St John of Jerusalem
Church of England Primary School

COMPUTING YEAR PLANS

2014-15

Year Group	Autumn 1 8 weeks	Autumn 2 7 weeks	Spring 1 6 weeks	Spring 2 5 weeks	Summer 1 6 weeks	Summer 2 7 ½ weeks
NURSERY	Seeks to acquire basic skills in turning on and operating some ICT equipment. Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car.	Knows how to operate simple equipment, e.g. turns on CD player and uses remote control.	Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones.	Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.	Knows that information can be retrieved from computers.	Completes a simple program on a computer. Uses ICT hardware to interact with age-appropriate computer software.
RECEPTION	**We are shape makers:** using light boxes and IWB to make shape pictures. **We can take turns**: children will take it in turns to use the touch screen on the IWB to complete a simple programme. **We can listen:** children will use technology such as walkie talkies or phones to communicate verbally.	**We have confidence:** recording and playing back sounds using laptops and microphones. **We are DJs:** controlling digital sound files and videos using Powerpoint. **We can understand instructions:** controlling kitchen or other equipment.	**We are healthy:** internet research, opening applications. **We are talkers:** using video cameras to record video clips. **We are digital readers:** using online software such as Cbeebies to open applications and engage with digital text. **We can blog:** communicating with digital text.	**We have feelings:** taking and displaying digital photographs. **We are game players:** using online games and apps to learn how to open and close files. **We can drive:** investigating everyday technologies. **We can count:** programming a	**We can observe:** taking photographs using a digital microscope. **We can understand messages:** using the recorder on the ipad to control and use sound. **We can drive:** investigating everyday technologies.	**We can observe:** taking photographs using a digital microscope. **We are community members:** taking and displaying digital photographs. W**e can drive:** investigating everyday technologies.

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	We are successful: taking digital photographs and combining them with text and sounds.	**We are successful:** taking digital photographs and combining them with text and sounds. **We are film producers:** recording video clips for a short film.		programmable toy such as a bee bot. **We can blog:** communicating with digital text.	**We can record sound tracks:** recording a soundtrack using something like an electronic keyboard. **We can blog:** communicating with digital text. **We are creative:** choosing and using tools in an art application.	**We are designers:** controlling a remote controlled toy. **We can blog:** communicating with digital text. **We can email:** using email to communicate. **We can exercise:** using digital timers and thermometers
YEAR 1	***We are Treasure Hunters*** (Using programmable toys)	***We are Celebrating*** (creating a card electronically)	***We are Painters***. (illustrating a book)	***We are*** ***We are Collectors.*** ***Storytellers*** *(finding images (producing* a on the web) talking book)	***We are TV Chiefs***. (following a recipe)	
YEAR 2	**We are astronauts** In this unit, the children will learn to program a sprite (such as a spaceship) to move around the screen.	**We are game testers** In this unit, the pupils will try to work out how some simple Scratch games work. They also look at free online or open source	**We are photographers** In this unit, the children review photos online, practise using a digital camera, take photos to fit a given theme, edit their photos, and then	**We are researchers** The children research a topic - safely, effectively and efficiently - using a structured approach	**We are detectives** In this unit, the children are challenged to solve a mystery by reading, sending and replying to emails, and by	**We are Zoologists** In this unit, the children go on a bug hunt, recording and identifying the small animals they find. They then organise

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		games and share their favourite games with the class	select their best images to include in a shared portfolio.	(mind mapping). They share their findings with others through a short multimedia presentation.	listening to a witness statement. They use a fact file sheet to create a table and identify the culprit.	the data they have collected, record it using a graphing package, and interpret the graph to answer questions about the animals.
YEAR 3	**We are game Programmers** • Create an algorithm for an animated scene in the form of a sroryboard • Write a program in scratch to create the animation • Correct the mistakes in their animation programs.	**We are bug fixers** • Develop a number of strategies for finding errors in programs • Build resilience and and strategies for problem solving. • Increase their knowledge and understanding of Scratch • Recognise a number of common types of bug in software	**We are presenters** • Gain skills in shooting live video, such as framing shots , holding the camera steady, and reviewing • Edit video, including adding narration and editing clips by setting in/out points. • Understand the qualities of effective video, such as the importance of narrative, consistency, perspective and scene length.	**We arenetwork engineers** • Understand the physical hardware connections necessary for computer networks to work. • Understand some features of internet protocols • Understand some diagnostic tools for investigating network connections • Develop a basic understanding of how domain names are converted to IP addresses.	**We are communicators** • Develop a basic understanding of how email works. • Gain skills in using emails • Be aware of broarder issues surrounding email, including 'netiquette' and e-safety • Work collaboratively with a remote partner • Experience video conferencing.	**We are opinion pollsters** • Understand some elements of survey design • Understand some ethical and legal aspects of online data collection. • Use the web to facilitate data collection • Gain skills in using • Gain skills in using charts to analyse data. • Gain skills in interpreting results.

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YEAR 4	**We are software developers** • Develop an educational computer game using selection and repetition. • Understand and use variables. • Start to debug computer programs. • Recognise the importance of user interface design, including consideration of input and output.	**We are musicians** • Use one or more programs to edit music. • Create and develop a musical composition, refining their ideas through reflection and discussion. • Develop collaboration skills. • Develop an awareness of how their composition can enhance work in other media.	**We are meteorologists** • Understand different measurement techniques for weather, both analogue and digital. • Use computer based data logging to automate the recording of some weather data. • Use spreadsheets to create charts. • Analyse data, explore inconsistencies in data and make predictions. • Practise using presentation software and, optionally, video.	**We are co-authors** • Understand the conventions for collaborative online work, particularly in wikis. • Be aware of their responsibilities when editing other people's work. • Become familiar with Wikipedia including potential problems associated with its use. • Practise research skills. • Write for a target audience using a wiki tool. • Develop collaboration skills. • Develop proofreading skills	**We are toy designers** • Design and make an on-screen prototype of a computer controlled toy. • Understand different forms of input and output (such as sensors, switches, motors, lights and speakers). • Design, write and debug the control and monitoring program for their toy.	**We are HTML editors** • Understand some technical aspects of how the internet makes the web possible. • Use HTML tags for elementary mark up. • Use hyperlinks to connect ideas and sources. • Code up a simple web page with useful content. • Understand some of the risks in using the web.

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YEAR 5	**<u>We are game developers.</u>** **Children learn to design and develop their own games using computer software.**	**<u>We are architects.</u>** **This unit uses Google Sketchup for 3-D modelling – the outcome within the unit suggest that children can create a virtual art gallery in which children's work might be displayed.**	**<u>We are artists.</u>** **The pupils use vector and turtle graphics to explore geometric art.**	**<u>We are web developers.</u>** **Children will learn how a website is designed before designing their own.**	**<u>We are bloggers.</u>** **Children will revise their knowledge of blogging.** **They will experiment with different types of blogs before creating their own.**	**<u>We are cryptographers.</u>** **This unit will look more closely at coding. Children will learn to read and write their own codes.**
YEAR 6	**Unit 6.1 We are app planners.(Planning the creation of a mobile app).** • Pupils develop an awareness of the capabilities of smartphones and tablets. • Understand the geo-location, including GPS.	**Unit 6.2 We are Project Managers. (Developing Project Management Skills).** • Scope a project to identify different components that must be	**Unit 6.3 We are Market Researchers (Researching the app market)** • Create a set of good survey questions. • Analyse the data obtained from a survey. • Work collaboratively to plan questions.	**Unit 6.4 We are interface designers** **(Designing an interface for an app)** • Work collaboratively to design the apps interface. • Use wire-framing tools to create a	**Unit 6.5 We are app developers (Developing a simple mobile phone app)** • Importing existing media assets to their project. • Write down the algorithms for their app.	**Summer 2** **Unit 6.6 We are market researchers (researching the app market)** • Consider key marketing messages. • Develop a printed flyer or brochure incorporating

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	• Identify interesting, solvable problems. • Design an educational app. • Pitch a proposal for a smartphone or tablet app. **Coding Autumn Term** Introduction to coding – what it means. Children learn the meaning of an algorithm and other technical words. Children follow a set of instructions by using Espresso Coding to programme object's to move.	successfully combined. • Identify their existing talents and plan how they can develop further knowledge and skills. • Identify the component task of a project and develop a timeline to track progress.	• Conduct an interview or focus group. • Analyse and interpret the information obtained from interviews/focus group. • Present their research findings. **Coding Spring Term** Introduction to Scratch. Pupils use another software program to enhance the production of an animation/game.	design prototype of their design. • Develop or source the individual interface components (media assets they will use). Document their design decisions and the process they have followed.	• Thoroughly test and evaluate their app. • Use web-based research skills to source tools, content and other resources. **Coding Summer Term** Program and debug and refine the code for their app.	text and images. • Further develop knowledge, skills relating to shooting and editing videos.