

Make a Game in Scratch



Make a Game in Scratch

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Exemplar Materials

The answers to the formative quiz are all available at the end of this document. I have also included 8 example projects with my original comments to the students. These can be found at: <http://scratch.mit.edu/studios/528295/>

Examples 1, 4 and 5 were typical of what students were producing. I was very impressed by example 6, because she was a child who needed a lot of learning support and this was a real breakthrough for her. Example 2 showed quite an original game and he was also an EAL child. Example 3 showed a huge amount of determination to make the game that they wanted to play and lot of tenacity to make their code work. Examples 7 & 8 were better examples than I have seen in students studying for their GCSEs (15 & 16 year olds), they must have spent many extra hours making their games.

We did not set any homework, but many students worked on them from home voluntarily. We lost one week, because of the Coup and SATS, but if anything children spent more time on these projects than they would otherwise have been able to.



Make a Game in Scratch

Unit 5 Make a Game

Essential Question: Why is learning to code important?

In this unit students learn to create a game using the visual programming language Scratch. This is a new unit and their first time coding, so we will need to take them from the very beginning of the process.

Term 3 Reporting Questions (Rubric Based)

These are the questions that are reported to parents based on “Can I” questions.

- Can I create presentations with a range of media? (Unit 4)
- Can I create simple code independently? (Unit 5)
- Can I analyse data and create information? (Unit 4)
- Can I create an interactive experience? (Unit 5)

Curriculum Integration

Each unit is themed. The theme for this unit is transition, because this is the last unit they do before year 7. The final artefact from this unit was shared with their year 7 Computing teacher. It was fully coordinated with the secondary team to ensure a smooth transition into secondary. (Patana curriculum guide is available at:

<https://www.patana.ac.th/Documents/PageFlip/KS2/KS2%20Curriculum%20Guide/>)

About IB Learner Profile Focus

The IB learner profile is a set of learning outcomes. As an IB World School we allocate IB Profile Foci for each lesson. More details can be found at <http://www.ibo.org/programmes/profile/> It is quite similar to UK Personal Learning and Thinking Skills.



Make a Game in Scratch

Resources for unit



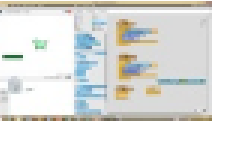
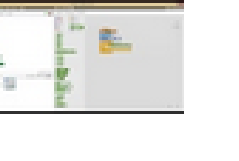

PowerPoints

				
Introduction PPT	Character Design	Platforms		
				
5 Ouch	6 Basic Platformer	Coding Cookbook	Left & right	

All PowerPoint can be found at:

<https://drive.google.com/a/patana.ac.th/folderview?id=0B67Phhog-SLpc2EwQXVYNjB4akU&usp=sharing>

Screencasts

				
Video 1	Video 2A	Platforms video	Crazy Platforms	Scratch Lives Video








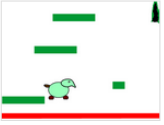
Screencasts can be found at:

<http://www.youtube.com/playlist?list=PLVrrd27oCnp4QoVAehcs9nYEIdnyKCrBN>




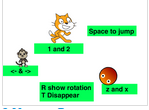
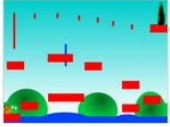



Make a Game in Scratch

Scratch (Completed Steps)

				
Step 1	Very Simple Race	Step 2	Drum Kit	Step 3
				
Step 4	Step 5	Step 6		

These resources can be found at: <http://scratch.mit.edu/studios/523180/>

Scratch Game (Teaching Resources)

					
Left & right	Movers Demo	2 Player Platformer	Simple Lives	With Extra Features	Stun Gun Code



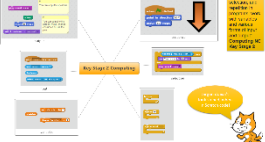
This code can all be found in:

<http://scratch.mit.edu/studios/523180/>



Make a Game in Scratch




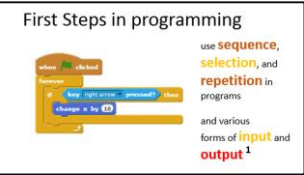



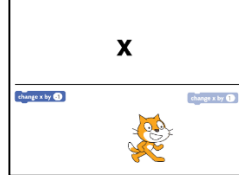



Other Resources Used

		
<p>My Game Plan</p>	<p>Debugging exercises</p>	<p>Mapping to new UK KS2Curriculum</p>



Make a Game in Scratch

Primary ICT Short Term Planning for ICT (Week Starting 21 April 2014)

Lesson Learning Question		Success Checklist (Example) Make a character move right Make a 2 player game Adjust code Test code Filename: Game1.sb Game2.sb
Can I make a platform game in Scratch?		
Must 	Can I use sequential saving to ensure my files are safe?	
Should 	Can I create a character who can move in Scratch?	
Could 	Can I analyze the code to create a 2 player game?	
IB Learner Profile Focus		
Thinkers/Communicators/Knowledgeable/Balanced/Principled/ Risk-takers /Open-minded/ Inquirers /Reflective/Caring		
Resources		
		
Introduction PPT	Video 1	Step 1
		
	Very Simple Race	Left & right
		
		Step 2
		
Video 2A	Drum Kit	



Make a Game in Scratch

Curriculum Integration: Transition		
Introduction <ul style="list-style-type: none"> Explain to students that today they are going to code a small Platform game. There are few important things to note when using 'Developer' tools. They crash more often than some other applications and you can't always undo your mistakes. So it is important to use 'Sequential saving' (show Introduction ppt to explain) Agree Success Criteria 		Other Questions <ul style="list-style-type: none"> What is the difference between a Sprite and a costume? How do you think you could add an extra character? What do you think the next steps are? How can the videos be used to help you? Why are the colours important in Scratch Blocks? Why is it important to save sequentially?
Main Activity <ul style="list-style-type: none"> Show students first video tutorial (http://www.youtube.com/watch?v=iBMdOaPJa9E) Encourage the students to start coding Once finished show them the Left & right Scratch demo. <p>When necessary: Call the students back to the carpet to show them the 2nd video. (multiple sessions, as needed) http://www.youtube.com/watch?v=Ct65Cw6KqeI</p>		
Plenary Ask students what they think of their first coding experience? Did they enjoy it? Where do they think they can go from here?		
Lower Differentiation Students will follow the video's first steps and make the most basic game.	Higher Differentiation Students can follow steps 1 and 2 and then make a drumkit.	Highest Differentiation Tell them that they don't need to do the beginners tutorials and that they can move straight into making a 2 player game. All tutorials are available in the Today's learning folder.
Extension Activity Students can design characters and animate them		
Notes Bring them back together. Reflect on the code that they have done. Was it easy? Was it difficult?		








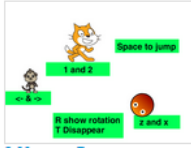
Make a Game in Scratch

	Individual Class Notes	Individual Class Notes	Individual Class Notes	Individual Class Notes
Where they are at? (Last Week)				
What we need to do?				



Make a Game in Scratch

Primary ICT Short Term Planning for ICT (Week Starting 28th April 2013)

Lesson Learning Questions		Essential Question For Unit: How can I make a fun game? Filename: Game 4,5,6 etc
Must 	Can I design a Character in Scratch?	
Should 	Can I analyse what would make a good character in Scratch?	
Could 	Can I create a complete character in Scratch?	
IB Learner Profile Focus Thinkers/Communicators/Knowledgeable/Balanced/Principled/ Risk-takers /Open-minded/ Inquirers /Reflective/Caring		
Resources    Character Design My Game Plan Movers Demo (You might also need the screencasts from lesson 1)		
Curriculum Integration: Transitions		
Introduction Ask students what most of these characters have in common. (Buzz Groups) Answers could include: colourful & bright. Strong colours, good contrast etc. Encourage them to use strong colours in Scratch to make their platform game.		Other Questions <ul style="list-style-type: none"> • How can you make your character attractive? • How will the character move? • What is the aim of the game? • What is the story behind this? • How can I make sure this is suitable for children of all ages?
Main Activity <ul style="list-style-type: none"> • Go through slides 4-6 • You might like to show the Movers demo to demonstrate the types of movement available to children • Fill out the Word file (My Game Plan) • Make sure that files are checked carefully before they can move on. This is a good opportunity to prevent later problems & formatively assess. • Then they can design their characters in Scratch. Encourage them to use the Vector Tools • This is about quality rather than speed. 		
Plenary Peer review each other's characters		



Make a Game in Scratch

<p>Lower Differentiation Provide them with help on the code. (In The Teachers 4 students files)</p>	<p>Higher Differentiation Encourage them to make the code for their character</p>	<p>Highest Differentiation Start making the game</p>
<p>Extension Activity Continue coding</p>		
<p>Notes</p>		






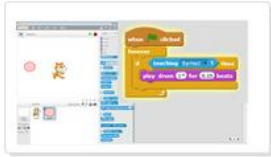
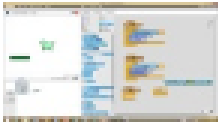
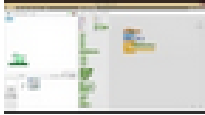



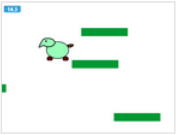
	Individual Class Notes	Individual Class Notes	Individual Class Notes	Individual Class Notes
Where they are at? (Last Week)				
What we need to do?				



Make a Game in Scratch

Primary ICT Short Term Planning for ICT (Week Starting 5 May 2014)

Year 6

Lesson Learning Questions		Essential Question For Unit: How can I make a fun game?	
Must 	Must Can I design a character in Scratch?	Filename: Game 4,5,6 etc	
Should 	Can I analyse what would make a good character in Scratch?		
Could 	Can I create a complete character in Scratch?		
IB Learner Profile Focus Thinkers/Communicators/Knowledgeable/Balanced/Principled/ Risk-takers /Open-minded/ Inquirers /Reflective/Caring			
Resources			
    			
<p> Character Design My Game Plan Left & right (Additional Scaffolding) Platforms video (Extension) Crazy Platforms (Extension) </p>			
   			
<p> Step 3 Step 4 Crazy Platforms Extension Crazy Platforms Deluxe Extension G&T level </p>			
Curriculum Integration: Transitions			
Introduction <ul style="list-style-type: none"> Ask students what they did last week Ask about colour for danger & platform. Show them where they can find the videos for moving on. 		Other Questions <ul style="list-style-type: none"> How can you make your character attractive? How will the character move? What is the aim of the game? What is the story behind this? 	
Main Activity Continue activity from last week			



Make a Game in Scratch




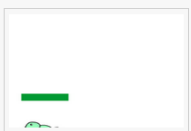


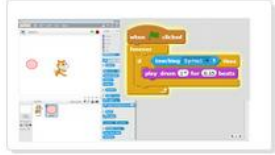







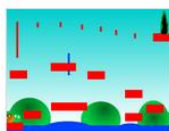
<ul style="list-style-type: none"> Go through slides 4-6 Fill out the Word file (My Game Plan) Then they can design their characters in Scratch. Encourage them to use the Vector Tools <p>This is about quality rather than speed.</p>		<ul style="list-style-type: none"> How can I make sure this is suitable for children of all ages?
<p>Plenary Peer review each other's characters</p>		
<p>Lower Differentiation Provide them with help on the code. (In The Teachers 4 students files)</p>	<p>Higher Differentiation Encourage them to make code for their game</p>	<p>Highest Differentiation Do Crazy Platforms (G&T might be able to manage Crazy Platforms Deluxe)</p>
<p>Extension Activity Students continue to make their game</p>		
<p>Notes</p>		

	Individual Class Notes	Individual Class Notes	Individual Class Notes	Individual Class Notes
Where they are at? (Last Week)				
What we need to do?				



Make a Game in Scratch

Primary ICT Short Term Planning for ICT (Week Starting 18 May 2014)
Year 6

Lesson Learning Questions		Essential Question For Unit: How can I make a fun game? Filename: Game 4,5,6 etc
Must 	Can I use code to make my character move?	
Should 	Can I code an interactive game with platforms?	
Could 	Can I create my own code to personalize my game?	
IB Learner Profile Focus Thinkers/Communicators/Knowledgeable/Balanced/Principled/Risk-takers/Open-minded/Inquirers/Reflective/Caring		
Resources		
		
Starter - Dubugging exercises		
		
Character Design	My Game Plan	Left & right (Additional Scaffolding)
		
		Platforms (Scaffolding)
		
		5 Ouch (Optional PPT)
		
		6 Basic Platformer (Optional PPT)
		
Step 3	Step 4	Step 5
		
		Step 6
		
		2 Player Platformer (Extension)



Make a Game in Scratch

Curriculum Integration: Transition		
Introduction <ul style="list-style-type: none"> • Check where students have got to. (We have missed a week) • Use Mini-whiteboards and ask students to figure out solutions to common problems (debugging) to help them understand the common problems. 		Other Questions <ul style="list-style-type: none"> • Where can you find the videos? • What do you think of the scale of your characters? • Have you tried it in full-screen mode? Reflection/Self-Assessment Questions <ul style="list-style-type: none"> • What are your next steps in coding? • What do you think is wrong with that code? • What features do you want to add next?
Main Activity <ul style="list-style-type: none"> • Students will be starting at different places, but you may wish to either show the Platforms video or show the code required for platforms. • Students can then progress independently to finish off designing their game. 		
Plenary Independence – Ask students how they can be more independent and how they have been resourceful this lesson.		
Lower Differentiation Students use videos to do coding	Higher Differentiation Students use code cook book to adapt the code for their games	Highest Differentiation Students independently make their code.
Extension Activity Students add features to their game		
Notes Due to the Military Coup in Thailand & SATs we missed a week’s learning. However many children used the Mini site that I constructed for them and rather than miss a lesson of ICT they have actually spent an entire day working on their projects, so do not be surprised if children are much further ahead than you expect. The site is here for your reference: https://sites.google.com/a/patana.ac.th/scratch-far-east/making-your-first-game		



Make a Game in Scratch






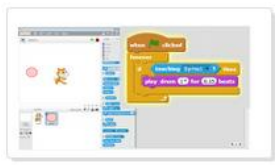





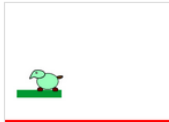

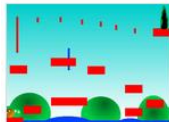

	Individual Class Notes	Individual Class Notes	Individual Class Notes	Individual Class Notes
Where they are at? (Last Week)				
What we need to do?				



Make a Game in Scratch

Primary ICT Short Term Planning for ICT (Week Starting 26th May 2014)

Year 6

Lesson Learning Questions Must  Can I use code to make my character move? Should  Can I code an interactive game with platforms? Could  Can I create my own code to personalize my game?		Essential Question For Unit: How can I make a fun game? Filename: Game 4,5,6 etc
IB Learner Profile Focus Thinkers/Communicators/Knowledgeable/Balanced/Principled/Risk-takers/Open-minded/ Inquirers /Reflective/Caring		
Resources		
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Character Design</p> </div> <div style="text-align: center;">  <p>My Game Plan</p> </div> <div style="text-align: center;">  <p>Left & right (Additional Scaffolding)</p> </div> <div style="text-align: center;">  <p>Platforms (Scaffolding)</p> </div> <div style="text-align: center;">  <p>5 Ouch! (Optional PPT)</p> </div> <div style="text-align: center;">  <p>6 Basic Platformer (Optional PPT)</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Step 3</p> </div> <div style="text-align: center;">  <p>Step 4</p> </div> <div style="text-align: center;">  <p>Step 5</p> </div> <div style="text-align: center;">  <p>Step 6</p> </div> <div style="text-align: center;">  <p>2 Player Platformer (Extension)</p> </div> <div style="text-align: center;">  <p>Coding Cookbook (Extension)</p> </div> </div>		
Curriculum Integration: Transition		
Introduction Students can continue with their coding.		Other Questions <ul style="list-style-type: none"> Where can you find the videos? What do you think of the scale of your characters? (Have you tried it in full-screen mode?)
Main Activity		



Make a Game in Scratch




<ul style="list-style-type: none"> Show students the resources. Highlight: Platform video and final pieces of code needed to make a game. Draw special attention to the code cookbook Remind students of the importance of debugging and that it is important for students to figure out how to code for themselves. 	<p>Reflection/Self-Assessment Questions</p> <ul style="list-style-type: none"> What are your next steps in coding? What do you think is wrong with that code? What features do you want to add next?
<p>Plenary Feedback and feed forward</p>	
<p>Lower Differentiation (Scaffolding) Students use videos to do coding</p>	<p>Higher Differentiation Students use code cook book to adapt the code for their games. (This provides examples of coding for them to analyse and adapt for their own games)</p>
<p>Highest Differentiation Students independently make their code.</p>	
<p>Extension Activity Students add features to their game</p>	
<p>Notes</p>	

	Individual Class Notes	Individual Class Notes	Individual Class Notes	Individual Class Notes
Where they are at? (Last Week)				
What we need to do?				



Make a Game in Scratch

Primary ICT Short Term Planning for ICT (Week Starting 2nd June 2014)
Year 6

Lesson Learning Questions		Essential Question For Unit: How can I make a fun game?
Must 	Can I use code to make my character move?	
Should 	Can I code an interactive game with platforms?	
Could 	Can I create my own code to personalize my game?	Filename: Game 4,5,6 etc

IB Learner Profile Focus

Thinkers/Communicators/Knowledgeable/Balanced/Principled/Risk-takers/Open-minded/**Inquirers**/Reflective/Caring

Resources



[Character Design](#)



[My Game Plan](#)



[Left & right](#)
(Additional Scaffolding)



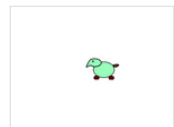
[Platforms](#)
(Scaffolding)



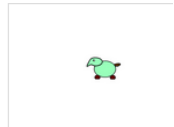
[5 Ouch!](#)
(Optional PPT)



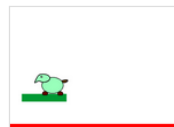
[6 Basic Platformer](#)
(Optional PPT)



[Step 3](#)



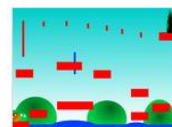
[Step 4](#)



[Step 5](#)



[Step 6](#)



[2 Player Platformer](#)
(Extension)



[Coding Cookbook](#)
(Extension)



[Scratch Lives Video](#)
(Scaffolding)



[Simple Lives](#)



[With Extra Features](#)
(Teacher Demo)



[Stun Gun Code](#)
(Student request)



Make a Game in Scratch

Curriculum Integration: Transition		
Introduction Demonstrate the With Extra Features Scratch Game. Say what is good about it. What other features could you include? (Use mini whiteboards, what features should you add to your game?)	Other Questions <ul style="list-style-type: none"> Where can you find the videos? What do you think of the scale of your characters? (Have you tried it in full-screen mode?) Reflection/Self-Assessment Questions <ul style="list-style-type: none"> What are your next steps in coding? What do you think is wrong with that code? What features do you want to add next? 	
Main Activity <ul style="list-style-type: none"> Show students the Teachers 4 Students folder. Highlight: Platform video, Crazy Platforms and final pieces of code needed to make a game. Draw special attention to the code cookbook Remind students of the importance of debugging and that it is important for students to figure out how to code for themselves. 		
Plenary Feedback and feed forward based on what they have said on the mini-whiteboards		
Lower Differentiation (Scaffolding) Students use videos to do coding	Higher Differentiation Students use code cook book to adapt the code for their games	Highest Differentiation Students independently make their code.
Extension Activity Students add features to their game		
Notes The CookBook has been updated based on Student feedback (from the quiz) to make it easier to use. It has also been made clearer that you need to make a door to finish the game.		






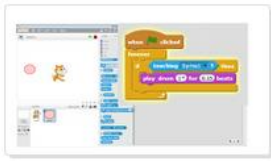







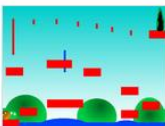


	Individual Class Notes	Individual Class Notes	Individual Class Notes	Individual Class Notes
Where they are at? (Last Week)				
What we need to do?				



Make a Game in Scratch


Primary ICT Short Term Planning for ICT (Week Starting 9th June 2014)

Year 6

Lesson Learning Questions		Essential Question For Unit: How can I make a fun game? What can I learn from designing a game?	
Must 	Can I use code to make my character move?	Filename: Game 4,5,6 etc	
Should 	Can I code an interactive game with platforms?		
Could 	Can I create my own code to personalize my game?		
IB Learner Profile Focus Thinkers/Communicators/Knowledgeable/Balanced/Principled/Risk-takers/Open-minded/ Inquirers /Reflective/Caring			
Resources			
			
Character Design	My Game Plan	Left & right (Additional Scaffolding)	Platforms (Scaffolding)
			
			5 Ouch (Optional PPT)
			
			6 Basic Platformer (Optional PPT)
			
Step 3	Step 4	Step 5	Step 6
			
			2 Player Platformer (Extension)
			
			Coding Cookbook (Extension)
			
			Scratch Lives Video (Scaffolding)



Make a Game in Scratch

		
<p>Simple Lives With Extra Features Stun Gun Code (Teacher Demo) (Student request)</p>		
<p>Curriculum Integration: Transition</p>		
<p>Introduction Show students how to make folders for year 7 & ensure they know how to manage folders. Demonstration folders available</p>		<p>Other Questions</p> <ul style="list-style-type: none"> • Where can you find the videos? • What do you think of the scale of your characters? (Have you tried it in full-screen mode?) <p>Reflection/Self-Assessment Questions</p> <ul style="list-style-type: none"> • What are your next steps in coding? • What do you think is wrong with that code? • What features do you want to add next?
<p>Main Activity</p> <ul style="list-style-type: none"> • Organise folders for year 7 – Put Scratch Game into Computing • Finish off Scratch Game 		
<p>Plenary Feedback & Feedforward</p>		
<p>Lower Differentiation (Scaffolding) Students use videos to do coding</p>	<p>Higher Differentiation Students use code cook book to adapt the code for their games</p>	<p>Highest Differentiation Students independently make their code.</p>
<p>Extension Activity Students add features to their game</p>		
<p>Notes</p>		



Make a Game in Scratch

	Individual Class Notes	Individual Class Notes	Individual Class Notes	Individual Class Notes
Where they are at? (Last Week)				
What we need to do?				

