Ashford Oaks Primary School – Year 4 Computing Scheme of Work

	Multimedia and Word processing	Digital media	Programming 2 forms/languages	Communication and Collaboration	Data	E-Safety
Year 4	• Evaluate a range of electronic multimedia, appropriate to task e.g website, photostory, leaflet, and recognise key features of layout and design • With support, plan structure and layout of document/ presentation • Select and import graphics from digital cameras, graphics packages and other sources and prepare it for processing using ICT • If project is multimedia, select and import sounds (eg own recording, sound effects bank created by teacher) and video/ visual effects • Through peer assessment and self evaluation, evaluate work both during and after completion, and make suitable improvements • Develop increasing sense of audience **When word processing children should:** • choose freely from a range of text styles, to suit audience • hold two hands over different halves of the keyboard use more than two fingers to enter text	**Graphics** • import a photograph and explore the effects which can be created • use a range of visual effects such as filters, hues and painting over photographs. • Create patterns and montages • select areas and manipulate to give different effects. **Music and Sound** • listen to a variety of radio programmes, evaluating their style • write a script for a radio programme • plan and record audio for a radio program, eg interview, news broadcast, advert, cookery programme • evaluate and re-record (maybe editing) • maybe publish work online as a podcast	**Programming Unit 1: Scratch Simple Game** • Navigate the Scratch programming environment. • Create a background and sprite for a game. • Add inputs to control their sprite. • Use conditional statements (if… then) within their game. **Programming Unit 2: Kodu** • Navigate the Kodu macro environment using keyboard and mouse • Create a 3D digital world for a game with land, water and scenery. • Add a sprite to their world. • Program their sprite to navigate their 3D world with an input. • Create paths on which sprites will move. • Use conditional statements ('if…then') to give objects behaviours	• select from your best work to save and share through an e-portfolio • use at least two online communication methods (eg online discussion, surveys, quizzes, blogs, wikis, shared online folders, web quests) through the Learning Platform in topic work • discuss advantages and disadvantages of these communication methods • To start to think about the different styles of language layout and format of online communications sent to different people (eg. when it is appropriate to use "text language").	**Graphing** • Have regular opportunities to enter data into a graphing package and use it to create a range of graphs, and to interpret data across all subjects • To compare how different graphs can be used for different purposes **Branching Databases** • search a branching database • create and use a branching database to organise, reorganise and analyse information • compare the use of graphing software, branching database and card-based database for organising and interpreting data • explore some real-life examples of branching databases, such as keys for animal indentification	**E-Safety Online Research** Use internet search engines to gather resources for their own research work. Be aware of different search engines and discuss their various features (e.g. Google image & video search). Show children how to change the 'Search Settings' to Strict in Google. Understand the importance of framing questions into search criteria when conducting web searches. Be aware that not everything they find online is accurate and that information needs to be checked and evaluated. **E-Safety Communication & Collaboration** Children use online communication tools to exchange and develop their ideas in a range of curriculum opportunities. Use sensitive and appropriate language when using online communication tools. Use email as a form of communication, use the "To" box and add a subject heading. Add an attachment to an email. Develop understanding of when it is unsafe to open an email or an email attachment. **E-Safety E-Awareness** Children understand and abide by the school's 'Being SMART Online' rules and aware of the implications of not following the rules. Children understand that a password can keep information secure and the need to keep it a secret.

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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, appropriate to task e.g website, photostory, leaflet, and recognise key features of layout and design • With support, plan structure and layout of document/ presentation • Select and import graphics from digital cameras, graphics packages and other sources and prepare it for processing using ICT • If project is multimedia, select and import sounds (eg own recording, sound effects bank created by teacher) and video/ visual effects • Through peer assessment and self evaluation, evaluate work both during and after completion, and make suitable improvements • Develop increasing sense of audience **When word processing children should:** • choose freely from a range of text styles, to suit audience • hold two hands over different halves of the keyboard use more than two fingers to enter text	Suggested Resources **Multimedia Authoring packages: Powerpoint – Create slides and add pictures, text, WordArt, Video.** **Use google slides** **Word processing packages: Word** – Use google docs on chrome books **Purple Mash Unit 4.4 Writing for Different Audiences** **Touch Typing Course** (www.bbc.co.uk/schools/typing **Typing club** https://www.typingclub.com/login.html children have a log in for this. **GOOGLE CLASSROOM – any google app can be used collaboratively with everyone writing on the same document**	**Plan, design and create and improve their own multimedia presentation showing awareness of audience.** Literacy – type a literacy story or newspaper report and send it to a friend / someone in another school for them to review. Science/Topic – Create a presentation about a topic area. PSHE – Create a Google slides presentation Year 4 to revise Touch Typing course
Music and Sound Comp KS2 6 (7)	• listen to a variety of radio programmes, evaluating their style • write a script for a radio programme • plan and record audio for a radio program, eg interview, news broadcast, advert, cookery programme • evaluate and re-record (maybe editing) • maybe publish work online as a podcast	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... **Audactiy** – Sound editing program with more features than Podium. Also allows multiple layers of sound Online sources of sounds: www.findsounds.com; Audio Network http://audio.lgfl.org.uk ; Microsoft ClipArt Online	**Plan and record material for a radio programme** Topic – Report on events during Boudicca's revolt. Post work onto Fronter Literacy – Create a question and answer podcast in role (e.g. interview and animal about their habitat) and layer sound effects to the background.

Graphics Comp KS2 6 (7)	• import a photograph and explore the effects which can be created • use a range of visual effects such as filters, hues and painting over photographs. • Create patterns and montages • select areas and manipulate to give different effects.	**Purple Mash Unit 4.6 – Animation – using 2Animate**	**Create digital artwork by photograph editing.** Robots – create a picture of a robot using metallic colours. Literacy – Create a scene to use as a setting for a story Topic – Create a piece of art in the style that is tradition with your focus country.
Programming Unit 1: Scratch/ Purple Mash 2 Code : My first game Comp KS2 1,2,3 (7)	• Navigate the Scratch programming environment. • Create a background and sprite for a game. • Add inputs to control their sprite. • Use conditional statements (if… then) within their game.	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 Scatch – Questions and Quizzes Programming – Turtle Logo – this will be added to computing section of teacher shared resources. Hour of code **Purple Mash Unit 4.1 Coding** **Purple Mash 2Code**	Create a simple game where if a conditional statement is met then they start again or lose e.g. don't touch the edge of a maze.
Programming Unit 2: Kodu Comp KS2 1,2,3 (7)	• Navigate the Kodu macro environment using keyboard and mouse • Create a 3D digital world for a game with land, water and scenery. • Add a sprite to their world. • Program their sprite to navigate their 3D world with an input. • Create paths on which sprites will move. • Use conditional statements ('if…then') to give objects behaviours	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**	Topic Create a world to settle in. What resources would be needed e.g. rivers, mountains, trees. Create the world and navigate a sprite around it.
Communication and Collaboration	• select from your best work to save and share through an e-portfolio	Suggested Resources **E-Safety - Google – Be Internet Legends**	**Use at least two online communication methods through the**

Comp KS2 4, 6 (7)	• use at least two online communication methods (eg online discussion, surveys, quizzes, blogs, wikis, shared online folders, web quests) through the Learning Platform (google classroom) in topic work • discuss advantages and disadvantages of these communication methods • To start to think about the different styles of language layout and format of online communications sent to different people (eg. when it is appropriate to use "text language").	**Purple Mash – Unit 4.2 - Esafety** **Email** – Class email **Purple Mash 2email** **Google classroom** School's online classroom where children's work can be uploaded. Also has chat, vote, quiz and forum functions	**Learning Platform. Understand the SMART internet safety rules.** Topic – Create topic page on google sites with at least two forms of online communication and then share with other classes to investigate and comment on. **Link to e-Safety** Children use a range of communication tools to collaborate and exchange information with others, e.g. email, blog, forums.
Handling Data Comp KS2 6 (7)	**Graphing** • Have regular opportunities to enter data into a graphing package and use it to create a range of graphs, and to interpret data across all subjects • To compare how different graphs can be used for different purposes **Branching Databases** • search a branching database • create and use a branching database to organise, reorganise and analyse information • compare the use of graphing software, branching database and card-based database for organising and interpreting data • explore some real-life examples of branching databases, such as keys for animal identification	Suggested Resources **Google sheets** Create graphs and spreadsheets – similar to Microsoft on the laptops **Purple Mash Unit 4.3 – Spreadsheets** **Purple Mash 2 Question**	**Collect, find, organise and interpret information using graphing and a branching database.** Maths – use data collected in maths to create graphs and charts. Science – Create database to solve sorting problems in Science e.g. sort what material a mystery sample is.

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Unit/Project	Statutory requirements/ key skills	Notes	Possible outcomes and activities
E-Safety Online Research Comp KS2 7	• Use internet search engines to gather resources for their own research work. • Be aware of different search engines and discuss their various features (e.g. Google image & video search). • Show children how to change the 'Search Settings' to Strict in Google. • Understand the importance of framing questions into search criteria when conducting web searches. • Be aware that not everything they find online is accurate and that information needs to be checked and evaluated.	**Google Be Internet Legends Lesson plans** Children's search engines; www.kidsclick.org http://kids.yahoo.com/ www.askforkids.com **Purple Mash Unit 4.2 Online safety** ThinkUKnow Cybercafe Lesson 5, `Responsible use of the internet' www.thinkuknow.co.uk/8_10/ (click on Jason for the web browsing section) KnowITall Activity 2 (The SMART Adventure); complete the website treasure hunt CyberQuoll Episode 2 – 'Finding Stuff' (safe searching) and lessons 2.1-2.5 http://www.cyberquoll.com.au Spoof website www.allaboutexplorers.com SMART Rule - Reliable	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	• Children use online communication tools to exchange and develop their ideas in a range of curriculum opportunities. • Use sensitive and appropriate language when using online communication tools. • Use email as a form of communication, use the "To" box and add a subject heading. • Add an attachment to an email. • Develop understanding of when it is unsafe to open an email or an email attachment.	CyberQuoll Episode 3 – 'Making Waves' (cyber communication) and lessons 3.1-3.7 http://www.cyberquoll.com.au ThinkUKnow Cybercafe lesson 1, "Using technology to communicate" & lesson 4, "Using email safely" SMART Rules – Messages **Purple Mash Unit 4.2 Online safety**	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 understand and abide by the school's 'Being SMART Online' rules and aware of the implications of not following the rules. • Children understand that a password can keep information secure and the need to keep it a secret.	School Internet **Acceptable Use Policy** KS1 and 2 Safer Internet Day Assembly video **http://www.thinkuknow.co.uk/teachers/** Top Tips for Safe Surfing poster from LGFL KS2 Internet Safety poster from KGFL	This could be taught as a separate Life Skills lesson or as part of another ICT lesson. Refer to the E-SMART rules.

		KnowIT All Activity 3 (The SMART Adventure); drama activity highlighting an e-Safety issue. "Where's Klaus" video from CEOPS (teachers will need to register at the ThinkUKnow website in order to download this video). **Purple Mash Unit 4.2 Online safety** SMART Rules - Safe	