Computing Curriculum Guide

January 2017

Dear Parents and Guardians,

INTO LEARNING!

KS3: Grade 6, 7 and 8 are attending a double lesson every week. In each lesson, students are learning theory topics along with practical skills.

KS4: All Grade 9 students are doing ICT as a double lesson each week. Student who have selected Computing as an optional subject are attending an additional 5 lessons a week to cover the Computing course.

The Core Topics This Term:

Grade 6: Students will learn about writing stepwise instruction to solve daily life problems in form of algorithm. They will also learn to represent algorithm in form of flowchart.

Grade 7: Students will stretch their problem solving skills by planning and programming different Mathematical problems.

Grade 8: Students will focus on Web Authoring, and will be working on Content Layer.

Grade 9: In ICT lessons Grade 9 students will learn to data organization and manipulation

Grade 9: In Computing lessons Grade 9 students will use computational thinking for problem solving.

How you can help? Encourage your child to enjoy working on their Scratch accounts to build their logic skills and their skill in programming.

Homework: All assigned homework will be available on the BRIC system as well as being explained to students in class.

Useful Websites:

Grade 6: https://codecombat.com/

Grade 7: https://scratch.mit.edu/

www.bbc.co.uk/education/subjects/zvc9q6f

Grade 8: www.bbc.co.uk/education/subjects/z8mtsbk

www.ictlounge.com

Grade 9 (ICT): http://www.bbc.co.uk/education/subjects/zgmtsbk

www.ictllounge.com

Al Basma British School Striving to be the best Grade 9 (Computing): http://www.bbc.co.uk/education/subjects/z34k7ty

Curriculum Coverage January 2017:

Grade 6:

Session Name	Description	Learning Intention
Building logic	Students will learn to make an Algorithm to reach a specific target.	 To create an algorithm to solve daily life problems To create an algorithm to solve games Algorithm to reach a specific target.
Flow Charts	Students will learn to diagrammatically present an algorithm using flow charts.	 To know the basic rules and symbols needed to draw a flow chart. To draw a flowchart to solve different problems

Grade 7:

Session Name	Description	Learning Intention
Coordinate System in Scratch	Planning Programming	 To learn graphs and coordinate system to define position of an object. Projects to make sprite float using coordinate system.
Using Variables	Planning Programming	 To plan, work and submit simple mathematical problems assigned using variable. (algorithm, flowcharts) To program for mathematical problems using variables.
E-Safety	To remain safe on internet	 To learn safety rules on internet. To understand the power of digital footprint. To avoid and remain safe from Cyberbullying. To learn different Threats on internet.

Grade 8:

Session Name	Description	Learning Intention
Introducing Web Authoring	Understanding layer structure of web pages Working on Content Layer	 To identify and describe the three web development layers To understand the function of: content layer, presentation layer, behavior.

Understanding syntax	 To create the content layer of a web page to meet the needs of the audience. Developing first web page.
File extension for web pages. • Understanding the different software tools to	Understanding the difference between different software tools to develop a web page and comparing them.

Grade 9 ICT: Data Manipulation

Session Name	Description	Learning Intention
Database Structure	Organizing data	 To learn importance of data organization and manipulation. To understand database structure and key terminologies To understand flat-file database and relational database; their importance and usage. To assign appropriate data types to fields, including: text, numeric, (integer, decimal, percentage, currency), date/time,
	Importance, structuring data using suitable software.	
	Flat-file database and Rationale database	
	Data types and other field types	
	Comparing different memory devices.	 Boolean/logical (-1/0, yes/no, true/false) To explain that other field types such as placeholders for media, including images, sound bites and video clips are used in commercial databases To use short, meaningful file and field names

Grade 9 Computer Science:

Session Name	Description	Learning Intention
Storage Devices	Types of Storage Devices	 To understand different types of storage devices and comparison between them. To describe examples of secondary storage media. Practicing Exam Style Questions
	Need for secondary storage & common types	
Problem Solving	Logic Building To understand and apply computational thinking methods including abstraction, decomposition and algorithmic thinking To explain what an algorithm is To produce algorithms using flow diagram	thinking methods including abstraction, decomposition and algorithmic thinking To explain what an algorithm is
	Flowchart	To create algorithms to solve problems that you have analysed.

Pseudocode	 To produce algorithms using flow diagrams To create algorithms to solve problems that you have analysed. To understand what Pseudocode is and produce algorithms using Pseudocode. To create algorithms to solve problems that you have analysed.
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Best Regards

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