

The Sultan's School Year 5 Medium Term Curriculum plan for ICT - Information for parents

Block	Unit	Key Targets and Learning Objectives	Activities	Key vocabulary
<p>Internet Safety and Digital Citizenship will be taught over the course of the year through short focused tasks, videos, peer assessment/tutoring, discussions...</p> <p>Students in Year 5 will be enrolled in Computer Science Fundamentals Course E at www.code.org. In this course students will Design, write and debug programs that accomplish specific goals. This online course will start in Block 1 and conclude mid-way through Block 5.</p> <p>Other short, single lesson activities which do not appear on the MTP may take place during any block dependant on school events and national holidays...</p>				
1	<p>Graphical modelling Digital Literacy</p>	<ul style="list-style-type: none"> • Use object based tools to create and manipulate shapes in <i>PowerPoint</i>. • Understand some of the differences between using object based tools and a painting program. • Use object based tools to create a scaled graphical model in <i>Publisher</i>. 	<p>Graphical Modelling</p> <ul style="list-style-type: none"> • Students will recreate artwork by Henry Matisse, first using paint software, and then object based software. • They will compare and contrast the differences. • Students will create a graphical model of a classroom, to scale using all techniques taught to date. 	<p>Drawing/Paint/ Object based graphics packages Manipulate Model Insert Fill Shapes Layers Scale</p>
2	<p>Spreadsheets Information Technology</p> <p>Theory Information Technology Digital Literacy</p>	<ul style="list-style-type: none"> • Enter data into a cell and make cells look more visually appealing. • Use spreadsheets to explore what happens when variables such as cost are changed. • Understand the difference between the net and the web and how search engines work. 	<p>Let's work it Out</p> <ul style="list-style-type: none"> • Students will create a times table calculator In <i>Microsoft Excel</i>. • Students will manipulate pre-prepared spreadsheets by adding formulae and changing variables to solve "The Sweet Shop" and other problems. 	<p>Slide/Slideshow Transition Animation Spreadsheet Cell Column Row Formula Sum Min/max Calculate Model</p>

3	Programming Computer Science	<ul style="list-style-type: none"> • Write an algorithm or produce a flowchart to solve a problem or accomplish a specific goal. • Program a device to wait for something to happen or be controlled by a sensor using Flowol software. • Evaluate a program, identify mistakes and debug accordingly. 	<u>Go With the Flow Pt.1</u> <ul style="list-style-type: none"> • Students will be introduced to Flowol 4 and examine algorithms and flowcharts in greater depth. • Students create algorithms and flowcharts to operate lights at a zebra crossing and test them virtually. • Students create algorithms and flowcharts to operate traffic lights on a bridge and test them virtually. • Students will attempt to create a physical traffic light system using Scratch 3.0, Raspberry Pi and LED's. 	Flowchart Switch on /off Wait Repeat If Then Else Until
4	Mindstorms! Computer Science	<ul style="list-style-type: none"> • Build a robotic Driving Base using Lego EV3 Mindstorms. • Recreate a program to move a driving base in straight using seconds, degrees, and rotations. • Investigate different ways of controlling a Driving Base moving in straight lines. 	<u>Mindstorms!</u> <ul style="list-style-type: none"> • Students will use Lego EV3 Mindstorms to build a robot from on-screen instructions. • Students will use PC's to program their robots to move a specific distance and follow a given path. 	Driving Base Move Steering block Move Tank block Parameters Degrees Rotations Seconds Delay Equation Formulae
5	Programming Computer Science	<ul style="list-style-type: none"> • Create and edit a computer program in Scratch. • Use loops in a program so that commands are repeated. • Evaluate a program, identify mistakes and debug accordingly. 	<u>Scratch</u> <ul style="list-style-type: none"> • Students will take a brief look at the history of video games and the gaming industry. • They will then attempt to create and improve a Pong style game using a set of pre-prepared instructions. • For extension students may attempt Flappy Bird, Golf or Shark Attack games. 	Algorithm Program Loop If/then/else Command Block Sprite Background Backdrop