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| **Assessment task**  Investigation | **Task title:** JavaScript Game Coding  **Purpose:** Students will answer a series of short-response questions to challenge their ability to write in a general-purpose programming language. They will trace algorithms and use flowcharts to communicate ideas. |
| **Achievement standard**  By the end of Year 8 students develop and modify creative digital solutions, decompose real-world problems, and evaluate alternative solutions against user stories and design criteria. Students acquire, interpret and model data with spreadsheets and represent data with integers and binary. They design and trace algorithms and implement them in a general-purpose programming language. Students select appropriate hardware for particular tasks, explain how data is transmitted and secured in networks, and identify cyber security threats. They select and use a range of digital tools efficiently and responsibly to create, locate and share content; and to plan, collaborate on and manage projects. Students manage their digital footprint. | |

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| **Relevant aspects of the Achievement standard** | | **Relevant content descriptions** | **Australian Curriculum Elaborations** | **Alignment to the task** |
| **Processes and Production Skills** | design and trace algorithms | **AC9TDI8P06**  trace algorithms to predict  output for a given input and  to identify errors | * following an algorithm precisely to confirm it produces the expected output for the given input, for example desk check with a table of input, variables and output * following instructions for making woven baskets or nets by hand, as done by First Nations Australians, and making predictions of how the instructions would need to be modified to enable the item to be produced through automated manufacturing processes | * Answer Question 1 – 4 which require you to trace algorithms to identify the output result * Answer Question 5 which requires you to design an algorithm, using flowcharts, to solve an identified Esports game problem |
| implement them in a general-purpose programming language | **AC9TDI8P05**  design algorithms involving nested control structures and represent them using flowcharts and pseudocode | * designing an algorithm or modifying an existing algorithm to fix an error or change functionality, for example calculating the coins and notes needed for an amount of money and changing the algorithm to handle new denominations * describing algorithms precisely in pseudocode (structured English) or with flowcharts for each part of the problem, for example using separate flowcharts to describe the purchase of an item and the giving of change during the purchase | * Answer Question 6 – 10 which require you to identify errors and write the correct JavaScript to fix the code. |