

Design – Year 5 (Computer Science Principles)

Unit title	Key concept	Related concept(s)	Global context	Statement of inquiry	MYP subject specific objective(s)	ATL skills	Content (topics, knowledge, skills)
The Internet	Communication	Resources	<p>Scientific and Innovation</p> <p>-digital life, virtual environments and the information age</p>	<p>Knowledge of the internet is understanding how communication and resources are used to create a digital life through virtual environments.</p>	<p>Inquiring and analyzing (A)</p> <p>Evaluating (D)</p>	<p>Research – Media literacy skills</p> <p>Locate, organize, analyze, evaluate, synthesize and ethically use information from a variety of sources and media (A)</p> <p>Compare, contrast and draw connections among (multi) media resources.</p>	<p>Ch. 1: Representing and Transmitting Information</p> <p>Personal Innovations Sending Binary Messages Sending Messages with the Internet Simulator</p> <p>Number Systems Binary Numbers Sending Numbers Sending Text Unit 1, Chapter 1 Assessment</p> <p>Ch. 2: Inventing the Internet</p> <p>The Internet is for Everyone The Need for Addressing Routers and Redundancy</p> <p>Packets and Making a Reliable Internet The Need for DNS HTTP and Abstraction</p> <p>Practice PT - The Internet and Society Unit 1, Chapter 2 Assessment</p>
Digital Information	Communication	Resources	<p>Scientific and Innovation</p> <p>-digital life, virtual environments</p>	<p>The innovation of digital information has evolved using the combination of communication and resources to</p>	<p>Inquiring and analyzing (A)</p>	<p>Research – Media literacy skills</p> <p>Locate, organize, analyze, evaluate, synthesize and</p>	<p>Bytes and File Sizes Text Compression Encoding B&W Images</p> <p>Encoding Color Images</p>

			and the information age	support virtual environments.		ethically use information from a variety of sources and media (A) Compare, contrast and draw connections among (multi) media resources.	Lossy Compression and File Formats Rapid Research - Format Showdown Unit 2, Chapter 1 Assessment
Introduction to Programming	Development	Perspective	Scientific and Innovation -systems, models, methods; products, processes and solutions.	Programming is the art of applying systems, models, and methods of scientific linguistics to develop solutions from different perspectives.	Creating the solution (C) Developing Ideas (B)	Thinking – Creative thinking skills Using brainstorming and visual diagrams to generate new ideas and inquires. Apply existing knowledge to generate new ideas, products or processes.	The Need for Programming Languages The Need for Algorithms Creativity in Algorithms Using Simple Commands Creating Functions Functions and Top-Down Design APIs and Function Parameters Creating Functions with Parameters Looping and Random Numbers Practice PT - Design a Digital Scene Unit 3, Chapter 1 Assessment
Big Data and Privacy	Communities	Evaluation	Scientific and Innovation -digital life, virtual environments and the information age	The innovation of the internet has created the need to evaluate virtual environments and create solutions to protect communities' digital life.	Inquiring and analyzing (A) Developing Ideas (B)	Thinking – Critical thinking skills Practice observing carefully in order to recognize problems. Consider ideas from multiple perspectives.	What is Big Data? Finding Trends with Visualizations Check Your Assumptions Rapid Research - Data Innovations Identifying People with Data The Cost of Free Simple Encryption Encryption with Keys and Passwords

						Propose and evaluate a variety of solutions	Public Key Crypto Rapid Research - Cybercrime Unit 4, Chapter 1 Assessment (optional) Data Questions
Building Apps	Systems	Evaluation	Scientific and Innovation -systems, models, methods; products, processes and solutions.	Computer programming allows for the innovation of event-driven systems which include creative models and methods used to evaluate a variety of virtual environments.	Creating the solution (C) Evaluating (D)	Thinking – Creative thinking skills Using brainstorming and visual diagrams to generate new ideas and inquires. Apply existing knowledge to generate new ideas, products or processes.	Ch. 1: Event-Driven Programming Buttons and Events Multi-screen Apps Building an App - Multi-Screen App Controlling Memory with Variables Building an App - Clicker Game Unit 5, Assessment 1 User Input and Strings If-Statements Unplugged Boolean Expressions and if-Statements "if-else-if" and Conditional Logic Building an App - Color Sleuth Unit 5, Assessment 2 Ch. 2: Programming with Data Structures While Loops Loops and Simulations Introduction to Arrays Building an App - Image Scroller

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Subject group overviews **must** be complete even if not all units are complete. This is the window into your classrooms that the evaluators need so that they have a view of the entire year of learning and MYP connections. If your subject does not have all units complete, please see Ms. Forman to work on the Subject Group Overview and make sure that all requirements are met prior to the February consultant visit.