Squirrel Hayes First School: Computing progression UNCLASSIFIED

Year 1			
Key Stage 1 NC Objectives: • understand what algorithms are; how they are implemented as programs on digital devices; and those programs execute by following precise and unambiguous instructions • create and debug simple programs • use logical reasoning to predict the behaviour of simple programs • use technology purposefully to create, organise, store, manipulate and retrieve digital content • recognise common uses of information technology beyond school • use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.			
Area of Computing Curriculum	**Key Skills to Develop/Suggested Activities**	**Key Vocabulary**	**Cross-Curricular Links**
General ICT skills	Children should be taught to log on to the school laptops (using Y1) and/or Chromebook (using their email and password). Children should be taught to log in to j2e using google log in button, select JIT5 and then the relevant package (Write/Paint/Animate/Turtle). They should be aware of features common to all j2e packages: Save, Open, Print, New Document; they should understand that their work will be saved to their own folder in j2e, as they have logged in, and that this is an internet (cloud) based program. Children should be taught to log in to Wonde using their username and password and encouraged to do so at home. Children should have experience with digital cameras, programmable robots such as Beebots, and other forms of technology, used to support learning across the curriculum.	Username Password Laptop/ChromeBook j2e Package Save Open Print (New) Document Wonde Digital Camera Technology	Maths
Word & Data Processing	**j2e – JIT5 (Write)** Choose a background image Type a simple caption/sentence/paragraph Change font size, style and colour Move the cursor to edit/delete text Use undo/redo arrows Use the word banks	Image Text Cursor Font size/style Edit Delete Undo/redo	Word Processing Literacy -

	Ext: Instead of a standard background, use the "camera icon" and take a photo (using built in webcam) to use as background	Icon Webcam	
Programming	**<u>j2e – JIT5 (Turtle)</u>** http://www.j2e.com/help/videos/Y1video1 Choose a background image Manoeuvre a sprite around the scene, to reach all objects Use "pen down" command to make sprite draw a line Play completed program Ext: Use Advanced mode, where you list commands and then click start	Turtle/Sprite Pen Down Pen Up Program Right Left Forward Backwards	Algorithms Literacy – writing instructions Maths
Digital Media, Communication & Collaboration	**<u>j2e - JIT5 (Paint)</u>** Choose a background or blank page Select and resize an image, then add to the background Select and resize/change colour of the paintbrush, then add own freehand drawing **<u>j2e - JIT5 (Animate)</u>** Choose a background image (e.g., space) Add an image (e.g., stars) and create first frame. Create additional frames to show movement (e.g., resizing stars) Copy and delete frames Play animation Ext: Create own background, drawn using paint tools to add animation to	Select/Click Resize Paintbrush Animate Frame Copy Delete Play	literacy/history

<u>Year 2</u>
<u>Key Stage 1 NC Objectives:</u> • understand what algorithms are; how they are implemented as programs on digital devices; and those programs execute by following precise and unambiguous instructions • create and debug simple programs • use logical reasoning to predict the behaviour of simple programs • use technology purposefully to create, organise, store, manipulate and retrieve digital content • recognise common uses of information technology beyond school • use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Area of Computing Curriculum	Key Skills to Develop/Suggested Activities	Key Vocabulary	Cross-Curricular Links
General ICT skills	Children should be taught to log on to the school laptops (using Y1) and/or Chromebook (using their email and password). Children should be taught to log in to j2e using google log in button, select JIT5 and then the relevant package (Write/Paint/Animate/Turtle). They should be aware of features common to all j2e packages: Save, Open, Print, New Document; they should understand that their work will be saved to their own folder in j2e, as they have logged in, and that this is an internet (cloud) based program. Children should be taught to log in to Wonde using their username and password and encouraged to do so at home. Children should have experience with digital cameras, programmable robots such as Beebots, and other forms of technology, used to support learning across the curriculum.	Username Password Laptop/ChromeBook j2e Package Save Open Print (New) Document Wonde Digital Camera Technology	Maths
Word & Data Processing	**j2e – JIT5 (Mix)** Choose a page layout with spaces for images and text, and use to create a simple fact file. Add additional pages. Use the "camera icon" and take a photo (using built in/external webcam) to import. **j2e – JIT5 (Chart)** Use the chart feature to produce a table and bar chart to present numerical data. **Google Docs/MS Word** Children should be introduced to Google Docs and/or MS Word and should develop their touch typing skills through word processing pieces of work from other curriculum areas. They should be able to use the following features: • Open/Save – (understand that google docs autosaves to cloud, within their GoogleDrive, word saves to folders on school server – chn should save into relevant year group folder and be aware of the importance of saving work regularly) • Font style/size/colour • Underline/bold	Image Text Cursor Font size/style Edit Delete Undo/redo Icon Webcam Barchart Data	Word Processing Literacy Data Processing Science/Maths

	• Delete, insert and replace text using mouse or arrow keys		
Programming	**j2e – JIT5 (Turtle)** Children should be introduced to Block-based programming, understanding how loops/repetition can be used to simplify instructions, and how to use events/conditionals (actions that make something happens - e.g. when 1 is pressed, move forwards)	Turtle/Sprite Pen Down Pen Up Program Right Left Forward Backwards Algorithm Sequence Block Programming Commands Code Loops/Repetition	Algorithms Literacy – writing instructions Maths
Digital Media, Communication & Collaboration	**j2e - JIT5 (Animate)** Create own animation, building on skills learnt in Year 1 Use the "onion layer" to see where previous image was and create realistic movement through use of several small steps Publish (blog) work to school j2e website (either animations, or other pieces created in j2e). Once teacher has moderated this, the children can then peer assess by adding comments on each other's work (comments will also be moderated) **Google Classroom** Begin to use Google Classroom to access/share resources **Web searching** Use keywords to search for information/images related to topic	Animate Frame Copy Delete Onion Layer Publish/Blog Moderate Google Classroom	literacy/history **Websearching** History Geography

Year 3
(Lower) Key Stage 2 NC Objectives: • design, write and debug programs that accomplish specific goals; … solve problems by decomposing them into smaller parts

• use sequence, selection, and repetition in programs; • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.			
Area of Computing Curriculum	**Key Skills to Develop/Suggested Activities**	**Key Vocabulary**	**Cross-Curricular Links**
General ICT skills	Children should be aware of the basic difference between our standard laptops/PCs, which use a Windows operating system, and our "ChromeBooks", which are "cloud based". A Windows laptop can be used to run Microsoft Word/Powerpoint/Publisher and many other applications and can save work to the school server. The ChromeBooks are more limited, and save to Google Drive, but are great for accessing online apps, and quicker to boot up. Children should develop confidence using both hands when typing – use Dance Mat Typing https://www.bbc.com/bitesize/articles/z3c6tfr Children should be taught/reminded how to access j2e and Wonde to access apps to practice certain skills. Children should be shown how to access Google Classroom, and use to open up and work on 'assignments' (set by the teacher), which are then automatically shared with the teacher. They should be taught how to 'share' with a partner or small group for collaborative working.	Assignment ChromeBook Laptop PC Google Classroom Wonde	Maths Literacy
Word & Data Processing	**Google Docs/MS Word** Children should be introduced to Google Docs and/or MS Word and should develop their touch typing skills through word processing pieces of work from other curriculum areas. They should be able to use the following features: • Open/Save – (understand that google docs autosaves to cloud, within their GoogleDrive, word saves to folders on school server – chn should save into relevant year group folder and be aware of the importance of saving work regularly)	Save Font style/size/colour Underline/Bold Word Art/Text Effects Insert Picture Insert Text Box Re-size	Word Processing Literacy Data Processing Science/Maths

	• Font style/size/colour • Underline/bold • Delete, insert and replace text using mouse or arrow keys • Word art/text effects • Insert a picture from the internet • Cut, copy and paste text/images (using mouse and keyboard shortcuts) • Use spell checker **Google Slides (Powerpoint)** Children should work collaboratively on a shared Slides presentation related to another curriculum area. Use features of Docs, plus: • Backgrounds •Transitions/Animations • Bullet Points/Numbering • Adding, deleting and moving slides **Data Processing (j2e)** Use j2Data (Chart) to produce pie/bar/line charts – related to maths/science	Cut, copy, paste Delete Backgrounds Transitions Animations Bullet Points Numbering Slides Pie/Bar Chart	
Programming	**Suggested activities: j2e Code Year 3/4** Lessons 1-4 https://www.j2e.com/j2code/ Children to use block programming to move sprites around the screen and respond to conditionals 'if' 'when' & 'else'. They use x,y co-ordinates to locate the sprite, and loops to repeat commands, e.g. when drawing a square.	Algorithm Sequence Decomposition Block Programming Commands Code Loops/Repetition Events/Conditionals Debugging	Algorithms Literacy – writing instructions Maths
Digital Media, Communication	**Publish** (blog) work to school j2e website (pieces created in j2e).	Animate Frame Copy	literacy/history

& Collaboration	Once teacher has moderated this, the children can then peer assess by adding comments on each other's work (comments will also be moderated). **Use Google Classroom** to access/share resources. **Web searching** - Use keywords to search for information/images related to topic.	Delete Onion Layer Publish/Blog Moderate Green Screen	**Websearching** History Geography

Year 4			
(Lower) Key Stage 2 NC Objectives: • design, write and debug programs that accomplish specific goals; … solve problems by decomposing them into smaller parts • use sequence, selection, and repetition in programs; • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.			
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	Children should be shown how to access Google Classroom, and use to open up and work on 'assignments' (set by the teacher), which are then automatically shared with the teacher. They should be taught how to 'share' with a partner or small group for collaborative working.		
Word & Data Processing	**<u>Google Docs/MS Word</u>** Children should be introduced to Google Docs and/or MS Word and should develop their touch typing skills through word processing pieces of work from other curriculum areas. They should be able to use the following features: • Open/Save – (understand that google docs autosaves to cloud, within their GoogleDrive, word saves to folders on school server – chn should save into relevant year group folder and be aware of the importance of saving work regularly) • Font style/size/colour • Underline/bold • Delete, insert and replace text using mouse or arrow keys • Word art/text effects • Insert a picture from the internet • Cut, copy and paste text/images s (including keyboard shortcuts – CTRL X/C/V) • Use spell checker •**Insert a bullet pointed/numbered list** • **Insert a table, add and delete rows and columns** • **Add a page border** **<u>Google Slides (Powerpoint)</u>** Children should work collaboratively on a shared Slides presentation related to another curriculum area. Use features of Docs, plus: • Backgrounds •Transitions/Animations • Bullet Points/Numbering • Adding, deleting and moving slides • **Adding hyperlinks/video/sound**	Save Font style/size/colour Underline/Bold Word Art/Text Effects Insert Picture Insert Text Box Re-size Cut, copy, paste Delete Backgrounds Transitions Animations Bullet Points Numbering Slides Pie/Bar Chart	Word Processing Literacy Data Processing Science/Maths

	Data Processing (j2e) Use j2Data (Chart) to produce pie/bar/line charts – related to maths/science		
Programming	Chn should be taught to use sequence, loops/nested loops, events/conditionals 'if/else' 'while' statements (https://www.bbc.com/bitesize/articles/z23q7ty) **Suggested activities: j2e Code Year 3/4** Lessons 1-4 https://www.j2e.com/j2code/ Children to use block programming to move sprites around the screen and respond to conditionals 'if' 'when' & 'else'. They use x,y co-ordinates to locate the sprite, and loops to repeat commands, e.g. when drawing a square.	Algorithm Sequence Decomposition Block Programming Commands Code Loops/Repetition Events/Conditionals Debugging	Algorithms Literacy – writing instructions Maths
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