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DT 2016 K-6 S&S Plan

(Suggested Continuum, Scope & Sequence)

Please note:

- This document has been created to help teachers develop an understanding of what skills may be taught and assessed within the coding & robotics learning areas and how they link to the new Western Australian Digital Technologies Curriculum Scope & Sequence.
- Schools/Staff would need to evaluate their available resources (robots, software, etc.) and adjust the document accordingly to meet their own needs.
- This is a draft document and will be extended in the future. To keep up to date with any changes please visit my website biscitmx.com

EC/JRP Creating - Coding & Robotics

The colour **red** indicates skills are "introduced".

The colour **amber** indicates that skills are "reinforced".

The colour **green** indicates an expectation students demonstrate the ability to use that skill independently.

Creating – Coding				ECE		JR PRIMARY	
			What is Coding?	K	PP	1	2
			Introduction to coding (programming) – what is it?				
			Simple examples of coding				
			Understanding symbol commands	K	PP	1	2
			Recognising forward, backward, turn left, turn right				
			Create Coding				
			Hands on planning				
			Developing a sequence				
			Program robotic toy to move – fwd, bwd, left/right				
			Use hands on materials – OZOBOTS, LEGO BEE-BOT				
			Running a sequence				
			Modify coding – Problem solving				
			Applications	K	PP	1	2
			Use coding apps e.g. OZOBOTS; OZBLOCKLEY, LEGO BEE-BOT				
			Use web based coding activities: OZBLOCKLEY, LEGO BEE-BOT				
			*See also Creating- Robotics				
			Creating – Robotics				
			Describe different sorts of robots	K	PP	1	2
			Real & fictional				
			Discuss some uses for robots & robotic technology in our society				
			Program a robot	K	PP	1	2
			Become familiar with programming				
			Program robotic toy to move; fwd/bwd/ left/right				
			Interface/functions of OZOBOTS, LEGO BEE-BOT	K	PP	1	2
			Program to complete a task				
			Test & modify program				
			Build & Program a Robot	K	PP	1	2
			Construct a robot				
			Test build				
			Familiarity with the programme				
			Interface & functions of LEGO WeDo				
			Programme to complete a set task				

2016 Digital Technologies – Scope & Sequence

Knowledge & Understanding	Digital systems
	Representation of data
Processes & Production Skills	Collecting, managing and analysing data
	Digital implementation
	Investigating and defining
	Designing
	Producing and Implementing
	Evaluating
	Collaborating and managing *Not indicated on table. Applies to all areas, students actively participating/safely in set tasks should reach expectations.

Primary 3-6 Creating - Coding

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Creating – Coding				PRIMARY			
			What is Coding?	3	4	5	6
			What is coding (programming) – introduction.				
			Examples – looking at script (page source code)				
			Understanding symbol commands	3	4	5	6
			Using symbols				
			Forward, backward, turn left, turn right, grouping				
			Create Coding				
			Planning				
			Developing a sequence				
			Program robot to move – fwd, bwd, left/right				
			Running a sequence				
			Modify coding – Problem solving				
			Create Coding – Block based	3	4	5	6
			Planning				
			Developing a sequence				
			Using code blocks				
			Adding an "if" variation				
			Adding "if/else"				
			Include a repeat block				
			Include a repeat "times" block				
			Functions				
			Parameters				
			Create actions - simple				
			Create actions – medium				
			Create actions - advanced				
			Modify coding – Problem solving				
			Applications – Symbol based	3	4	5	6
			Using coding apps e.g. Code Bot, OZOBOT, etc.				
			Use web based coding. Hour of Code, etc.				
			Applications – Block based	3	4	5	6
			Using coding apps e.g. Tynker, Daisy, etc.				
			Use web based coding. Scratch, Hour of Code, OZOBLOCKLEY etc.				

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Primary 3-6 Creating - Robotics

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Creating – Robotics				PRIMARY			
Describe different sorts of robots				3	4	5	6
			Real & fictional				
			Discuss some uses for robots & robotic technology in our society				
			Research famous robots				
Program a robot - OZOBOT				3	4	5	6
			Become familiar with programming				
			Program robotic toy to move; fwd/bwd/ left/right				
			Test & modify program				
Interface/functions of OZOBOTS				3	4	5	6
			Program to complete a task				
			Test & modify program				
Build & Program a Robot – LEGO WeDo				3	4	5	6
			Construct a robot				
			Test build				
			Familiarity with the programme				
			Interface & functions of LEGO WeDo				
			Programme to complete a set task				
Build & Program a Robot – ???				3	4	5	6
			Design and construct a robot				
			Test and modify build				
			Programme interface and functions				
			Programme to complete a set task				

*Table can be extended to include different robotic resources/programmes. Indication of skills will vary depending on complexity of the robotic programme used.

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EC/JRP Creating - iPads

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			ECE		JR PRIMARY	
Creating – iPads			K	PP	1	2
		Use an iPad				
		On/Off; use side wake	Red	Red	Amber	Green
		Slide to change screens	Red	Red	Amber	Green
		Opening apps	Red	Red	Amber	Green
		Operating apps	Red	Red	Amber	Green
		Closing apps	Red	Red	Amber	Green
		Looking after iPad	Red	Red	Amber	Green
		Use 'Explain Everything' app *Could be another creating app, staff choose.				
		Open app	Red	Red	Amber	Green
Amber	Green	Identify tool bar	Red	Red	Amber	Green
Amber	Green	Use tools e.g. draw, type, etc.	Red	Red	Amber	Green
Amber	Green	Use colour palette	Red	Red	Amber	Green
Amber	Green	Draw a picture	Red	Red	Amber	Green
Amber	Green	Write words	Red	Red	Amber	Green
Amber	Green	Select/change font	Red	Red	Amber	Green
Amber	Green	Type text	Red	Red	Amber	Green
Amber	Green	Locate, save, crop and insert image	Red	Red	Amber	Green
Amber	Green	Resize an object (text or image)	Red	Red	Amber	Green
Amber	Green	Delete an object (text or image)	Red	Red	Amber	Green
Amber	Green	Lock an object into position (text or image)	Red	Red	Amber	Green
Amber	Green	Record audio	Red	Red	Amber	Green
Amber	Green	Record video	Red	Red	Amber	Green
Amber	Green	Title work and save	Red	Red	Amber	Green
Amber	Green	Locate own work/file in app	Red	Red	Amber	Green
Amber	Green	Edit own work	Red	Red	Amber	Green
Amber	Green	Publish/share own work	Red	Red	Amber	Green

*Table can be extended to include different apps. Indication of skills will vary depending on complexity of the app programme used.

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	Collaborating and managing

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