

# Folly View and The Elms Primary Schools

## SUBJECT: Computing



Vision: For children to be confident, creative, flexible and responsible in their use of information technology to communicate, share, organise and produce their own digital content including multimedia, digital texts, programming and organising data. Children will understand the positives and pitfalls of information technology and make safe healthy choices about when it is and isn't appropriate to use information technology.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<b>Pre-School</b>	Computing skills will be developed through the use of continuous provision opportunities that help promote the EYFS areas of learning, whilst giving children experiences of using technology. Examples include: <ul style="list-style-type: none"> <li>Using cameras, microphones, recordable postcards, buttons, photo albums to record and listen to our voices and help us remember our ideas – for example when writing sentences, or to remember what our construction models or expressive artwork look like.</li> <li>Using interactive whiteboards, iPads, laptops, and Chromebooks to practice mark making by drawing and writing on the Whiteboard app or using 2Paint or Paint Projects on Purple Mash.</li> <li>Using technology to create, record and listen to music and stories – for example CD players, Tonie boxes, MP3 players, 2Beat and 2Explore on Purple Mash, and recordable devices, or watching online stories such as on Cbeebies or YouTube Kids.</li> <li>Using technology to practice communication skills – for example, walkie talkies to talk to each other, role play areas using technology such as phones, old computers for children to pretend to talk online.</li> <li>Online safety – children will be introduced to the concept of online safety and how to be safe, responsible, respectful digital citizens by understanding who is a trusted grown-up.</li> </ul>					
<b>Key Vocabulary</b>	Technology, information technology, buttons, device, iPad, computer, phone, interactive whiteboard, CD player, printer, app, on, off, keyboard, mouse, walkie talkies, listening station, headphones, touch, type, swipe, photo, camera, Bee-Bots, robots, programmable toys, program, explore, tinker, problem-solving, predict, online safety, password, username, internet					
<b>SMSC</b>	Through the use of continuous provision, children will have opportunities for their social, moral, spiritual and cultural development in the following ways: <ul style="list-style-type: none"> <li>Socially by using technology for communication and interaction with their peers and grown-ups. For example, using recordable sound buttons to record and listen to their own voices, stories and songs; using walkie talkies to communicate with each other over distances; recording videos and photos to share their ideas and recall the work they have created. Children will also be introduced to how we use devices to socially interact with each other over the internet by sending emails, texts, and video calling apps. Children will also develop their skills in sharing the devices in school, learning how to get on with each other and resolve conflicts/ disputes over using devices as they learn how to take turns.</li> <li>Morally by using technology safely, responsibly, and respectfully as they communicate, research information, and share with others; understanding the importance of online safety and to speak to trusted grown-ups when something makes us feel unsure online.</li> <li>Culturally by using technology to explore a variety of topics through research, looking at a variety of real-life examples and experiences through pictures, videos, and the sharing of information, ideas, and opinions to share and extend children's knowledge of different cultures, communities as well as their own.</li> <li>Spiritually by using technology to communicate and be creative and imaginative, expressing their ideas, whether it is using apps 2Paint a Picture or Paint Projects on Purple Mash or compose their own digital music and songs; using devices such as digital microscopes and cameras as they get a sense of awe and wonder exploring and capturing the natural world.</li> </ul>					
<b>Reception</b>	Computing skills will be developed through the use of continuous provision opportunities that help promote the EYFS areas of learning, whilst giving children experiences of using technology. Examples include: <ul style="list-style-type: none"> <li>Using cameras, microphones, recordable postcards, buttons, photo albums to record and listen to our voices and help us remember our ideas – for example when writing sentences, or to remember what our construction models or expressive artwork look like.</li> <li>Using interactive whiteboards, iPads, laptops, and Chromebooks to play games such as Numbots, White Rose 1 Minute Maths, Mini Mash, Maths City on Purple Mash, Top Marks to help develop maths knowledge and understanding.</li> <li>Using interactive whiteboards, iPads, laptops, and Chromebooks to practice mark making by drawing and writing on the Whiteboard app or using 2Paint or Paint Projects on Purple Mash.</li> <li>Using technology to create, record and listen to music and stories – for example CD players, Tonie boxes, MP3 players, 2Beat and 2Explore on Purple Mash, and recordable devices, or watching online stories such as on Cbeebies or YouTube Kids.</li> <li>Using technology to practice communication skills – for example, walkie talkies to talk to each other, role play areas using technology such as phones, old computers for children to pretend to talk online.</li> <li>Online safety – children will continue to develop an understanding of who is a trusted grown-up, not sharing personal information including passwords online and using technology in moderation.</li> </ul>					
<b>Key Vocabulary</b>	Technology, information technology, buttons, device, iPad, computer, phone, interactive whiteboard, CD player, printer, app, on, off, keyboard, mouse, walkie talkies, listening station, headphones, touch, type, swipe, photo, camera, Bee-Bots, robots, programmable toys, program, explore, tinker, problem-solving, predict, online safety, password, username, internet					
<b>SMSC</b>	Through the use of continuous provision, children will have opportunities for their social, moral, spiritual and cultural development in the following ways: <ul style="list-style-type: none"> <li>Socially by using technology for communication and interaction with their peers and grown-ups. For example, using recordable sound buttons to record and listen to their own voices, stories and songs; using walkie talkies to communicate with each other over distances; recording videos and photos to share their ideas and recall the work they have created. Children will also be introduced to how we use devices to socially interact with each other over the internet by sending emails, texts, and video calling apps. Children will also develop their skills in sharing the devices in school, learning how to get on with each other and resolve conflicts/ disputes over using devices as they learn how to take turns.</li> <li>Morally by using technology safely, responsibly, and respectfully as they communicate, research information, and share with others; understanding the importance of online safety and to speak to trusted grown-ups when something makes us feel unsure online.</li> <li>Culturally by using technology to explore a variety of topics through research, looking at a variety of real-life examples and experiences through pictures, videos, and the sharing of information, ideas, and opinions to share and extend children's knowledge of different cultures, communities as well as their own.</li> <li>Spiritually by using technology to communicate and be creative and imaginative, expressing their ideas, whether it is using apps 2Paint a Picture or Paint Projects on Purple Mash or compose their own digital music and songs; using devices such as digital microscopes and cameras as they get a sense of awe and wonder exploring and capturing the natural world.</li> </ul>					

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<b>Year 1</b>	<b>Technology Around Us (2 lessons)/ Digital Art (4 lessons)</b> <b>How do we use technology at school and home?</b> <b>How can I create my own digital art?</b> <ul style="list-style-type: none"> <li>• What is technology?</li> <li>• Where do I use technology at home and in school?</li> <li>• Which apps can I use to create digital art?</li> <li>• How do I save and keep the digital art I have created?</li> <li>• How can I create different effects in my digital art using technology?</li> <li>• How do I add and edit my digital art to improve it?</li> </ul>		<b>Programming – Moving a Robot</b> <b>How do I program a Rover robot to move around in space?</b> <ul style="list-style-type: none"> <li>• What are robots and how do they work?</li> <li>• How do I give robots simple algorithms?</li> <li>• How do I create a sequence of algorithms?</li> <li>• How do I get the Blue-Bot to move from A to B?</li> <li>• How do I debug and fix my program when it goes wrong?</li> <li>• What role do computer programmers play in space exploration? (links to examples such as Mars Rover teams, people like Katherine Johnson and Dorothy Vaughan who worked for Nasa and used computing skills).</li> </ul>		<b>Programming – Animations with Scratch Jr</b> <b>How can I program a story on Scratch Jr?</b> <ul style="list-style-type: none"> <li>• How can I program the 'sprite' character to move around the screen? (Focus on movement and trigger blocks during introduction to ScratchJr)</li> <li>• How can I change the sprites and 'theatre' backgrounds, so they are suitable for my story? (Explore creative side of editing and creating own sprites and theatres for ScratchJr)</li> <li>• How can I add words to show what my characters are saying in my story? (Focus on transformation blocks using speech bubbles)</li> <li>• What do I want my ScratchJr story animation to look like? (This focuses on planning process for own story animations, including planning sequences of blocks to tell the story)</li> <li>• How can I use Scratch Jr to share my own creative ideas for a story animation? (Children start to use ScratchJr to program their own stories that they planned)</li> <li>• How effective is my story animation for people to watch? (This includes the debugging process and reflecting on the story animations we have created)</li> </ul>	
<b>Key Vocabulary</b>	Technology, digital devices, information technology, computer, laptop, Chromebook, iPad, tablet, Smart TV, Games Console, Smart Speaker, Interactive Whiteboard.  Art, cursor, colour, shape, pencil, pen, paint effects, save, type, documents, edit, open.		Program, programming, code, coding, algorithm, logic, sequence, obstacles, instructions, debug, problem solving, left, right, forwards, backwards, turn, go, clear, buttons, robots.		Program, programming, code, coding, algorithm, logic, sequence, instructions, debug, problem solving, blocks, sprite (character), theatre (background), edit, trigger blocks (start program when green flag clicked on, start when character is tapped on, etc) motion/ movement blocks (eg forwards, backwards, up, down, turn, return to the beginning), transformation blocks (appear, disappear, get bigger, get smaller, speech bubble), Sounds blocks (record sounds that will be played as part of the program), Control Blocks (like repetition, how long to wait etc), story, animation.	
<b>SMSC</b>	This unit of work links to social skills in expressing and communicating our ideas with our peers, teachers, parents and the wider school community creatively through digital art; the moral aspect of being responsible digital citizens when sharing our work online; cultural themes such as exploring real life digital art examples such as those by the artist David Hockney; and spiritual wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests through digital art – this could include expressing their feelings when engaging in digital art inspired by nature or through awe and wonder experiences such as how a painting or digital art makes them feel.		This unit of work links to social skills in expressing and communicating our ideas with our peers and teachers verbally when talking about the instructions, algorithms and working together debugging and fixing their programs and learning to share the programmable robots; the moral aspect of being responsible digital citizens when using digital devices including programmable robots such as using information technology in moderation; cultural themes such as exploring real life programmable robots such as the landing craft like the Mars Rover in space exploration and the contributions made to space travel by computing experts; and spiritual wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests through programming and gaining a sense of satisfaction from reaching our goals when the robot reaches its destination.		This unit of work links to social skills in expressing and communicating our ideas with our peers and teachers verbally when talking about the instructions, algorithms and working together debugging and fixing their programs and learning to share the iPads / Chromebooks when programming on ScratchJr; the moral aspect of being responsible digital citizens when using digital devices including iPads/ Chromebooks in healthy moderation; cultural themes such as exploring real life computer animated stories and films that have been produced; and spiritual wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests through storytelling using Scratch Jr.	

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<b>Year 2</b>	<p><b>Technology Around Us (2 lessons)/ Digital Typing</b>  <b>How do we use information technology beyond school and home?</b>  <b>How can I create my own digital texts?</b></p> <ul style="list-style-type: none"> <li>• What is Information Technology and how is it different to technology?</li> <li>• How do I use information technology beyond school and home?</li> <li>• How can I use a keyboard to type a simple digital text?</li> <li>• How do I save and keep the digital text I have created?</li> <li>• How can I change the colour, size and look of the letters in my digital text?</li> <li>• How do I add and edit my digital text to improve it?</li> <li>• How can I share my digital texts with others? (Explore websites, emails, printing texts).</li> </ul>	<p><b>Programming – Blue-Bot Algorithms</b>  <b>How can I program the Blue-Bots to find their way safely around the Great Fire of London?</b></p> <ul style="list-style-type: none"> <li>• How do I get the Blue-Bot to move from A to B? (recap and revisit prior learning in Year 1)</li> <li>• What is an algorithm and how do I program it on the Blue-Bots?</li> <li>• Why is it important my algorithm is precise, clear and in the sequence need to happen?</li> <li>• Why do computer programmers need to predict and think ahead when planning their programs?</li> <li>• How do I debug my program when it goes wrong?</li> <li>• How can I use my computer programming knowledge to program the Blue-Bot to avoid obstacles?</li> </ul>	<p><b>Programming – Interactive Games on Scratch Jr</b>  <b>How can I program an interactive game?</b></p> <ul style="list-style-type: none"> <li>• What do all the different blocks in the ScratchJr app do? (Recap and revisit prior learning in Year 1)</li> <li>• Why is it important to predict the outcomes of my algorithms?</li> <li>• How can I make my ScratchJr programs interactive using trigger blocks? (Refers to use of tap character trigger blocks to make choices)</li> <li>• What do I want my ScratchJr interactive game to look like? (This focuses on planning process for own games)</li> <li>• How can I use Scratch Jr to share my own creative ideas for an interactive game? (Children start to use ScratchJr to program their own games that they planned)</li> <li>• How effective is my interactive game for people to play? (This includes the debugging process and reflecting on the games we have created)</li> </ul>			
<b>Key Vocabulary</b>	<p>Technology, digital devices, information technology, computer, laptop, Chromebook, iPad, tablet, Smart TV, Games Console, Smart Speaker, Interactive Whiteboard.</p> <p>Typing, word processing, keyboard, space bar, Caps Lock, Shift, Back Space, Delete, Return, edit, font, colour, font size, cursor, select, highlight, print, share, email, website, online.</p>	<p>Program, programming, code, coding, algorithm, logic, sequence, obstacles, instructions, debug, problem solving, left, right, forwards, backwards, turn, go, clear, pause, buttons, robots, apps, Bluetooth, plan, predict, precise.</p>	<p>Program, programming, code, coding, algorithm, logic, sequence, instructions, debug, problem solving, blocks, sprite (character), theatre (background), edit, trigger blocks (start program when green flag clicked on, start when character is tapped on, etc) motion/movement blocks (eg forwards, backwards, up, down, turn, return to the beginning), transformation blocks (appear, disappear, get bigger, get smaller, speech bubble), Sounds blocks (record sounds that will be played as part of the program), Control Blocks ( these control things like repetition, how long to wait etc), interactive, game, options, choices, quizzes.</p>			
<b>SMSC</b>	<p>This unit of work links to social skills in expressing and communicating our ideas with our peers, teachers and families through digital texts we have created; the moral aspect of being responsible digital citizens when sharing our work online; cultural themes such as exploring real life digital texts in the wider world – for example, how books are created as digital texts that are printed and digital texts on websites; and spiritual wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests through the digital texts we create.</p>	<p>This unit of work links to social skills in expressing and communicating our ideas with our peers and teachers verbally when talking about the instructions, algorithms and working together debugging and fixing their programs and learning to share the programmable robots; the moral aspect of being responsible digital citizens when using digital devices including programmable robots such as using information technology in moderation; cultural themes such as exploring how technology such as robots can be used in real life situations to help rescue and save others, and the use of Blue-Bots through cross-curricular links to the historical themes of the Great Fire of London; and spiritual wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests through programming and gaining a sense of satisfaction from reaching our goals and aims when the robot reaches its destination.</p>	<p>This unit of work links to social skills in expressing and communicating our ideas with our peers and teachers verbally when talking about the instructions, algorithms and working together debugging and fixing their programs and learning to share the iPads / Chromebooks when programming on ScratchJr; the moral aspect of being responsible digital citizens when using digital devices including iPads/ Chromebooks in healthy moderation; cultural themes such as exploring real life computer games and the roles that computer programmers play in creating computer games we play in the wider world; and spiritual wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests through creating our own interactive games using Scratch Jr.</p>			

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<b>Year 3</b>	<b>Desktop publishing (Purple Mash)</b> <b>How can I use information technology to create my own magazine?</b> <ul style="list-style-type: none"> <li>How can I use digital images and texts to convey information?</li> <li>How can I edit and change the appearance of my digital writing?</li> <li>What is a template and how can I change the page orientation?</li> <li>How can I add text and images to make my magazine look interesting?</li> <li>How can I change the layout and position of text and images for my magazine?</li> <li>How and why is desktop publishing used by people?</li> </ul>		<b>Stop frame animation (Purple Mash)</b> <b>How can I make an animated video out of still pictures?</b> <ul style="list-style-type: none"> <li>How can a picture move?</li> <li>Why do animators only make small changes between each picture?</li> <li>Why is it important to plan my ideas for my stop motion animation?</li> <li>What is onion-skinning and how can it make my stop frame animation consistent?</li> <li>How can I improve and make my stop frame animation better?</li> <li>How can I add special effects such as sound and multimedia to my stop frame animation?</li> </ul>		<b>Events and actions in programs (Scratch / Scratch Jr)</b> <b>How do I program Sprites to move around a maze successfully?</b> <ul style="list-style-type: none"> <li>What is Scratch and how is it similar and different to Scratch Jr?</li> <li>How can I modify and change the size and look of my Sprite in Scratch?</li> <li>How can I use programming extensions to adapt and change an existing program?</li> <li>What additional features can I use to develop my program further?</li> <li>Why is it important to predict and test the outcomes of my program when debugging?</li> <li>What went well in my Scratch project and how can I edit and improve it?</li> </ul>	
<b>Key Vocabulary</b>	Type, keyboard, cut, copy, paste, align, font, format, orientation, insert, image, resize, find and replace, word count, text box, object, order, group, spellchecker, bold, italic, underline, layer, text wrapping, colour, picture, photo, page, publish, print, template, orientation, layout		Still, picture, stop frame animation, animator, video, multimedia, onion-skinning, frames, editing, sound, audio clips, record, microphone, camera, sequence, backdrop, set, characters, flip book, storyboard, consistency, trim, special effects		Program, programming, code, coding, algorithm, logic, sequence, instructions, debug, problem solving, blocks, sprite (character), theatre (background), edit, trigger blocks motion/ movement blocks, transformation blocks, Sounds blocks, Control Blocks, modify, change, transform, procedure, model, control, command, variable, repetition, loop.	
<b>SMSC</b>	This unit of work links to social skills in expressing and communicating our ideas with our peers, teachers and families through the books and booklets we have created using digital publishing; the moral aspect of being responsible digital citizens when sharing our work online and the importance of copyright and ownership of the work produced, and managing online information in our books to ensure that we use information from trusted sources; cultural themes such as exploring the process of creating books and booklets using desktop publishing and how book editors and publishers use this to create and print books that we can buy in shops; and spiritual wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests through the books and booklets we produce through desktop publishing.		This unit of work links to social skills in expressing and communicating our ideas with our peers, teachers and families through stop frame animations we have created; the moral aspect of being responsible digital citizens when sharing our work online and the importance of copyright and ownership of the stop frame animations we produced; cultural themes such as exploring real life examples of stop frame animations such as those created by Aardman and Nick Park; and spiritual wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests through the stop frame animations we created.		This unit of work links to social skills in expressing and communicating our ideas with our peers and teachers verbally when talking about the instructions, algorithms and working together debugging and fixing their programs and learning to share the iPads / Chromebooks when programming on Scratch; the moral aspect of being responsible digital citizens when using digital devices including iPads/ Chromebooks in healthy moderation; cultural themes such as exploring real life maze games and the roles that computer programmers play in creating computer maze games we play in the wider world; and spiritual wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests through creating our own interactive games using Scratch.	
<b>Year 4</b>	Data logging (Purple Mash and Data loggers) Also potential databases (Y3 / Y5 unit) <ul style="list-style-type: none"> <li>What is a data logger?</li> <li>What is a sensor?</li> <li>How is data collected by data loggers?</li> <li>How can data loggers be programmed to collect data automatically?</li> <li>How can data be collected over time?</li> <li>How are data sets used to draw conclusions and inform decisions?</li> </ul>		Multimedia (Photo and audio: Purple Mash) <ul style="list-style-type: none"> <li>How do computers collect and store audio files?</li> <li>How do computers create image files?</li> <li>How do we save and edit audio and video files?</li> <li>How do we link audio and video files?</li> <li>How does editing multimedia files alter their impact on the viewer / listener?</li> </ul>		Repetition in games (Scratch / Scratch Jr) <ul style="list-style-type: none"> <li>What is a loop?</li> <li>What is a count controlled loop?</li> <li>What is an infinite loop?</li> <li>How is a count controlled loop different from an infinite loop?</li> <li>How are loops used in games?</li> </ul>	

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Key Vocabulary	Data, data logger, sensor, data set, data collection, interpretation		Image, audio, Image file, audio file, edit, link, multimedia,		Program, loop. Count controlled loop, infinite loop,	
SMSC	This unit of work links to social skills in expressing and communicating our ideas with our peers, teachers and families through data collection, group working and problem solving; the moral aspect of being responsible digital citizens when collecting, using and storing data; cultural themes such as exploring real life data collection in the wider world – for example, how and why data is collected and stored, who has access to it and why; and emotional / spiritual wellbeing by providing a creative outlet to express our ideas, emotions and interests through the databases we create information that we gather and how that data is stored and used.		This unit of work links to social skills in expressing and communicating our ideas with our peers, teachers, parents and the wider school community creatively through digital art and sound; the moral aspect of being responsible digital citizens when sharing our work online, recognising copyright issues and ownership of images and music; cultural themes such as exploring audiovisual presentations, their uses in society and how they affect the viewer; and mental / spiritual wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests through digital art and sound.		This unit of work links to social skills in expressing and communicating our ideas with our peers and teachers verbally when talking about the instructions, algorithms and working together debugging and fixing their programs; the moral aspect of being responsible digital citizens when using digital devices; cultural themes and moral themes linked to creating, editing and modifying programmes and . emotional / spiritual wellbeing by providing a creative outlet to express our ideas, emotions and interests through the programmes created.	
Year 5	<b>Selection in physical computing (Microbits)</b> <ul style="list-style-type: none"> <li>• What is a program?</li> <li>• What is an input / output?</li> <li>• How do I upload and download programs?</li> <li>• How do inputs and outputs interact with each other?</li> <li>• What is a loop?</li> <li>• How do I identify and fix bugs in a program?</li> </ul>		<b>Flat file databases (Purple Mash, 2 investigate.)</b> <ul style="list-style-type: none"> <li>• What is a database?</li> <li>• What types of database are there?</li> <li>• What is a record / field?</li> <li>• How do I add data to a database?</li> <li>• How do I sort data in a database?</li> <li>• What sort of questions can I answer using a database?</li> </ul>		<b>Vector drawing (Google drawing)</b> <ul style="list-style-type: none"> <li>• What is a vector drawing?</li> <li>• How are Vector drawings different from physical drawings?</li> <li>• What are the features of vector drawings?</li> <li>• Where are vector drawings used in the wider world?</li> <li>• How do I create and edit a vector drawing?</li> <li>• How could I improve my vector drawing?</li> </ul>	
Key Vocabulary	Microcontroller, programme, download / upload, input, output, components, connection, infinite loop		Database, data, information, record, field, sort, order, group, analyse		Vector, shape, drawing tools, object, toolbar, move, resize, colour, rotate, duplicate/copy	
SMSC	This unit of work links to social skills in expressing and communicating our ideas with our peers and teachers verbally when talking about the instructions, algorithms and working together debugging and fixing their programs and learning to share the microbits. The moral aspect of being responsible digital citizens when using digital devices; cultural themes and moral themes linked to moving digital / physical objects.		This unit of work links to social skills in expressing and communicating our ideas with our peers, teachers and families through digital databases we have created; the moral aspect of being responsible digital citizens when sharing our work online; cultural themes such as exploring real life data collection in the wider world – for example, how and why data is collected and stored, who has access to it and why; and emotional / spiritual wellbeing by providing a creative outlet to express our ideas, emotions and interests through the databases we create information that we gather and how that data is stored and used.		This unit of work links to social skills in expressing and communicating our ideas with our peers, teachers, parents and the wider school community creatively through digital art; the moral aspect of being responsible digital citizens when sharing our work online, recognising copyright issues and ownership of designs; cultural themes such as exploring real life digital vector drawings and where these are used; and spiritual wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests through digital art, including the effectiveness of logos, what these symbolise and how they are used to create specific effects.	

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<b>Year 6</b>	Internet communication (1 lesson) <ul style="list-style-type: none"> <li>• What is a web page?</li> <li>• What is a web browser?</li> <li>• How do the layout features of websites work?</li> <li>• What are hyperlinks?</li> <li>• How do websites need to adapt for mobile technology?</li> <li>• How can multiple web pages link to make a site?</li> <li>• How do I upload a website to the internet?</li> </ul>	Webpage creation (5 lessons)	Sensing (Microbits) <ul style="list-style-type: none"> <li>• What is an input?</li> <li>• What is an output?</li> <li>• What is a process?</li> <li>• What is a sensor?</li> <li>• How do sensor based inputs interact with processes and outputs?</li> <li>• How do we identify bugs?</li> <li>• How do we debug an input based program?</li> </ul>		3D Modelling (Purple Mash, look into 3D printing) <ul style="list-style-type: none"> <li>• How do we design in a 3D space?</li> <li>• What is a STL file?</li> <li>• How do we alter the size of a file?</li> <li>• How do we combine files?</li> <li>• How do we edit and modify files?</li> <li>• How do we apply supports to a 3D model?</li> <li>• How do we prepare a file for 3D printing?</li> </ul>	
<b>Key Vocabulary</b>	Internet, website, web page, hyperlink, upload, download, refresh, mobile, desktop.		Microbit, sensing, step counter, Microcontroller, programme, download / upload, input, output, components, connection, infinite loop, data log, debug.		CAD, modelling, dimensions, placeholders, moving, resizing, duplicating, combining, grouping, editing, STL files.	
<b>SMSC</b>	This unit of work links to social skills in expressing and communicating our ideas with our peers, teachers and families through websites that we have created and through use of websites as a communication tool more widely; the moral aspect of being responsible digital citizens when sharing our work online and wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests through the websites we created.		This unit of work links to social skills in expressing and communicating our ideas with our peers and teachers verbally when talking about the instructions, algorithms and working together debugging and fixing their programs and learning to share the microbits. The moral aspect of being responsible digital citizens when using digital devices; cultural themes and moral themes linked to physical fitness with regard to the step counter.		This unit of work links to social skills in expressing and communicating our ideas with our peers and teachers verbally when talking about the collaborative instructions, alongside constructing and working together editing and modifying models. The moral aspect of being responsible digital citizens when using digital devices; cultural themes, moral themes and wellbeing by providing a creative outlet to express our ideas, feelings, emotions and interests linked to creating 3D objects on a computer.	

# Folly View and The Elms Primary Schools

SUBJECT: Computing



Vision: For children to be confident, creative, flexible and responsible in their use of information technology to communicate, share, organise and produce their own digital content including multimedia, digital texts, programming and organising data. Children will understand the positives and pitfalls of information technology and make safe healthy choices about when it is and isn't appropriate to use information technology.

	<b>Term 1</b>	<b>Term 2</b>	<b>Term 3</b>	<b>Term 4</b>	<b>Term 5</b>	<b>Term 6</b>
<b>Year 7</b>	<p><b>Google Applications Introduction</b></p> <ul style="list-style-type: none"> <li>• Able to login and access resources in Google Classroom.</li> <li>• Able to access and use the Google Suite of applications including Docs, Slides, Drive and Forms.</li> <li>• Use the school email using Office 365 Outlook.</li> <li>• Able to demonstrate a wide range of word processing skills and formatting features to appropriately enhance and to review documents and work created.</li> <li>• Shows excellent file management and organisation of work within Google Drive.</li> </ul>	<p><b>E-Safety: Impact of Technology</b></p> <ul style="list-style-type: none"> <li>• Will consider the rules and codes of conduct when using technology.</li> <li>• Learn about health and safety in the workplace.</li> <li>• Describe how to communicate appropriately with peers online.</li> <li>• Be able to describe and explain the effects of cyberbullying.</li> <li>• How to report and deal with incidents of cyberbullying.</li> <li>• Learn how to check who you are talking to online.</li> </ul>	<p><b>Spreadsheet Modelling</b></p> <ul style="list-style-type: none"> <li>• Explain the concept of spreadsheets and why they are useful.</li> <li>• Identify columns, rows, cells, and cell references in spreadsheet software.</li> <li>• Use formatting techniques in a spreadsheet.</li> <li>• Use basic formulas with cell references for calculations in a spreadsheet.</li> <li>• Use the autofill tool to replicate cell data.</li> <li>• Create appropriate charts in a spreadsheet.</li> <li>• Use the functions SUM, COUNTA, MAX, and MIN in a spreadsheet.</li> </ul>	<p><b>Computer Networks &amp; Protocols</b></p> <ul style="list-style-type: none"> <li>• Explain what a computer network and a protocol is.</li> <li>• Understand the role of a hub, router and server.</li> <li>• Define 'bandwidth', using the appropriate units for measuring the rate.</li> <li>• Explore the advantages and disadvantages of wired and wireless networks.</li> <li>• Define what the internet is.</li> <li>• Describe how services are provided over the internet.</li> </ul>	<p><b>Scratch: Block Programming Basics</b></p> <ul style="list-style-type: none"> <li>• Define and program a sequence of instructions within Scratch.</li> <li>• Trace the values of variables within a sequence.</li> <li>• Identify where selection statements can be used in a program.</li> <li>• Create conditions that use comparison and logic operators.</li> <li>• Implement count controlled iteration in a program.</li> <li>• Design and apply programming constructs</li> </ul>	<p><b>Scratch: Block Programming Advanced</b></p> <ul style="list-style-type: none"> <li>• Identify how subroutines can be used for decomposition.</li> <li>• Implement condition-controlled iteration in a program.</li> <li>• Identify when lists can be used in a program.</li> <li>• Decompose a larger problem into smaller subproblems.</li> <li>• Apply appropriate constructs to solve a problem.</li> </ul>