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UNITED ARAB EMIRATES  
MINISTRY OF EDUCATION



الإمارات العربية المتحدة  
وزارة التربية والتعليم

# Design and Technology

## Grades 1-8

### Term 1 Practical Summative Assessment Specifications

2019 / 2020 Academic Year

## Academic Year 2019/2020: Term 1 Practical Summative Assessment Specifications

Grade 1			
Marks	Time	Task Description	Domain/Skills
20 marks	90 mins	<p><b>Teachers should prepare required materials during week 9. UNIT 5 STREAM Project in the Activity Book:</b></p> <ul style="list-style-type: none"> <li>• Students must build a basic car that moves forward when pushed.</li> <li>• Students should consider the shape of the car, its' weight, the shape of the tyres etc. to make sure the car travels as far as possible.</li> <li>• Students may use a balloon, rubber band or any other suitable method to propel the car forward.</li> </ul>	<p><b>This task will ask students to demonstrate:</b></p> <ul style="list-style-type: none"> <li>• An understanding of the project requirements</li> <li>• Awareness of material properties</li> <li>• Awareness of shapes</li> <li>• Their ability to create a model</li> <li>• An understanding of how to measure distance</li> <li>• An understanding of how to test a model</li> <li>• Knowledge of how to improve a model.</li> </ul>

Grade 2			
Marks	Time	Task Description	Domain/Skills
20 marks	90 mins	<p><b>Teachers should prepare required materials during week 9. UNIT 5 STREAM Project in the Activity Book:</b></p> <ul style="list-style-type: none"> <li>• Students must build a basic car that moves forward when pushed.</li> <li>• Students should consider the shape of the car, its' weight, the shape of the tyres etc. to make sure the car travels as far as possible.</li> <li>• Students may use a balloon, rubber band or any other suitable method to propel the car forward.</li> </ul>	<p><b>This task will ask students to demonstrate:</b></p> <ul style="list-style-type: none"> <li>• An understanding of the project requirements.</li> <li>• Awareness of material properties.</li> <li>• Awareness of shapes.</li> <li>• Their ability to create a model.</li> <li>• An understanding of how to measure distance.</li> <li>• An understanding of how to test a model.</li> <li>• Knowledge of how to improve a model.</li> </ul>

## Academic Year 2019/2020: Term 1 Practical Summative Assessment Specifications

Grade 3			
Marks	Time	Task Description	Domain/Skills
50 marks	90 mins	<p><b>Task based on Activity 5 in the Activity Book</b></p> <p><b>Theoretical &amp; Planning (20 marks):</b></p> <ul style="list-style-type: none"> <li>• Students should choose/specify a functional item to design.</li> <li>• Students will plan the features of their design.</li> <li>• Students will answer questions about the 3D printing process.</li> <li>• Students will sketch 3 different ideas.</li> </ul> <p><b>Practical &amp; Evaluation (30 marks):</b></p> <ul style="list-style-type: none"> <li>• Students will create their design using 3D modelling software.</li> <li>• Students will evaluate their design.</li> </ul>	<p><b>This task will ask students to demonstrate:</b></p> <ul style="list-style-type: none"> <li>• Awareness of the design process.</li> <li>• Knowledge of different product features.</li> <li>• Awareness of 3D printing and size restrictions.</li> <li>• Knowledge of 3D modelling software.</li> <li>• Awareness of how to evaluate a design.</li> </ul>

Grade 4				
Marks	Time	Unit	Task Description	Domain/Skills
50 marks	90 mins	3&4	<p><b>Practical (30 marks):</b> Students will use block-based programming to create an animation to include at least 2 objects and a backdrop.</p> <p><b>Theoretical (20 marks):</b> Students will answer 5 fill in the blank and 5 matching about variables, conditional statements, animation, message and sensing blocks. Students will read a given code and answer 5 true/false questions related to it.</p>	<p>This task will ask students to demonstrate:</p> <ul style="list-style-type: none"> <li>• Ability to use and understand '<b>Loops.</b>'</li> <li>• Ability to use and understand '<b>sensing blocks</b>'.</li> <li>• Ability to use and understand <b>sounds</b>.</li> <li>• Ability to use and understand '<b>motion blocks</b>'.</li> <li>• Ability to use and understand '<b>message blocks</b>'.</li> <li>• Ability to use and understand '<b>conditional statements.</b>'</li> <li>• Ability to understand '<b>variables</b>'.</li> </ul>

## Academic Year 2019/2020: Term 1 Practical Summative Assessment Specifications

Grade 5				
Marks	Time	Unit	Task Description	Domain/Skills
50 marks	90 mins	3 & 4	<p><b>Practical (30 marks):</b> Students will design and make a 3D game with a scoring system.</p> <p><b>Theoretical (20 marks):</b> Students will answer 5 questions identifying characters and actions. Students have to understand and identify programming commands.</p>	<p>This task will ask students to demonstrate:</p> <ul style="list-style-type: none"> <li>• How to create a new world with a terrain.</li> <li>• Modify and enhance the terrain to make it interesting.</li> <li>• Program a character to move, jump, bump and inspect objects in this terrain.</li> <li>• Allocate points for completing certain actions.</li> <li>• The game should display a message when a certain number of points are scored.</li> </ul>

Grade 6				
Marks	Time	Unit	Task Description	Domain/Skills
50 marks	90 mins	4	<p><b>Practical (30 marks):</b></p> <ul style="list-style-type: none"> <li>• Students will create a block-based program to display numbers and letters on the LED grid.</li> <li>• Students will change the colours of the NeoPixels lights.</li> <li>• Add suitable comments to the program</li> </ul> <p><b>Theoretical (20 marks):</b></p> <ul style="list-style-type: none"> <li>• Students will complete a flowchart for the program</li> <li>• Students will select and write the answers to the question about the block-based program they have used .</li> </ul>	<p>This task will ask students to program the microcontroller to:</p> <ul style="list-style-type: none"> <li>• Run loops.</li> <li>• Counting.</li> <li>• Change colours of NeoPixels lights.</li> </ul> <p>Apply flowchart skills.</p>

## Academic Year 2019/2020: Term 1 Practical Summative Assessment Specifications

Grade 7				
Marks	Time	Unit	Task Description	Domain/Skills
50 marks	90 mins	3 & 4	<p><b>Practical (30 marks):</b> Students will complete 2 programming tasks incorporating ‘if’ and ‘for’ commands. Students should be able to output a range of numbers.</p> <p><b>Theoretical (20 marks):</b></p> <ul style="list-style-type: none"> <li>• Students will complete a flowchart for the program.</li> <li>• Students will identify errors in given code.</li> </ul>	<p>This task will ask students to demonstrate:</p> <ul style="list-style-type: none"> <li>• Use of ‘if’ and ‘for’.</li> <li>• Output a range of numbers.</li> <li>• Flowchart skills.</li> <li>• Identifying errors in code.</li> </ul>

Grade 8 & Grade 8 ASP				
Marks	Time	Units	Task Description	Domain/Skills
50 marks	135 mins	Unit 1 (pages 34-53 only) & Unit 2	<p><b>Practical – 90 mins (30 marks):</b> Students will design a functional product. They will draw isometric and orthographic views. Then, they will use a 3D modelling tool to create their design.</p> <p><b>Theoretical – 45 mins (20 marks):</b></p> <ul style="list-style-type: none"> <li>• Students will answer 10 multiple choice questions (MCQs) about a technical drawing.</li> <li>• Students will evaluate a design based on SWOT analysis.</li> </ul>	<p>This task will ask students to demonstrate:</p> <ul style="list-style-type: none"> <li>• Ability to sketch isometric view.</li> <li>• Ability to Sketch orthographic projections.</li> <li>• Use 3D modelling tool to create design.</li> <li>• Entrepreneurship.</li> <li>• Ability to extract information and answer question about a technical drawing.</li> <li>• Ability to evaluate a design based on SWOT analysis.</li> </ul>