Curriculum Map Computing

	Vision for the subject: At Randwick, our aim is to equip the children with not only the statutory requirements of the computing National Curriculum, but to prepare them for the opportunities, responsibilities and experiences of later life. Our computing curriculum is full of rich experiences, role-playing , filming, art and is designed to be extremely engaging.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6	End points for the year
Buzzards Year A	**DARES PROJECT – Year 1** **Information Technology - Shaddow Puppets Edu** • I know how to record a film using the camera app. • I know how to select images and record a voiceover. • I know how to highlight and zoom into images as I record. **Video Creation** • I know how to select images and record a voiceover. • I know how to highlight and zoom into images as I record.	**DARES PROJECT – Year 2** **Computer Science** **AI - Adobe Spark Video** • I can explain some advantages and disadvantages of using simple AI technology • I know that artificial intelligence can be used to simulate human-like abilities in a computer. **Artificial Intelligence** I can explain some advantages and disadvantages of using simple AI technology **Video Creation** I know how to use tools to add effects to a video **Presentations, web design and eBook Creation** I know how to add a voice recording to a storyboard	**DARES PROJECT – Year 2** **Information Technology** **Speech Bubble Pictures** • I know how to use the space bar only once between words and use touch to navigate to words letter to edit • I know how to copy and paste images and text • I know how to use caps locks for capital letters. • I know how to add images alongside text in a word-processed document. • I know how to dictate longer passages into a digital device with accurate punctuation. **Presentation** I can add speech bubbles to an image to show what a character thinks. **Computational Thinking** I can critically evaluate my work and suggest improvements I can explain how I am developing an online reputation which will allow other people to form an opinion of me. I can describe some simple ways that help build a positive online reputation	**DARES PROJECT – Year 1** **Computer Science** **Programming** **Animations** • I know how to add filters and stickers to enhance an animation of a character. • I know how to create an animation to tell a story with more than one scene. • I know how to add my own pictures to my story animation. **Animation** • I know how to animate a simple image to speak in role • I know how to add filters and stickers to enhance an animation of a character	**DARES PROJECT – Year 2** **Information Technology - Presentation linked to famous individual** I know how to use the space bar only once between words and use touch to navigate to words letter to edit • I know how to copy and paste images and text • I know how to use caps locks for capital letters. • I know how to add images alongside text in a word-processed document. • I know how to dictate longer passages into a digital device with accurate punctuation. **Presentations, Web Design and eBook Creation** • I know how to add voice labels to an image.	**DARES PROJECT – Year 1** **Computer Science** **- Programming** **Scratch Jnr Maze Game** • I know how to create a simple program on a digital device e.g. Bee Bot or tablet • I know how to use sequence in programs • I know how to locate and fix bugs in my program **Computational Thinking** ● I understand what algorithms are ● I know how to write simple algorithms ● I understand the sequence of algorithms is important ● I know how to debug simple algorithms **Coding/Programming** ● I know how to create a simple program on a digital device e.g. Bee Bot or tablet ● I know how to use sequence in programs ● I know how to locate and fix bugs in my program	

Vocabulary	**Vocabulary** Search, select, rearrange, title, text, record, pause, undo, zoom, pan, highlight.	**Vocabulary** AI, technology, voice assistant, text, recognise	**Vocabulary**	**Vocabulary** Upload, character, draw, record, playback, filter, stickers, save, export.	**Vocabulary** Upload, image, add, tag, label, audio, media, copy, save.	**Vocabulary** Algorithm, sequence, order, bug, fix, precise, Digital, program, follow, code, bugs, fix, order, ScratchJr	
	Formative assessment: during each computing session Summative assessment: Teachers assessment on final DARES project product - To include judgement of evaluative skills and creative design as well as technical skills.						

	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**	End points for the year
Buzzards Year B	**<u>DARES PROJECT – Year 1</u>** **Information Technology Presentation** **Presentation** I can create a simple spider diagram. **Computational Thinking** I can critically evaluate my work and suggest improvements **Online Reputation** I can explain how I am developing an online reputation which will allow other people to form an opinion of me. I can describe some simple ways that help build a positive online reputation	**<u>DARES PROJECT – Year 2</u>** **Video Creation - Masking Storytime** • I know how to select images and record a voiceover. • I know how to highlight and zoom into images as I record.	**<u>DARES PROJECT – Year 1</u>** **Information Technology - Podcasting** **Video** • I can write and record a script using a teleprompter tool. **Sound** • I can record my voice and add different effects.	**<u>DARES PROJECT – Year 1</u>** **Data Handling - Digital Pictograms** **Word Processing/Typing** • I know how to use the space bar only once between words and use touch to navigate to words letter to edit • I know how to copy and paste images and text • I know how to use caps locks for capital letters. • I know how to add images alongside text in a word processed Document **Data Handling** • I know how to sort digital objects into a range of charts such as Venn diagrams, carroll diagrams and bar charts using different apps and software. • I know how to orally record myself explaining what the data shows me.	**<u>DARES PROJECT – Year 2</u>** **Artificial Intelligence - What's the advantage?** **Artificial Intelligence** I can explain some advantages and disadvantages of using simple AI technology **Video Creation** I know how to use tools to add effects to a video **Presentations, web design and eBook Creation** I know how to add a voice recording to a storyboard.	**<u>DARES PROJECT – Year 2 - Programming - Knock Knock Joke</u>** **Computational Thinking** ● I understand decomposition is breaking objects/processes down ● I know how to debug algorithms **Coding/Programming** ● I understand programs follow precise instructions ● I know how to create programs using different digital devices E.g. Bee Bot or ScratchJr on a tablet ● I know how to debug programs of increasing complexity ● I know how to use logical reasoning to predict the outcome of simple programs	
Vocabulary	Labels, order, sequence, spider diagram, text box, style	Record, camera, layers, import, image, mask, timeline, erase, resize, trim,	Voiceover, highlight, zoom, countdown, playback, delete, pause, rewind, fast forward.	Venn diagrams, carroll diagrams, bar charts, database, table	AI, technology, voice assistant, text, recognise	**Decomposition, debug, reason, detail, breakdown, task, Precise, logical reasoning, prediction, debug, sequence**	

Assessment	Formative assessment: during each computing session Summative assessment: Teachers assessment on final DARES project product - To include judgement of evaluative skills and creative design as well as technical skills.	

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6	End points for the year
Kestrels Year A	**<u>DARES PROJECT – Year 3</u>** **Information Technology - Podcasting** • I can create and edit purposeful compositions using music software to create mood or a certain style • I can experiment with live loops to create a song. **Word processing/typing** • I can combine digital images from different sources, objects, and text to make a final piece of a variety of tasks: posters, documents, eBooks, scripts, leaflets. **Video** • I can write and record a script using a teleprompter tool. **Sound** • Edit sound effects for a purpose. • I can record a radio broadcast or audiobook.	**<u>DARES PROJECT – Year 4</u>** **Information Technology – Presentation** **Digital Poster** • I can combine digital images from different sources, objects, and text to make a final piece of a a variety of tasks: posters, documents, eBooks, scripts, leaflets. • Confidently and regularly use text shortcuts such as cut, copy and paste and delete to organise text • Use font sizes appropriately for audience and purpose.\Use spell check and thesaurus including through Siri and other AI technology **Presentation** I can create an interactive quiz eBook introducing hyperlinks.	**<u>DARES PROJECT – Year 3</u>** **Computer Science** **Animation** • I can create animations of faces to speak in role with more life-like realistic outcomes. • I can improve stop motion animation clips with techniques like onion skinning. • I can use animation tools in presenting software to create simple animations. **Computational Thinking** ● I can create algorithms for my programming projects ● I can decompose projects (such as an animation) into steps to create an algorithm **Coding/Programming** ● I can design a program ● I can create a program using a design ● I can create a sequence of code ● I can work with a variety of outputs ● I can evaluate my program	**<u>DARES PROJECT – Year3</u>** **Information Technology – Video Creation -** **Voice Over** **Imovie** • 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 independently create a green screen clip. • I can create my own movie trailer. **Video Creation** • I know how to sequence clips of mixed media in a timeline and record a voiceover	**<u>DARES PROJECT – Year 4</u>** **Computer Science** **AR** **Invent a toy** • I can create my own 360 video. • I can use the camera to create a 360 image. • I can add multiple objects into my surroundings through AR to explain a concept.	**<u>DARES PROJECT – Year 4</u>** **Information Technology - AI Teachable** • I can train an AI model and investigate how more data can make it more accurate • I know about big data and how it can be used to inform decision-making and improve machine learning algorithms **Artificial Intelligence** I can train an AI model and explore how more data makes it more accurate **Computational Thinking** ● I know how to use abstraction to focus on what's important in my design ● I know how to write more precise algorithms for use when programming ● I know how to use simple selection and repetition in algorithms ● I know how to use logical reasoning to detect and correct errors in programs	

Vocabulary	Media, interactive, audio, edit, rhythm, Input, output, selection, mix	Animation, design template, effects, multimedia, eBook, ePub, export, hyperlinks	Micro:bit, program, code, algorithm, problem, decompose, sequence, LED, output	Project, media, image, video, timeline, split, record, replay, soundtrack, volume, filter.	Logical reasoning, design, algorithmic thinking, selection, repeat	Data, train, model, image, class, pattern	
Assessment	Formative assessment: during each computing session Summative assessment: Teachers assessment on final DARES project product - To include judgement of evaluative skills and creative design as well as technical skills.						

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Kestrels Year B	**<u>DARES PROJECT – Year 3</u>** **AR & VR KS2 Creating a 360 Image** **Presentations, Web Design and eBook Creation** • I know how to create a presentation demonstrating my understanding with a range of media. **Augmented Reality and Virtual Reality** • I know how to create my own digital 360 image and explore it in VR	**<u>DARES PROJECT – Year 4</u>** **Video Creation - visual story telling** • I know how to sequence clips of mixed media in a timeline and record a voiceover • I know how to evaluate and improve the best video tools to best explain my understanding.	**<u>DARES PROJECT – Year 4</u>** **Presentation KS2 Interactive Quiz eBook** **Presentation** I can create an interactive quiz eBook introducing hyperlinks.	**<u>DARES PROJECT – Year 3</u>** **Programming Animation All Devices Scratch 3.0 (Free)** **Computational Thinking** ● I know how to create algorithms for my programming projects ● I know how to decompose projects (such as an animation) into steps to create an algorithm ● I understand abstraction is focusing on important information ● I know how to identify patterns in an algorithm **Coding/Programming** ● I know how to design a program ● I know how to create a program using a design ● I know how to create a sequence of code ● I know how to evaluate my program	**<u>DARES PROJECT – Year 4</u>** **Presentation KS2 Adobe Spark Post Poster** **Word Processing/Typing** • I know how to combine digital images from different sources, objects, and text to make a final piece of a variety of tasks: posters, documents, eBooks, scripts, leaflets. **Presentations, Web Design and eBook Creation** • I know how to import images to a project from the web and camera roll	**<u>DARES PROJECT – Year 4</u>** **Networks KS2 Understanding the Internet and Green Screen Video** **Computer Networks** ● Understand the Internet is a worldwide network ● Understand how web pages are viewed across the Internet ● Understand the difference between the Internet and the world wide web Video Creation ● I know how to use confidently use green screen adding animated backgrounds.	

Vocabulary	Project, slide size, panoramic, shapes, instant alpha, media, clip art, layout, 360, virtual reality	Slide, video, trim, volume, icon, search, record, order, soundtrack, layout, split screen.	Animation, design template, effects, multimedia, eBook, ePub, export, hyperlinks	Abstraction, information, relevant, pattern, same, different, complex, sequence, code, design, programming language, Scratch	Import, resize, font, effects, adjust, layout, opacity, transparent, align, style, spacing	Internet, router, data, web page, submarine cable	
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Sparrowhawks Year A	**Computer Science Coding** • I can solve problems by decomposing them into smaller parts • I can use selection in algorithms • I can recognise the need for conditions in repetition within algorithms • I can use logical reasoning to explain how a variety of algorithms work • I can use logical reasoning to detect and correct errors in algorithms • I can evaluate my work and identify errors **Coding and Programming** I know how to use a range of sequence. Selection and repetition commands to implement my design	**Information Technology Video Creation (Y5)** • I can use cutaway and split screen tools in iMovie. • I can evaluate and improve 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 - wearing green clothes and the masking tool. **Word Processing/Typing** • I know how to organise and reorganise text on screen to suit a purpose **Video Creation** • I know how to use cutaway and split screen tools in iMovie. • I know how to evaluate and improve the best video tools to best explain my understanding. • I know how to further improve green screen clips using crop and	**Information Technology AI Machine Learning for kids (Y6)** **Artificial Intelligence** I can train an AI model and use it within a program **Computational Thinking** ● I know how to decompose a design or code to focus on specific parts ● I know how to use abstraction to hide complexity in my design or code ● I know how to recognise and make use of patterns in my design and code ● I know how to critically evaluate my work and suggest improvements	**Information Technology Web Page Design (Y5)** • I can create a web site which includes a variety of media. • 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. **Presentations, web design and eBook Creation** • I can create a webpage and embed video. **Video Creation** • I know how to evaluate and improve the best video tools to best explain my understanding.	**Computer Science Micro:bit (Y5) Computational Thinking** ● I can solve problems by decomposing them into smaller parts ● I can use selection in algorithms **Coding/Programming** ● I can create programs by decomposing them into smaller parts ● I can use a variety of selection commands in programs ● I can work with variables ● I can evaluate my work and identify errors	**Computer Science Video Game Scratch (Y6)** • 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 • I can use a range of sequence, selection and repletion commands combined with variables as required to implement my design • I can create procedures to hide complexity in programs • I can identify and write generic code for use across multiple projects	

	Computational Thinking I know how to decompose a design or code to focus on specific parts I know how to recognise and make use of patterns in my design and code	resize and explore more creative ways to use the tool - wearing green clothes and the masking tool. **Computational Thinking** • I know how to solve problems by decomposing them into smaller parts				• I can critically evaluate my work and suggest improvements • I can identify and use basic HTML tags (See Computer Networks objectives) **Computational Thinking** ● I know how to decompose a design or code to focus on specific parts ● I know how to use abstraction to hide complexity in my design or code ● I know how to recognise and make use of patterns in my design and code ● I know how to critically evaluate my work and suggest improvements **Coding/Programming** ● I know how to use a range of sequence, selection and repetition commands to implement my design ● I know how to identify the need for, and work with, variables ● I know how to create procedures to hide complexity in programs ● I know how to critically evaluate my work and suggest improvements	
Vocabulary	Design, space, shape, plane, 3D, code, radius, loop, object, variable, pattern, modify, procedure, abstraction, Augmented Reality (AR),	Cutaway, split screen, chroma key, crop, resize, teleprompter, masking, timeline, import, trim.	Data, train, model, image, class, pattern, selection, condition	Import, link, embed, header, glideshow, layout, format, heading, subheading	Micro:bit, program, code, algorithm, problem, variable, selection, input debug	Generalisation, pattern, reuse, modify, remix, critical, procedure, abstraction, conditional loop, logic, operator, implement	
Assessment	Formative assessment: during each computing session Summative assessment: Teachers assessment on final DARES project product - To include judgement of evaluative skills and creative design as well as technical skills.						

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Sparrowhawks Year B	**Video Creation News Report iPad Doink iMovie (free)** **Sound** • I know how to create a simple four chord song following the correct rhythm. • I know how to create a remix of a popular song. Computational Thinking • I know how to solve problems by decomposing them into smaller parts • I know how to critically evaluate my work and suggest improvements	**Programming KS2 Year 6: micro:bit - Sensors** **Computational Thinking** ● I can decompose a design or code to focus on specific parts ● I can critically evaluate my work and suggest improvements **Coding/Programming** ● I can identify the need for, and work with, variables ● I can use a range of sequence, selection and repetition commands to implement my design	**Animation KS2 Interviewing Characters** **Animation** • I know how to take multiple animations of a character I have created and edit them together for a longer video. • I know how to record animations of different characters and edit them together to create an interview. Video Creation • I know how to evaluate and improve the best video tools to best explain my understanding.	**Networks KS2 HTML - the language of the web** Structure of this DARES unit This Networks DARES unit is structured slightly different to others. In this unit, pupils complete the following: 1. Pupils tinker with 'X-Ray Goggles' and the Glitch HTML editor to learn the basics of HTML 2. Pupils go on to design and create a very simple webpage coded in HTML in the Glitch HTML editor.	**Computer Networks Search Engines iPad Adobe Spark (Free)** Networks KS2 Search Engines - the computer science of how they work Computer Networks ● Understand that web spiders index the web for search engines ● Appreciate how pages are ranked in a search engine Presentations, web design and eBook Creation ● I know how to create and export an interactive presentation including a variety of media, animations, transitions and other effects. Photography and Digital Art ● I know how to enhance digital photos and images using crop, brightness and resize tools	**Programming Quiz All Devices Scratch 3.0 (Free)** **Computational Thinking** I know how to solve problems by decomposing them into smaller parts I know how to use selection in algorithms Coding/Programming I know how to create programs by decomposing them into smaller parts I know how to use a variety of selection commands in programs I know how to use conditions in repetition commands I know how to work with variables I know how to create programs that control or simulate physical systems I know how to evaluate my work and identify errors	
Vocabulary	Chorus, chords, tempo, compose, record, metronome, BPM (beats per minute), remix, export.	Micro:bit, program, code, algorithm, problem, sensor, temperature, light, input, output	Import, export, trim, clips, media library, subtitles, timeline	HTML (HyperText Markup Language), opening tag, closing tag, code	Search engine, spiders, index, ranked, ranking algorithm, keyword	Evaluation, effectiveness, complexity, data, prediction, condition, Data, memory, variables, value, initialisation,	
Assessment	Formative assessment: during each computing session Summative assessment: Teachers assessment on final DARES project product - To include judgement of evaluative skills and creative design as well as technical skills.						