Elmlea Junior School

Computing

Year 3
Knowledge, Skills and Understanding breakdown for Computing

Digital programming	Digital Making	Digital Skills
Computational thinking: I can create algorithms for use when programming I can decompose tasks (such as animations) into separate steps to create an algorithm I understand abstraction is focusing on important information I can identify patterns in an algorithm I can use repetition in algorithms **Coding:** I can design, create and write programs that accomplish specific goals I can use repetition in programs I can work with various forms of input **Computer Networks :** I understand why computers are networked I understand the difference between the Internet and the World Wide Web (WWW)	**Presentations/eBooks** I can format text, edit audio and video to create interactive presentations I can create a simple web page. I can create a simple mindmap **Animation:** I can improve stop motion animation clips with techniques like onion skinning. I can use animation tools in presenting software to create simple animations. **Video Creation:** I can sequence clips of mixed media in a timeline and record a voiceover I can trim and cut film clips and add titles and transitions I can create my own movie trailer **Digital Art:** I can confidently take and manipulate photos I can create a digital image using a range of tools, pens, brushes and effects **Sound:** I can create and edit purposeful compositions using music software to create mood or a certain style I can use live loops to create a song	**Word Processing**: I can use index fingers on keyboard home keys (f/j), use left fingers for a/ s/ d/f/g, and use right fingers for h/j/k/l I can edit the style and effect of my text and images to make my document more engaging and eye-catching. I can use formatting tools to improve and organise text. **Data Handling:** I can create a sorting diagram and complete a data handling activity with it I can start to input simple data into a spreadsheet.

Challenge

Year 3	To begin using simple selection in algorithms	To understand the role of green screen	To create more complex data handling projects.

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Computing

Highlight by topic

Year A Autumn - Tudors

Year A Spring – Around The World

Year A Summer – Think Local, Act Global

Highlight by topic

Year B Autumn – Ancient Egypt

Year B Spring - Splash

Year B Summer – They're Coming…

Year 4
Knowledge, Skills and Understanding breakdown for Computing

Digital programming	Digital Making	Digital Skills
Computational thinking:	**Presentations/eBooks:**	**Word Processing:**
I can use abstraction to focus on what's important in my design	I can create projects that use hyperlinks to increase interactivity	I can combine digital images from different sources, objects, and text to make a final piece of a a variety of tasks
I can write increasingly more precise algorithms for use when programming.	I can create an eBook with text, images and sound	I can confidently and regularly use text shortcuts to organise text
I can use simple selection in algorithms	I can create a digital mindmap and include different media - sound and video	I can use font sizes appropriately for audience and purpose.
I can use logical reasoning to detect and correct errors in programs		I can use spell check and thesaurus including through Siri and other AI technology
	Animation:	
Coding:	I can make multiple animations and edit them together for a longer video.	
I can use simple selection in programs	I can use line draw tool to create animations.	**Data Handling:**
I can work with various forms of output		I can create my own online multiple choice questionnaire.
I can use logical reasoning to systematically detect and correct errors in programs	**Video Creation:**	I can input data into a spreadsheet and export the data in a variety of ways
	I can add transitions, music and sound effects to my films	I understand how data is collected.
Computer Networks :	I can add simple subtitles to a video clip.	
I understand that servers on the Internet are located across the planet	I can use green screen adding animated backgrounds.	
I understand how email is sent across the Internet		
I understand how the Internet enables us to collaborate	**Digital Art:**	
	I can enhance digital images and photographs	
	I can manipulate shapes to create digital art.	
	Sound:	
	Edit sound effects for a purpose.	
	Create a simple four chord song following the correct rhythm.	
	I can record a radio broadcast or audiobook.	

Challenge

	Digital programming	Digital Making	Digital Skills
Year 4	Begin introducing variables into their work	Combine medias to demonstrate their learning	Start expanding the number of formulae they can explore

![Elmlea Junior School logo]

Computing

Highlight by topic

Year A Autumn - The Blitz

Year A Spring – Out Of This World

Year A Summer – Bristol

Highlight by topic

Year B Autumn – Eureka!

Year B Spring - On the Latin Side

Year B Summer – British Greats

Year 5
Knowledge, Skills and Understanding breakdown for Computing

Digital programming	Digital Making	Digital Skills
Computational thinking: I can solve problems by decomposing them into smaller parts I can recognise the need for conditions in repetition within algorithms I can use logical reasoning to detect and correct errors in algorithms I can evaluate my work and identify errors **Coding:** I can use selection in programs I can use conditions in repetition commands I can work with variables I can create programs that control or simulate physical systems I can evaluate my work and identify errors **Computer Networks :** I understand how we view web pages on the Internet I use search technologies effectively I know how pages are ranked in a search engine	**Presentations/eBooks:** I can collaborate with peers using presentation tools I can create and export an interactive presentation including a variety of media, animations, transitions and other effects I can create an interactive guide to a image by embedding digital content **Animation:** I can combine different animations to create a scene like an interview. I can add green screen effects to a stop motion animation **Video Creation:** I can use cutaway and split screen tools in a movie. I can evaluate the best video tools to best explain my understanding I can further improve green screen clips using crop and resize and explore more creative ways to use the tool **Digital Art:** I can make a digital photo using camera settings I can enhance digital photos and images using a variety of tools I can link and explain how to Photoshop images and how this is used in the media **Sound:** I can add voice over to images. Create a remix of a popular song	**Word Processing:** I can start to apply hyperlinks I can import sounds to accompany and enhance the text in my document I can organise and reorganise text on screen to suit a purpose **Data Handling:** I can create an online questionnaire and analyse the results I can use simple formulae to solve calculations including =sum and other statistical functions I can edit and format different cells in a spreadsheet.

Challenge

Year 5	Explore procedures within programming	Develop their own musical composition	Make links with learning in maths

Highlight by topic

Year A Autumn - The Blitz

Year A Spring – Out Of This World

Year A Summer – Bristol

Highlight by topic

Year B Autumn – Eureka!

Year B Spring - On the Latin Side

Year B Summer – British Greats

Year 6
Knowledge, Skills and Understanding breakdown for Computing

Digital programming	Digital Making	Digital Skills
Computational thinking: I can recognise, and make use, of patterns across programming projects I can write precise algorithms for use when programming I can identify variables needed and their use in selection and repetition I can decompose code into sections for effective debugging I can critically evaluate my work and suggest improvements **Coding:** I can use a range of sequence, selection and repetition commands combined with variables as required to implement my design I can create procedures to hide complexity in programs I can critically evaluate my work and suggest improvements **Computer Networks:** I understand what HTML is and recognize HTML tags I know a range of HTML tags and can remix a web page I can create a webpage using HTML	**Presentations/eBooks:** I can design an app prototype that links multimedia pages together with hyperlinks I can choose applications to communicate to a specific audience. I can evaluate my own content and consider ways to improvements. **Animation:** I can mix animations and videos recordings of myself to create video interviews. I can plan, script and create a 3D animation to explain a concept or tell a story. I can choose and create different types of animations to best explain my learning **Video Creation:** I can use the green screen masking tool with more than one character. I can create videos using a range of media - green screen, animations, film and image to further enhance my creation **Digital Art:** I can edit a picture to remove items, add backgrounds, merge 2 photos I can evaluate and discuss images I can use a 3D drawing app to create a realistic representation of world objects **Sound:** I can edit sound clips to use in a film or radio broadcast (podcast) I can compose a soundtrack that can be added to a film project.	**Word Processing:** I can confidently choose the best application to demonstrate my learning. I can format text to suit a purpose. **Data Handling:** I can write spreadsheet formula to solve more challenging maths problems I can create and publish my own online quiz with a range of media (images and video)

Challenge

Year 6	To apply knowledge to a wider range of physical outputs	To bring together multiple technologies to combine them and achieve a goal.	Use wider multimedia within their quiz.