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| **Subject:** | **Term:** | **Year:** | **Year Group:** | **Teacher:** |
| ICT | Spring | 2015 | 4 | Mr Penfold |
| Unit expectations:   * Can make a simple game with a purpose * Can edit my game to improve it * Can explain why I have included certain features within my game * Can evaluate other games and explain how they could be improved | | | | |

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| Overview of key Learning | |
| Session 1:- I can use the terrain tools to create an interesting game environment | Session 4:- I can insert objects into the environment |
| Session 2:- I can control character’s movement/actions | Session 5:- I can program enemies that can shoot or chase |
| Session 3:- I can insert objects into the environment | Session 6:- I can design and write a program to achieve certain goals |

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|  | **Learning Outcome:** | **Teaching Focus:** | **Enhanced Learning Activities:** |
| **1** | I can use the terrain tools to create an interesting game environment | Show children example games that have been designed using Kodu Game Lab. Explain that they are going to be developing skills so that they can design and create their own mini game using this software.  In class demonstrate how to use the terrain tools on the bottom tool bar to include the following skills: creating land, raising/lowering land, creating chunky or smooth landscapes, changing colour, creating water features, changing lighting and sky.  In ICT suite children should explore these features to create an interesting landscape. Children to save landscapes for next session. | Challenge: Create an island or river. |
| **2** | I can control character’s movement/actions | In class demonstrate how to insert a Kodu into the environment created in last session. Explain that the kodu will do nothing unless I tell him to do something using instructions (algorithms). Show children how to change his appearance – colour/size. Demonstrate how to program Kodu to behave in the following ways: Movement, speed, jumping, shooting. Explore the settings menu when right-clicking on Kodu.  In ICT suite children should insert and program their Kodu so that he can explore the environment. Save progress. | Challenge: Can you change the camera angle? Can you make Kodu invincible/immobile? Can you show Kodu’s health setting? |
| **3** | I can insert objects into the environment  I can program Kodu to collect objects and earn points | In class demonstrate how to insert objects into the environment saved from last session. Explain that these objects can be programmed to behave in certain ways or we can program Kodu to react when he touches those objects. Insert an apple. Run program. What happens when Kodu touched the apple? Nothing. Explain that we need to program Kodu first. Demonstrate how to make Kodu eat the apple/vanish the apple using instructions. Insert more apples into environment. Explain that I’m going to tell the game that when kodu can no longer see any apples that I have won the game. Demonstrate how to do this.  In ICT suite children should insert objects (coins. apples, hearts etc) and program Kodu to collect them/eat them. | Extension: Decorate your environment using objects such as trees, castles and clouds.  Challenge: Can you create an instruction that scores you points every time you collect an object? |
| **4** | I can insert objects into the environment  I can use pathways and create roads, walls and platforms | In class demonstrate how objects can be added to the environment for decoration. Explain that they can be resized, recoloured and other features can be altered by right-clicking on them. Demonstrate how to create a pathway and how to do the following things: change type of pathway, change colour of pathway, change height of pathway, how to create platforms, roads and walls. Demonstrate that I can program kodu to follow one of these pathways if I so wish.  In ICT suite children to create pathways, roads, platforms and walls. Program Kodu to follow a path. Save world. | Challenge: Can you insert more characters into the environment and make them follow different paths? |
| **5** | I can program enemies that can shoot or chase | Explain that so far we have a very simple collect and win game. What do we need in the game to make it more challenging? Discuss. Feedback. Explain that today we will be adding an enemy to our world.  In class demonstrate how to insert an enemy of choice. What do we want the enemy to do i.e. shoot, chase, chase and shoot, ram, obstruct, follow a path etc. Show children how to program enemy to do the above tasks.  In ICT suite children should add an enemy to the environment they have created so far using the skills demonstrated. | Challenge: Can you change the speed of your enemy? Can you add more than one enemy? Can you change the fire rate? |
| **6** | I can design and write a program to achieve certain goals  I can detect and correct errors in programs  Solve problems by decomposing them into smaller parts | Revise everything covered so far in this unit. Explain that they will now use these skills to design, create and share a game of their own design. The first stage in this process will be starting to design game on paper. Handout planning template. Children should fill in the details of what the objective will be in their game i.e. collect apples before getting shot/caught; race against an opponent, two player shooting game etc. They should also sketch what their world will look like and finally think about programming issues i.e. draft how Kodu will be programmed, speed, fire rate, jump height etc.  The next phase will be the creating and programming of their game. During this phase they should create a new world, decorate, program, test, debug if necessary, improve if possible, retest. Encourage children to find errors with their own programming rather than CT fixing issues. | The final phase will include children playing and assessing each others games by rotating in their rows in the ICT suite. Use ‘peer assessment’ sheet for this phase. Children to give feedback on other children’s games to include: style, aesthetics, playability, length, difficulty, enjoyment plus any bug issues that may arise. |