Ashford Oaks Primary School Computing Scheme of Work - Year 5

	Multimedia and Word processing	Digital media	Programming 2 forms/languages	Communication and Collaboration	Data	E-Safety
Year 5	• Evaluate a range of electronic multimedia, and understand the implications appropriate to their given task e.g. key features of layout and design • Plan structure and layout of presentation • evaluate and select suitable information and media from a range of electronic resources • to use a multimedia authoring program to organise, refine and present information for a specific audience • Create a range of hyperlinks to produce a non-linear presentation • Through peer assessment and self evaluation	Digital Imagery • To use different filming techniques and camera angles e.g. zoom, panning, wide shot etc to create different mood/perspective • Plan a video or animation by drawing a storyboard • Use a range of sound effects, music and voice-overs to create mood/ atmosphere • Select and edit sounds, text, movie clips and other effects to suit purpose and audience • Evaluate and improve work with a view to purpose and audience **Music and Sound**	**Programming Unit 1 - Kodu** • Create more complex games – building on work in Year 4 • Create a user controlled sprite, automated sprites and peripheral characters with different behaviours. • Use copying and creatable to create multiple characters. • Shift camera angles in settings and in the code. • Use timers, health monitors and power ups. **Programming Unit 2: Scratch: Creating more challenging games** • Design their own game including sprites, backgrounds, scoring and/or timers. • Their game uses conditional statements, loops, variables and broadcast messages. • Their game finishes if the player wins or loses and the player knows if they have won or lost. • Evaluate the effectiveness of their	**Unit 1: Internet research** Use advanced search functions in Google, e.g. quotations. Understand websites such as Wikipedia are made by users (link to E-Safety) Use strategies to check the reliability of information, e.g. cross checking with books. Use their knowledge of domain names to aid their judgment of the validity of websites. **Unit 2: Cloud computing** Understand files may be saved off their device in 'clouds' (servers).	Modelling and Simulation • to change variables in a spreadsheet to solve problems • to make predictions and changes and check results. • to enter formulae for the four operations (+-x/) into a spreadsheet • to use 'SUM' to calculate the total of a set of numbers in a range of cells • to change data in a spreadsheet to answer 'what if...?' questions and check predictions • Using a simple layout demonstrated by the teacher, create a simple spreadsheet model and use it to solve problems	**E-Safety** **Online Research** When using the Internet to research their work, children recognise the need to ask appropriate questions to find appropriate answers. Children know that good online research involved interpreting information, rather than copying. Children are able to carry out more refined web searches by using key words. Children evaluate search results and refine as necessary for the best results. Know that information found on websites may be inaccurate or biased and to check the

	children should evaluate their design and make suitable improvements **When word processing children should:** • format text to indicate relative importance. • justify text where appropriate. • cut and paste between applications. • delete/insert and replace text to improve clarity and mood. • make corrections using a range of tools (eg spell check, find and replace) • develop confidence using both hands when typing	• record sounds using sound editing software • collect sounds from a variety of sources (online, digital sound recorder) • import sounds into sound editing software • layer and edit sounds • plan, create and refine either a radio programme or play with sound effects or a sonic postcard Save as a web compatible format for uploading and podcasting; share online	game and debug if required.	Upload/download a file to the cloud on different devices. Understand about syncing files using cloud computing folders.	**Data logging** • Plan an investigation using data logging technology • Make predictions for this investigation and understand how to make it a fair test • Carry out the investigation, ensuring accuracy • Interpret results, draw conclusions and analyse the effectiveness of the technology	validity of a website. Develop strategies to ignore or cancel unsolicited advertising (pop-ups, banners, videos or audio). Children use websites where resources can be downloaded without infringing copyright. Acknowledge sources used in their work. **E-Safety Communication & Collaboration** Be aware of the different forms of technology that can be used to access the Internet and communicate with others. **E-Safety E-Awareness** Children recognise their own right to be protected from the inappropriate use of technology

						by others and the need to respect the rights of other users.

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Unit/Project	Statutory requirements/ key skills	Notes	Possible outcomes and activities
Multimedia and word processing Comp KS2 6 (7)	• Evaluate a range of electronic multimedia, and understand the implications appropriate to their given task e.g. key features of layout and design • Plan structure and layout of presentation • evaluate and select suitable information and media from a range of electronic resources • to use a multimedia authoring program to organise, refine and present information for a specific audience • Create a range of hyperlinks to produce a non-linear presentation • Through peer assessment and self evaluation children should evaluate their design and make suitable improvements **When word processing children should:** • format text to indicate relative importance. • justify text where appropriate. • cut and paste between applications. • delete/insert and replace text to improve clarity and mood. • make corrections using a range of tools (eg spell check, find and replace) • develop confidence using both hands when typing	Suggested Resources **Google Slides/ Google Docs** **Multimedia Authoring packages: Powerpoint – Create slides and add pictures, text, WordArt, Video** **Touch Typing Courses** (www.bbc.co.uk/schools/typing) **Typing Club** https://www.typingclub.com/login.html - children have their own log ins for this. **Purple Mash – 2type – can be revisited for those struggling.** **Google classroom – work collaboratively on documents set work, save work, give peer feedback**	**Plan a presentation, combine from a range of sources, organise and refine to suit purpose and audience** Literacy – Newspaper report linked to the topic Talks – create a non-linear presentation for a talk. Topic – create a presentation about a focus location- Create an interactive map by linking spots with hyperlinks to information pages. Touch Typing – If new to the school or needs further practice.
Music and Sound Comp KS2 6 (7)	• record sounds using sound editing software • collect sounds from a variety of sources (online, digital sound recorder) • import sounds into sound editing software • layer and edit sounds • plan, create and refine either a radio programme or play with sound effects or a sonic postcard • Save as a web compatible format for uploading and podcasting; share online	Suggested Resources **EasiSpeak Microphone** - Simple microphones which allow recording of sounds **2 Simple Music Toolkit** - A range of music related programs for adding sounds, creating phrases etc... **Purple Mash 2sequence – layer sounds including own sounds** **Audacity** – Sound editing program with more features than Podium. Also allows multiple layers of sound. **NOT**	**Create radio programme or sonic postcard by combining sounds** Music – create music to go with a song that they've written and record it being performed using Audacity. Topic – use Audacity to record a news report about events in topic

		COMPATIBLE WITH CHROMEBOOK CURRENTLY Online sources of sounds: www.findsounds.com; Audio Network http://audio.lgfl.org.uk ; Microsoft ClipArt Online	Topic- Add sounds to VLE based on topic – children could talk about their work. Topic- Create a sound map. Locate and add sounds to different locations on an Indian map.
Digital Imagery Comp KS2 6 (7)	• To use different filming techniques and camera angles e.g. zoom, panning, wide shot etc to create different mood/perspective • Plan a video or animation by drawing a storyboard • Use a range of sound effects, music and voice-overs to create mood/ atmosphere • Select and edit sounds, text, movie clips and other effects to suit purpose and audience • Evaluate and improve work with a view to purpose and audience	Suggested Resources **Digital camera** - **Windows Movie Maker** - Video editing software which allows **only on laptops** **Purple Mash 2Aimate** – Simple animation program **www.pixton.com – (TBC) – can get a free teacher login – allows comics to be created**	**Plan a storyboard for a video or animation. Create, edit and refine.** Literacy – Create scenes with multiple camera angles and shot types
Modelling and Simulation Comp KS2 6 (7)	• to change variables in a spreadsheet to solve problems • to make predictions and changes and check results. • to enter formulae for the four operations (+-x/) into a spreadsheet • to use 'SUM' to calculate the total of a set of numbers in a range of cells • to change data in a spreadsheet to answer 'what if...?' questions and check predictions • Using a simple layout demonstrated by the teacher, create a simple spreadsheet model and use it to solve problems	Suggested Resources **Spreadsheet program e.g. Excel / Google slides**– Start to use as a spreadsheet; adding formulas. **Purple Mash – Unit 5.3 – Spreadsheets** **Twinkl Planning – Y6 – Spreadsheets**	**Design and use a spreadsheet to solve a problem by changing variables.** Answer 'what if questions' Create spreadsheet for business plan using formulas → link to the Victorian Apprentice Task
Programming Unit 1 - Kodu Comp KS2 1,2,3 (7)	• Create more complex games – building on work in Year 4 • Create a user controlled sprite, automated sprites and peripheral characters with different behaviours. • Use copying and creatable to create multiple characters.	Use Kodu guidance on meeting these objectives. http://csamarktng.vo.msecnd.net/kodu/pdf/kodu_curriculum_keyboard_mouse.pdf or type in **http://tinyurl.com/q65qtoo**	Create a game linked to topic e.g. get a pharaoh to the pyramids without be attacked by the mummies.

	• Shift camera angles in settings and in the code. • Use timers, health monitors and power ups.		
Programming Unit 2: Scratch/ Purple Mash 2code: Creating more challenging games Comp KS2 1,2,3 (7)	• Design their own game including sprites, backgrounds, scoring and/or timers. • Their game uses conditional statements, loops, variables and broadcast messages. • Their game finishes if the player wins or loses and the player knows if they have won or lost. • Evaluate the effectiveness of their game and debug if required.	Scratch activity cards and tutorials at http://scratch.mit.edu/help/ Blog by Simon Haughton with lots of ideas and lesson plans http://www.simonhaughton.co.uk/scratch-programming/ Twinkl Scratch planning – saved in Computing folder Scratch – Developing Games These are examples and presentations that can be saved into team drive and opened by pupils so then lessons can be followed on Chromebooks – or on laptops **Purple Mash Unit 5.1 Coding Purple Mash – Unit 5.5 – Game Creator**	Create games with story sections and levels. Link to topics or retelling a story in Literacy e.g. find ingredients to make an Indian recipe or guide a story character through different problems in a story.
Communication and Collaboration **Unit 1: Internet research** Comp KS2 4, 6 (7)	Use advanced search functions in Google, e.g. quotations. Understand websites such as Wikipedia are made by users (link to E-Safety) Use strategies to check the reliability of information, e.g. cross checking with books. Use their knowledge of domain names to aid their judgment of the validity of websites.	**Google Be Internet Legends**	Use research skills to find out about India. Use research skills to book a holiday to India
Communication and Collaboration **Unit 2: Cloud computing**	Understand files may be saved off their device in 'clouds' (servers). Upload/download a file to the cloud on different devices. Understand about syncing files using cloud computing folders.	Google classroom Explore how work can be saved in real time and how work can be completed collaboratively through many users having access to a document in google environment **Purple Mash- 2blog**	Save work onto Google Drive. Open work from cloud, edit and then resave back to the cloud.

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Data Handling Comp KS2 6 (7)	**Data logging** • Plan an investigation using data logging technology • Make predictions for this investigation and understand how to make it a fair test • Carry out the investigation, ensuring accuracy • Interpret results, draw conclusions and analyse the effectiveness of the technology	Suggested Resources **Data logger** – Digitally monitors temperatures, sound and light levels	**Plan, carry out and evaluate an investigation using data logging technology.** **Create and refine a sequence of instructions to control events, using programmed procedures.** Maths – use data loggers and sensors to collect data as part of an investigation. Science – use data loggers to record data for an investigation.

Unit/Project	Statutory requirements/ key skills	Notes	Possible outcomes and activities
E-Safety Online Research Comp KS2 7	• When using the Internet to research their work, children recognise the need to ask appropriate questions to find appropriate answers. • Children know that good online research involved interpreting information, rather than copying. • Children are able to carry out more refined web searches by using key words. • Children evaluate search results and refine as necessary for the best results. • Know that information found on websites may be inaccurate or biased and to check the validity of a website. • Develop strategies to ignore or cancel unsolicited advertising (pop-ups, banners, videos or audio). • Children use websites where resources can be downloaded without infringing copyright. • Acknowledge sources used in their work.	Children's search engines; www.kidsclick.org http://kids.yahoo.com/ www.askforkids.com Visit the e-SAFE page on Fronter for tips on Safe Searching ThinkUKnow Cybercafe Lesson 5, "Responsible use of the Internet" For copyright free pictures and music; NEN Gallery Audio Networks SMART Rule – Reliable **Google Be Internet Legends – E-safety planning**	This could be taught as a separate Life Skills lesson or as part of another ICT lesson. Refer to the E-SMART rules.
E-Safety Communication & Collaboration Comp KS2 7	• Be aware of the different forms of technology that can be used to access the Internet and communicate with others.	ThinkUKnow Cybercafe Lessons: 6 – chatting with care 7 – Using text and picture messaging 8 – behaving responsibly www.thinkuknow.co.uk/8_10/ Captain Kara and Winston's SMART Adventure (KnowITall), chapter 3, "What Should you keep safe?"	This could be taught as a separate Life Skills lesson or as part of another ICT lesson. Refer to the E-SMART rules.
E-Safety E-Awareness Comp KS2 7	• Children recognise their own right to be protected from the inappropriate use of technology by others and the	KS 2 Safer Internet Day Assembly video. **http://www.thinkuknow.co.uk/teachers/**	This could be taught as a separate Life Skills lesson or as part of another ICT lesson.

	need to respect the rights of other users.	School Internet **Acceptable Use Policy** "Where's Klaus" video from CEOPS (teachers will need to register at the ThinkUKnow website in order to download this video). SMART Rules – Tell, Messages **Google Be Internet Legends**	Refer to the E-SMART rules.