrative texts. Students will identify important details or facts in fiction and non-fiction texts to support an idea. Further to this, they will gather information using the table of contents, captions, glossaries and indexes with guidance and use reference tools.						
<b>Mathematics</b>	Students will select and apply mental and written strategies for addition and subtraction of whole numbers up to 4 digits. They will use fast recall of addition and subtraction number facts to 20 and use estimation strategies to evaluate the reasonableness of answers. Students will determine the inverse relationship between addition and subtraction and the associative and commutative properties. They will estimate, measure and compare lengths using non-standard and standard units (metres and centimetres) In addition, students will estimate, measure, compare and record masses using both standard and non-standard units of measurement.						
<b>Technology and Media Literacy integration</b>	Students will apply the principles of making, tinkering and engineering to designing, building and improving simple and complex machines using a wide range of materials and tools. They will explore forces and the action/reaction principle through a Rube Goldberg machine case study. They will be presented with problem solving and thinking skills challenges both off and online.						
<b>Arabic</b>	Arabic A, My new world, spaceship, satellite, Masdar city and a story about Magid the astronaut. Arabic B, House equipments, some verbs and adjectives related to the equipments.						
<b>Music</b>	Students will be beginning the Music Signs and Symbols unit (How We Organize Ourselves). The Central Idea is that through the Arts, people use signs and symbols to communicate their ideas. The students will be speaking, singing, creating, and performing written rhythms using quarter, eighth, and half notes and quarter rests.						

<b>PE</b>	Students will participate in Basketball. They will develop their understanding of how to play invasion games, learn movement skills and how to move their bodies efficiently especially for passing, catching, dribbling and shooting. (skills of basketball). They will learn the rules, learn to comply with the rules and understand why this is important (how we organise ourselves).
<b>Visual Arts</b>	Students will explore recycled art, reflecting on how they can use art to show their responsibility towards creating a sustainable future. They will investigate what materials can be used to create their own recycled robot and then construct a unique robot with a focus on form and balance.
<b>Incursions &amp; Excursions</b>	The children will visit the science museum looking at different machines and completing different science experiments.