St Andrew's C of E Primary School

Curriculum Map for Computing

E Safety	Programming	Handling Data	Multimedia	Technology in our Lives

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Children **recognise that a range of technology is used in places such as homes and schools.** They **select and use technology for particular purposes**					
EYFS – Nursery	Why do you love me so much? Why do leaves go crisp?	Where does snow go?	Do Dragons Exist? **E-Safety Day**	Are eggs alive?	Why can't I have Chocolate for Breakfast?	How High Can I Jump?
	Typical Behaviours -Seeks to acquire basic skills in turning on and operating equipment -Knows how to operate simple equipment -Interacts with age appropriate computer software					
EYFS - Reception	Children **recognise that a range of technology is used in places such as homes and schools.** They **select and use technology for particular purposes**					
	Do you want to be friends? **Why do squirrels hide their nuts?** -Do the children take an interest in the route map? -Can they explain what is happening? -Can the children use the map's icons correctly?	Will you read me a story?	**What happens when I fall to sleep?** -Can the children describe what happens when they look through the telescope or binoculars? -Can they use a turn wheel or similar to focus? -Do the children show in interest in using the toys? **E-Safety Day**	Who lives in a rock pool?	Why do ladybirds have spots?	Are We There Yet?
	Typical Behaviours -Knows how to operate simple equipment -Interacts with age appropriate computer software -Select and use technology for a particular purpose - Select appropriate applications that support an identified need.					

E Safety	Programming	Handling Data	Multimedia	Technology in our Lives
EA –I can explain why I need to keep my password and personal information private. **EB** - I can describe the things that happen online that I must tell an adult about. **EC** - I can talk about why I should go online for a short amount of time. **ED** - I can talk about why it is important to be kind and polite online and in real life. **EF** - I know that not everyone is who they say they are on the Internet.	**PA** - I can give instructions to my friend (using forward, backward and turn) and physically follow their instructions. **PB** - I can tell you the order I need to do things to make something happen and talk about this as an algorithm. **PC** - I can program a robot or software to do a particular task. **PD** - I can look at my friend's program and tell you what will happen. **PE** - I can use programming software to make objects move. **PF** - I can watch a program execute and spot where it goes wrong so that I can debug it.	**HA** - I talk about the different ways I use technology to collect information, including a camera, microscope or sound recorder. **HB** - I can make and save a chart or graph using the data I collect. **HC** - I can talk about the data that is shown in my chart or graph. **HD** - I am starting to understand a branching database. **HE** - I can tell you what kind of information I could use to help me investigate a question	**MA** –I can use technology to organise and present my ideas in different ways. **MB** - I can use the keyboard on my device to add, delete and space text for others to read. **MC** - I can tell you about an online tool that will help me to share my ideas with other people. **MD** - I can save and open files on the device I use.	**TA** - I can tell you why I use technology in the classroom. **TB** - I can tell you why I use technology in my home and community. **TC** - I am starting to understand that other people have created the information I use. **TD** - I can identify benefits of using technology including finding information, creating and communicating. **TE** - I can talk about the differences between the Internet and things in the physical world.

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	National Curriculum – KS1 Pupils should be taught to: ♣ understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions ♣ create and debug simple programs ♣ use logical reasoning to predict the behaviour of simple programs ♣ use technology purposefully to create, organise, store, manipulate and retrieve digital data ♣ recognise common uses of information technology beyond school ♣ use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies..					
KS1 – Year 1	**Superheroes** Programming ➢ Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous	**Dinosaur Planet** Multi Media Handling Data Tech in our Lives ➢ Use technology purposefully to create, organise, store, manipulate and retrieve digital content	**Paws, Claws & Whiskers** Multi Media Tech in our Lives E-Safety ➢ Use technology purposefully to create, organise, store, manipulate and	**Enchanted Woodland** Tech in our Lives E-Safety ➢ Recognise common uses of information technology beyond school ➢ Use technology safely and respectfully, keeping personal	**Beachcomber**	**Memory Box**

	instructions Create and debug simple programs ➢ Use logical reasoning to predict the behaviour of simple programs. **(PA-F)** ***Beebots – programming*** ***Taking pictures*** **Workshop – Programming BEEBOTS**	➢ Recognise common uses of information technology beyond school **(MA MD) (HA)** **(TA-E)** ***Green screening*** ***Editing images*** ***Chatter pix***	retrieve digital content ➢ Recognise common uses of information technology beyond school ➢ Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. **(MA-D) (TA-E) (EB-E)** ***Presentation*** **E-Safety Day**	information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. **(TD TE) (EB-E)** ***Sending Email***		

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KS1 – Year 2	**Muck, Mess & Mixtures** Multimedia ➢ Use technology purposefully to create, organise, store, manipulate and retrieve digital content	**Bright Lights, Big City** Technology in our Lives ➢ Use logical reasoning to predict the behaviour of simple programs ➢ Use technology purposefully to	**Towers, Tunnels and Turrets** E Safety ➢ Use technology safely and respectfully, keeping personal information private; identify where to go for help and support	**Wriggle & Crawl** Handling Data ➢ Use technology purposefully to create, organise, store, manipulate and retrieve digital content	**Land Ahoy**	

	➢ Recognise common uses of information technology beyond school **(MA, MD)** ***I Pastels-create artwork***	create, organise, store, manipulate and retrieve digital content **(TA-E)** ***Edited photos*** ***Saved information*** ***Green screening*** ***Puppet pals*** **Workshop – Multimedia** **PUPPET PALS**	when they have concerns about content or contact on the internet or other online technologies **(EB-E)** ***Research*** ***I Pastels*** **E-Safety Day**	➢ Recognise common uses of information technology beyond school ➢ Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. **(HA-E)** ***Data handling***	

Additional Lessons covering…	**E-Safety (EA)** ➢ **I can explain why I need to keep my password and personal information private.**

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EA - I choose a secure password and screen name when I am using a website. **EB** - I can talk about the ways I can protect myself and my friends from harm online **EB** - I use the safety features of websites as well as reporting concerns to an adult. **EC** - I know that anything I share online can be seen by others. **EC** - I choose websites, apps and games that are appropriate for my age. **ED** - I can help my friends make good choices about the time they spend online. **ED** - I comment positively and respectfully online **EF** - I can talk about why I need to ask a trusted adult before downloading files and games from the Internet.	**PA** - I can use logical thinking to solve an open-ended problem by breaking it up into smaller parts. **PB** - I can use an efficient procedure to simplify a program. **PC** - I can use a sensor to detect a change which can select an action within my program. **PE** - I know that I need to keep testing my program while I am putting it together. **PE** - I can use a variety of tools to create a program. **PF** - I can recognise an error in a program and debug it. **PG** - I recognise that an algorithm will help me to sequence more complex programs. **PH** - I recognise that using algorithms will also help solve problems in other learning such as Maths, Science and Design and Technology.	**HA** - I can organise data in different ways. **HB** - I can collect data and identify where it could be inaccurate. **HC** - I can plan, create and search a database to answer questions. **HD** - I can choose the best way to present data to my friends. **HE** - I can use a data logger to record and share my readings with my friends.	**MA** - I can use photos, video and sound to create an atmosphere when presenting to different audiences **MB** - I am confident to explore new media to extend what I can achieve. **MB** - I can change the appearance of text to increase its effectiveness. **MB** - I can create, modify and present documents for a particular purpose. **MD** - I can use a keyboard confidently and make use of a spellchecker to write and review my work. **ME** - I can use an appropriate tool to share my work and collaborate online. **MF** - I can give constructive feedback to my friends to help them improve their work and refine my own work.	**TA** - I can tell you whether a resource I am using is on the Internet, the school network or my own device. **TB** - I can identify key words to use when searching safely on the World Wide Web. **TC** - I think about the reliability of information I read on the World Wide Web. **TF** - I can tell you how to check who owns photos, text and clipart. **TG** - I can create a hyperlink to a resource on the World Wide Web. **TH** - I can recognise that websites use different methods to advertise products

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	National Curriculum – KS2 Pupils should be taught to: ♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ♣ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration ♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information					

	♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.				
KS2 – Year 3	**Tribal Tales**	**Tremors** **Multimedia** ➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information **(MA, MB, ME, MF)** ***Green screening*** ***Presenting information***	**Mighty Metals** **Handling Data** ➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. **(HA-E)** ***Morfo*** ***Creating spreadsheets*** **E-Safety Day**	**Predator** **Technology in our Lives** **Programming** **Multi Merdia** > Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. > Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. > Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. > Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration. > Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. **(TA, TB, TC, TF)**	**I am Warrior**

				(PA-G) (MD) *Research* *Programming bird of prey* *Recognising suitable information* Workshop – Multimedia MORFO	

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	♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.					
KS2 – Year 4	**Gods & Mortals** **Multimedia** ➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. **(MA, MB, ME, MF)** ***Green screening***	**Potions**	**Traders & Raiders** **Programming** **Multimedia** ➢ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. ➢ Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. ➢ Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. **(PA-G)**	**Bottoms, Burps & Bile** **Programming** **Handling Data** ➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. ➢ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. ➢ Use sequence, selection, and repetition in programs; work with	**Blue Abyss** **Programming** **Handling Data** ➢ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. ➢ Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. ➢ Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. ➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and	**Misty Mountain Sierra** **Handling Data** ➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. **(HA-E)** ***Data Handling***

			(MA, MB) *Animation* *Book creator* *Digital images* **E-Safety Day**	variables and various forms of input and output. ➢ Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. (HA-E) (PA-G) *Digital images* *Editing images of teeth* *Algorithms flow diagram* *Imovie*	create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. (HA-E) (PA-G) *Programming* *Presentations* **Workshop – Multimedia** **GARAGE BAND**	

Additional Lessons Covering…	**E-Safety** (EA -G) ➢ I choose a secure password and screen name when I am using a website. ➢ I can talk about the ways I can protect myself and my friends from harm online. ➢ I use the safety features of websites as well as reporting concerns to an adult. ➢ I know that anything I share online can be seen by others. ➢ I choose websites, apps and games that are appropriate for my age. ➢ I can help my friends make good choices about the time they spend online. ➢ I can talk about why I need to ask a trusted adult before downloading files and games from the Internet. ➢ I comment positively and respectfully online **Programming** (PH) ➢ I recognise that using algorithms will also help solve problems in other learning such as Maths, Science and Design and Technology. **Multimedia**, (MD) ➢ I can use a keyboard confidently and make use of a spellchecker to write and review my work. **Technology in our Lives** (TG, TH) ➢ I can create a hyperlink to a resource on the World Wide Web. ➢ I can recognise that websites use different methods to advertise products

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KS2 – Year 5	**Stargazers** **Multimedia**	**Revolution** **Handling Data**	**Peasants, Princes and Pestilence** **Multimedia**	**Frozen Kingdom** **Multimedia** **Technology in our Lives**	**Scream Machine** **Programming**
	➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. **(MA-F)** ***Green screening – diary entry***	➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information **(HA-E)** ***Digital Photography*** ***Data collection***	➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information **(MA-F)** ***Creating own trailer*** ***Collecting, evaluating and presenting data and information*** **E-Safety Day** **Workshop – Digital Design** **SKETCHUP**	➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ➢ Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. **(MA-F)** **(TA-I)** ***IMovie – NC Report***	➢ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. ➢ Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. ➢ Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. ➢ Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration. ➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. ➢ Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. **(PA-F)** ***Designing a theme park – Minecraft*** ***Digital photography*** ***CYOAS – hyperlinking*** ***Researching***

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EA – I protect my password and other personal information **EB** – I can explain the consequences of sharing too much about myself online **EB** - I support my friends to protect themselves and make good choices online, including reporting concerns to an adult. **EC** - I can explain the consequences of spending too much time online or on a game. **ED** - I can explain the consequences to myself and others of not communicating kindly and respectfully. **EF** - I protect my computer or device from harm on the Internet	**PA** - I can deconstruct a problem into smaller steps, recognising similarities to solutions used before. **PB** - I can explain and program each of the steps in my algorithm. **PC** - I can recognise when I need to use a variable to achieve a required output. **PD** - I can evaluate the effectiveness and efficiency of my algorithm while I continually test the programming of that algorithm. **PE** - I can use a variable and operators to stop a program **PF** - I can use logical reasoning to detect and correct errors in a algorithms and programs **PF** - I can use different inputs (including sensors) to control a device or onscreen action and predict what will happen.	**HA** – I can plan the process needed to investigate the world around me **HB** – I can select the most effective tool to collect data for my investigation **HB** – I can check the data I collect for accuracy and plausibility. **HC** – I can interpret the data I collect. **HD** – I can present the data I collect in an appropriate way **HE** - I use the skills I have developed to interrogate a database.	**MA** - I can talk about audience, atmosphere and structure when planning a particular outcome **MB** - I can confidently identify the potential of unfamiliar technology to increase my creativity. **MC** - I can combine a range of media, recognising the contribution of each to achieve a particular outcome. **MD** - I can tell you why I select a particular online tool for a specific purpose **MF** - I can be digitally discerning when evaluating the effectiveness of my own work and the work of others.	**TA** - I can tell you the Internet services I need to use for different purposes. **TC** - I can describe how information is transported on the Internet. **TC** - I can check the reliability of a website. **TD** - I can talk about the way search results are selected and ranked. **TF** - I can tell you about copyright and acknowledge the sources of information that I find online **TG** - I know that websites can use my data to make money and target their advertising. **TI** - I can select an appropriate tool to communicate and collaborate online

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	National Curriculum – KS2 Pupils should be taught to: ♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ♣ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration ♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information					

	♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.				
KS2 – Year 6	**Hola Mexico** **Multimedia** ➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information **(MA-F)** ***Powerpoint and Bookcreater to create images***	**A Child's War**	**Off with their Head** **Handling Data** ➢ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. ➢ Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. **(HA-E)** ***Data handling*** **E-Safety Day**	**Visual Literacy (Alma, Titanium, Francis)** **Programming** ➢ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. ➢ Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. ➢ Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. **(PA-F)**	**Gallery Rebels** **Programming** ➢ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. ➢ Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. ➢ Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. **(PA-F)** **Workshop – Programming**

Additional Lessons Covering…	**E-Safety (EA-F)** ➢ I protect my password and other personal information. ➢ I can explain the consequences of sharing too much about myself online. ➢ I support my friends to protect themselves and make good choices online, including reporting concerns to an adult. ➢ I can explain the consequences of spending too much time online or on a game. ➢ I can explain the consequences to myself and others of not communicating kindly and respectfully. ➢ I protect my computer or device from harm on the Internet. **Technology in our Lives (TA-I)** ➢ I can tell you the Internet services I need to use for different purposes. ➢ I can describe how information is transported on the Internet. ➢ I can check the reliability of a website. ➢ I can talk about the way search results are selected and ranked. ➢ I can tell you about copyright and acknowledge the sources of information that I find online ➢ I know that websites can use my data to make money and target their advertising. ➢ I can select an appropriate tool to communicate and collaborate online