

Computing Long Term Planning Overview

St Joseph's 2014-2016

At St Joseph's we have developed our own programme of study based upon the National Curriculum 2014 for Computing. This programme of study is based upon the NAACE ICT Framework, adapted considering the complex needs of the learners at St Joseph's. The KS1/2, KS3 and KS4 programmes of study below are based on the EYFS, KS1/2 and KS3 NAACE frameworks respectively, whilst also considering NC guidance where appropriate. *Safe and Responsible Use* is taught through all aspects as indicated below, as well as in discrete modules of ICT and within PSHE.



"A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world."

(National Curriculum 2014, p.204)

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St Joseph's 2014-2016

KS1/2

2014-15

2015-16

Autumn 1	<p>Who am I online? Sharing information safely on the internet</p> <ul style="list-style-type: none">• Online identity• Sharing information and data safely• Impact of ICT on our lives	<p>Worldwide friends Communicating online and offline</p> <ul style="list-style-type: none">• Digital communication online and off-line• Sharing information• Respect and friendship• Networks and the World Wide Web
Autumn 2	<p>Freeze it How do we keep things cold? Explore simple programming to keep our food cold and our homes warm.</p> <ul style="list-style-type: none">• Recognising technologies How technology helps us at home, school and work• Control• Programs and programming	<p>Seeing the Light Explore how technology has helped to transform our world (light, heat, food, energy, transport).</p> <ul style="list-style-type: none">• Impact of ICT on our lives• How technology has changed the world• Recognising technology• Impact of ICT on our lives
Spring 1	<p>Media Magic How is a movie made? How do we make Cartoons? Video and animation</p> <ul style="list-style-type: none">• Producing media• Creating and Sharing Content	<p>From A to B Programming simple toys to make a journey from A to B</p> <ul style="list-style-type: none">• Control• Programs and programming• Problem solving

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KS1/2

2014-15

2015-16

Spring 2	<p>Buildings around the globe Explore streets and buildings from around the world compare them with our village of Cranleigh.</p> <ul style="list-style-type: none">• Use search technologies effectively• Collecting real world information• Finding information	<p>Keeping safe online What is a password? Keeping my work safe in school and online.</p> <ul style="list-style-type: none">• Networks and the World Wide Web• Sharing information and data safely• Ownership of information and data• Technologies store information
Summer 1	<p>Online friends Exploring how technology can be used to help us every day.</p> <ul style="list-style-type: none">• Recognising technologies How technology helps us at home, school and work• Technologies (computers and devices containing a computer)• Evolution of technologies	<p>The Magic Toymaker Explore toys children use today - including electronic toys and apps.</p> <ul style="list-style-type: none">• How technology has changed the world• Technologies (computers and devices containing a computer)• Impact of technology on our lives• Gaming• Recognising technologies
Summer 2	<p>Nature Detectives Searching for information online and collecting data on the natural environment around us.</p> <ul style="list-style-type: none">• Collecting real world information• Finding information• Introduction to features of webpages	<p>Waterworld Use online maps and searches to find places in the world that have lakes, rivers and waterfalls.</p> <ul style="list-style-type: none">• Collecting real world information• Finding information

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KS3

	2014-15	2015-16
Autumn 1	<p>Who am I online? Sharing information safely on the internet</p> <ul style="list-style-type: none"> • Online identity, online safety, offline safety • Social Networking • Sharing information and data safely • Impact of ICT on Society including scope, scale and nature of ICT evolution 	<p>Worldwide friends Communicating online and offline</p> <ul style="list-style-type: none"> • Digital communication online and off-line • Communication • Sharing information • Respect and friendship • Networks and the World Wide Web
Autumn 2	<p>Freeze it How do we keep things cold? Explore simple programming to keep our food cold and our homes warm.</p> <ul style="list-style-type: none"> • Recognising technologies How technology helps us at home, school and work • Control • Programs and programming 	<p>Seeing the Light Explore how technology has helped to transform our world (light, heat, food, energy, transport).</p> <ul style="list-style-type: none"> • Impact of ICT on our lives • How technology has changed the world • Recognising technology • Impact of ICT on our lives
Spring 1	<p>Media Magic How is a movie made? How do we make Cartoons? Video and animation</p> <ul style="list-style-type: none"> • Creative industries, inc. media and games creation • Producing and editing media • Creating and Sharing Content 	<p>From A to B Programming a journey from A to B. Explore how we use programming to help us in practical ways (i.e. traffic lights, level crossing)</p> <ul style="list-style-type: none"> • Control, modelling and simulations • Programs & Programming • Sequences (algorithms) • Problem solving

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St Joseph's 2014-2016

KS3

2014-15

2015-16

Spring 2	<p>Buildings around the globe Explore streets and buildings from around the world create a website to show key buildings in Cranleigh.</p> <ul style="list-style-type: none"> • Using ICT to help learning Finding, retrieving and validating information • Collaboration • Web design 	<p>Keeping safe online What is a password? Keeping my work safe in school and online.</p> <ul style="list-style-type: none"> • Networks and the World Wide Web • Sharing information and data safely • Ownership of information and data • Information & data storage • Online identity, online safety, offline safety
Summer 1	<p>Online friends Exploring how technology can be used to help us every day.</p> <ul style="list-style-type: none"> • Collaboration and communication • Technologies (computers and devices containing a computer) • Evolution of technologies • Networks, the Internet and the Web • Respect, etiquette and responsible use • E-Commerce 	<p>The Magic Toymaker Explore toys children use today - including electronic toys and apps.</p> <ul style="list-style-type: none"> • Gaming, Game and app creation • Technologies (computers and devices containing a computer) • Impact of technology on our lives • Evolution and impact of technologies, computers and computing • ICT Specific jobs
Summer 2	<p>Nature Detectives Collecting data on the natural environment around us, investigating and recording.</p> <ul style="list-style-type: none"> • Collecting, analysing, evaluating real world data including datalogging • Using ICT to help learning Finding, retrieving and validating information 	<p>Our natural world Search the internet to research the impact technology has had on our world.</p> <ul style="list-style-type: none"> • Finding, retrieving and validating information • Environmental issues • Impact of ICT on Society including scope, scale and nature of ICT evolution • Sharing Information (inc presentations)

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KS4/5

2014-15

2015-16

<p>Autumn 1</p>	<p>Social networking and me How do you use social media? Exploring the benefits and the dangers of connecting with people online. How do we say safe? Who should we communicate with through social networks?</p> <ul style="list-style-type: none"> • Online identities, respect and etiquette • Social Networking • Digital Communication • Communicating online • Online & Offline safety 	<p>Our connected world We all work together in school to complete work in class and online, but we don't have to be in the same country to work together.</p> <ul style="list-style-type: none"> • Collaboration & Communication • Using ICT for learning • Evolution and impact of work practices/tools • Impact of ICT on Society including scope, scale and nature of ICT evolution
<p>Autumn 2</p>	<p>Online gaming We all use computers everyday and most of us have played online games, but how are games made? Explore programming using Scratch and other tools. Create games, thinking of audience and user.</p> <ul style="list-style-type: none"> • Gaming, Game and app creation • Modelling – games • Control and programming • Problem Solving • Algorithms 	<p>Technology and the planet Explore how technology has helped to transform our world (light, heat, food, energy, transport). What has the impact of this been? Can you create a website or presentation highlighting our impact on the planet?</p> <ul style="list-style-type: none"> • Impact of ICT on Society including scope, scale and nature of ICT evolution • Evolution and impact of work practices/tools • Environmental issues
<p>Spring 1</p>	<p>Making movies! How is a movie made? How do we make Cartoons? Explore the process of Video and animation, including jobs in creative industry</p> <ul style="list-style-type: none"> • Producing & Editing media • Creating and sharing content • Creative industries, inc. media and games creation • ICT based and ICT related jobs • Copyright and legal issues 	<p>Systems and modelling How does technology help us to work in the modern world? Explore simple systems and modelling that we use in the school and in the local community (including Computer Aided Design).</p> <ul style="list-style-type: none"> • Modelling – spreadsheets • Modelling – CAD • Embedded systems • Algorithms • ICT Systems life cycle

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KS4/5

2014-15

2015-16

<p>Spring 2</p>	<p>WRL and Technology How will we need to use technology in our jobs? What jobs are ICT specific, what jobs are ICT based? Do all jobs need understanding of how to use technology?</p> <ul style="list-style-type: none"> • Work related learning/training • ICT specific jobs • Evolution and impact of work practices/tools • Business software and industry systems • Industry applications of programming to solve problems 	<p>Safe and secure How do we protect our school? How do we keep our private information private? How do we ensure safety of bank accounts or online transactions? Explore internet security.</p> <ul style="list-style-type: none"> • Networks and Data storage • Organisation of data and data standards • Data protection • Hacking • Online & Offline safety • E-commerce
<p>Summer 1</p>	<p>Own choice WJEC or Work Experience</p>	<p>Apps, fun and games We all use apps every day on our iPads. But how are they made? Explore making simple apps (using an app maker such as Mozilla).</p> <ul style="list-style-type: none"> • Gaming, Game and app creation • Control and programming • Problem Solving • Electronic devices & Systems design • Modelling – games • Evolution and impact of computing
<p>Summer 2</p>	<p>Share with the world Explore our current topic we are looking at or a world event. Build your own web page to share with others. What information should you share? Who are you designing your website for? Focus on your user!</p> <ul style="list-style-type: none"> • Creating and sharing content • Web Design (including ICT specific jobs) • User-centred design • Finding, retrieving and validating information 	<p>Own choice WJEC or Work Experience</p>

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KS1/2/3 Topic Themes for Reference and Cross-Curricular Links

	2014-15	2015-16
Autumn 1	Who am I?	Let's celebrate
Autumn 2	Freeze it Push me, pull you	Seeing the light
Spring 1	Media Magic	A to B
Spring 2	Buildings	Greenfingers
Summer 1	Let's go on Holiday	The Magic Toymaker
Summer 2	Flowers and Insects	Waterworld