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**Knowledge Rich Curriculum Plan**

Year 7 - Topic 4: Block Based Programming



| **Lesson/Learning Sequence**  | **Intended Knowledge:***Students will know that… Students will know how to…* | **Tiered Vocabulary**  | **Prior Knowledge:***In order to know this… Students need to already know that…* | **Assessment**  |
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| **1** | * That Scratch uses blocks to build up a program.
* How to create basic actions for a character to move, animate and say something.
* How each of these skills could be used when creating a game.
 | CharactersActionsAnimateBlocksProgramManual NavigationExecuteDebug | * The basics of games including the characters and their actions.
* That characters can be moved with arrow keys or WASD.
 | QuestioningWorksheet |
| **2** | * That Scratch uses blocks to build up a program.
* How to create different methods for the characters to move and a way to keep score.
* How each of these skills could be used when creating a game.
 | ScorePointsSequenceAutomatic NavigationVariableExecuteDebug | * That characters in a game can move without the user controlling them.
* That games have scoring elements where they can score points.
 | Retrieval TaskQuestioningWorksheet |
| **3** | * How to create a background such as a maze and make it interact with the character.
* That conditions can be used in programming to win or restart the game.
 | BackgroundInteractCheckpointSequenceInput/OutputConditionsIterationExecuteDebug | * How to make a character move in different directions using blocks.
* That there are parts of games such as walls that characters can’t move through.
 | Knowledge Check QuizRetrieval TaskWorksheet |
| **4** | * About variables and how they can be used for lives in a game.
* That conditions can be used in programming to win a game by reaching an object or losing in a game when the variable for lives reaches 0.
 | LivesSequenceConditionsVariableExecuteDebug | * How to program a character move in different directions using blocks.
* How to program a character win the game by reaching an object.
* That games can use lives and what happens when all the lives are gone.
 | Retrieval TaskQuestioningWorksheet |
| **5** | * That variables can be used for aspects such as lives and score.
* That calculations such as addition can be used with variables to give a points total.
* How to program interactive objects by making them appear and disappear.
 | InteractiveLivesScoreSequenceSelectionVariableExecuteDebug | * How to program a character move in different directions using blocks.
* How to create a variable block and use it in their program.
 | Retrieval TaskQuestioningWorksheet |
| **6** | * Students will know how to answer the end of unit assessment using their prior knowledge.
* Students will know how to improve on their work from previous lessons in the unit.
 | Students will need to use all of the vocabulary from the previous lessons. | * Students need to know all of the intended knowledge from the previous lessons in the unit.
 | End of Unit AssessmentStudent Response Task |