

Year Group: 6	Term: Summer 2	Topic: Developing Games
NC Links		
<ul style="list-style-type: none"> • Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • Use sequence, selections and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs. • Use logical reasoning to explain how a simple algorithm works, detect and correct errors in algorithms and programs. 		
Other Curriculum Links		
Topic Overview		
<p>Children will use previously taught gaming design skills to again create their own video games using Kodu. This application will allow children to design the layout of their game, what characters are involved and what the rules/movements of different characters will be. After the games have been created, children can play their own or others and offer positive feedback to enable evaluation and editing.</p>		
Links to Rights Respecting		
<p>Article 17 - Every child has the right to reliable information from the media. This should be information that children can understand. Governments must help protect children from materials that could harm them.</p> <p>Article 28 - Every child has the right to an education. Primary education must be free and different forms of secondary education must be available to every child. Discipline in schools must respect children's dignity and their rights.</p>		
Links to North East Ambition		
<p>Children will look at different careers within computing and how the subject is evolving every day. Teachers can reference jobs/companies that are recognised globally (apple, Microsoft etc.) or locally (Sunderland Nissan, Newcastle University, CAS). Jobs may include: Engineer, Game Designer, Cyber Crime Officer, Photographer, Video Animator, Office Worker etc.</p> <p>GATSBY BENCHMARK 3 GATSBY BENCHMARK 4 GATSBY BENCHMARK 5</p>		
Possible Visits/Visitors		
Essential Subject Skills to be covered		

- Set IF conditions for movements. Specify types of rotation giving the number of degrees.
- Change the position of objects between screen layers (send to back, bring to front).
- Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.
- Combine the use of pens with movement to create interesting effects.
- Set events to control other events by 'broadcasting' information as a trigger.
- Use IF THEN ELSE conditions to control events or objects.
- Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.
- Use lists to create a set of variables.

Overall Learning Outcomes

By the end of this unit, children will be able to use their knowledge of computing science to create and debug their own algorithms to design their own video game. Children should be able to use a series of drawing tools to design the layout of their game before moving and editing algorithms for characters to carry out actions (running, jumping, shooting etc.). These actions should include consequences, which will also be determined by the algorithm programmed. Children should then be able to edit the game design either visually or by debugging actions depending on feedback or self-assessment.

Learning Intentions (for use in self assessment at end of topic)

- I can design a game layout/backdrop.
- I can add features or effects to a game.
- I can program a character to move.
- I can create consequences for a character depending on actions.
- I can evaluate and edit (debug) my work based on feedback.
- I can offer feedback to others about their game.

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Possible Activities		
<ul style="list-style-type: none">• https://www.twinkl.co.uk/resource/tp2-i-139-new-planit-computing-year-6-kodu-programming-unit-pack (Twinkl Year 6 Kodu Developing Games Unit Pack)• https://www.kodugamelab.com/resources/ (Kodu resources page including resources, training videos, sample lessons and starter worlds)		
Suggested Strategies for Recording Learning		
<ul style="list-style-type: none">• Working document using Kodu developed over unit		

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Assessment			
<p>Ongoing assessment from guided activities, observations, discussions, questioning and work evidence. A suggested activity is:</p> <ul style="list-style-type: none"> End of unit game produced by children using and applying skills taught over the half term. 			
	x.1	x.2	x.3
Motion	Beginning to understand the difference between and appropriately uses 'if', 'then' and 'else' statements.	Understands the difference between and appropriately uses 'if', 'then' and 'else' statements.	Understands <i>fully</i> the difference between and appropriately uses 'if', 'then' and 'else' statements.
Looks	Beginning to change the position of objects between layers.	Can regularly attempt to change the position of objects between layers with some accuracy.	Can regularly and independently change the position of objects between layers accurately.
Sound	Is beginning to upload and edit sounds from a file as well as adding fade in and out effects controlling their implementation.	Can upload and edit sounds from a file, as well as adding fade in and out effects controlling their implementation.	Can independently and accurately upload and edit sounds from a file, as well as adding fade in and out effects controlling their implementation.
Draw	Is beginning to develop combining the use of pens with movement to create interesting effects.	Can securely combine the use of pens with movement to create interesting effects.	Can independently and purposefully combine the use of pens with movement to create interesting effects.
Events	Is beginning to set events to control other events by 'broadcasting' information as a trigger.	Can set events to control other events by 'broadcasting' information as a trigger.	Can set a range of events to control other events by 'broadcasting' information as a trigger.
Control	Beginning to use IF THE ELSE conditions to control events or objects.	Regularly uses IF THE ELSE conditions to control events or objects.	Accurately and independently uses IF THE ELSE conditions to control events or objects.
Sensing	Beginning to use a range of sensing tools	Use a range of sensing tools (including proximity, user inputs,	Can use a wide range of sensing tools (including proximity, user

	(including proximity, user inputs, loudness and mouse position) to control events or actions.	loudness and mouse position) to control events or actions.	inputs, loudness and mouse position) to control events or actions.
Variables and lists	Is beginning to use lists to create a set of variables.	Can use lists to create a set of variables.	Can use lists to create a set of multiple variables.