

**Providing the rich soil that enables
our children to develop deep roots and flourish.**

**Immersion Curriculum: Computing Year 5/6
Cycle B**


At Amberley, each unit of Computing aims to give our pupils the life-skills that will enable them to embrace and utilise new technology in a socially responsible and safe way in order to flourish.




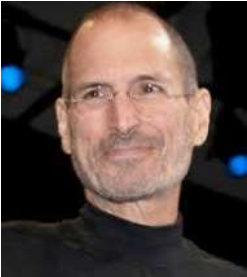
Intent:


For our pupils to gain the skills to:

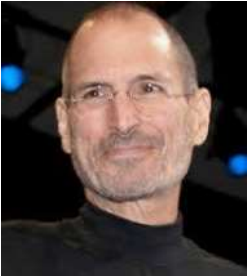
- be able to operate in the 21st century workplace and to know the career opportunities that will be open to them if they study computing
- to become autonomous, independent and safe users of computing technologies, gaining confidence and enjoyment from their activities
 - to support learning across the entire curriculum and ensure that our curriculum is accessible to every child
 - to develop creativity, resilience and problem-solving and critical thinking skills

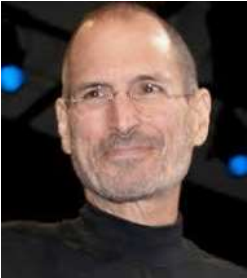
Focus		Milestone for end of Key Stage 2	NC Objectives: By the end of the Key Stage 2
Computing systems and networks Sharing information		<ul style="list-style-type: none"> Explain that computers can be connected together to form systems and recognise their roles in our lives. Recognise how information is transferred over the internet and how we communicate using technology. Explain how sharing information online lets people in different places work together. Contribute to a shared project online. Evaluate different ways of working together online and different methods of online communication. Identify how to use a search engine. Describe how search engines select results. Explain how search results are ranked. Recognise why the order of results is important, and to whom. <p>Ongoing:</p> <p><u>Managing Online Information</u></p> <ul style="list-style-type: none"> Use different search technologies effectively. Explain key concepts including: data, information, fact, opinion, belief, true, false, valid, reliable and evidence. Understand the difference between online misinformation and; explain what is meant by 'being sceptical'. Give examples of when and why it is important to be 'sceptical'. I can explain what is meant by a 'hoax'. Explain why I need to think carefully before I forward anything online. Explain why some information I find online may not be honest, accurate or legal. Explain why information that is on a large number of sites may still be inaccurate or untrue; assess how this might happen Explain how search engines work and how results are selected and ranked. Demonstrate the strategies I would apply to be discerning in evaluating digital content. Describe how some online information can be opinion and can offer examples. Explain how and why some people may present 'opinions' as 'facts'. Define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online. Demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important. Identify, flag and report inappropriate content. <p><u>Privacy and Security</u></p> <ul style="list-style-type: none"> Create and use strong and secure passwords, using different passwords for a range of online services; describe effective strategies for managing those passwords (including knowing what to do if my password is lost or stolen.) Explain how many free apps or services may read and share my private information with others. Explain how and why some apps may request or take payment for additional content and explain why I should seek permission from a trusted adult before purchasing. Explain what app permissions are and give some examples from the technology or services I use. Describe simple ways to increase privacy on apps and services that provide privacy settings. Describe ways in which some online content targets people to gain money or information illegally; describe strategies to help me identify such content. <p><u>Copyright and Ownership</u></p> <ul style="list-style-type: none"> Assess and justify when it is acceptable to use the work of others and give examples of content that is permitted to be reused. Demonstrate the use of search tools to find and access online content which can be reused by others. Demonstrate how to make references to and acknowledge sources I have used from the internet. 	<p>Pupils should be taught:</p> <ul style="list-style-type: none"> 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. 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. <p>Education for a Connected World: (non-statutory guidance)</p> <p><u>Self-Image and Identity</u></p> <ul style="list-style-type: none"> Explain how identity online can be copied, modified or altered. Demonstrate responsible choices about my online identity, depending on context. Describe ways in which media can shape ideas about gender. Identify messages about gender roles and make judgements based on them. Challenge and explain why it is important to reject inappropriate messages about gender online. Describe issues online that might make me or others feel sad, worried, uncomfortable or frightened. Know and can give examples of how I might get help, both on and offline. Explain why I should keep asking until I get the help I need. <p>Key Vocabulary: System, part, digital device, input, output, process, component, communicate, system, human element, management, task, transfer, internet, IP address, rules/protocols, data, network, data packet, shared access, online storage, cloud, media, collaboration, public/private, copyright, modify, permission</p> <p>Appropriate vocabulary will be selected from this list based on content.</p>
Duration	Cycle		
Term 1	B		
Making it real			
 <p>Study of Steve Jobs (American business man famous for co-founding Apple Inc)</p>			

Focus		Milestone for end of Key Stage 2	NC Objectives: By the end of the Key Stage 2
Creating media Vector drawings		<ul style="list-style-type: none"> Identify that drawing tools can be used to produce different outcomes. Create a vector drawing by combining shapes. Use tools to achieve a desired effect. Recognise that vector drawings consist of layers. Group objects to make them easier to work with. Evaluate my vector drawing. <p>Ongoing:</p> <p><u>Managing Online Information</u></p> <ul style="list-style-type: none"> Use different search technologies effectively. Explain key concepts including: data, information, fact, opinion, belief, true, false, valid, reliable and evidence. Understand the difference between online misinformation and; explain what is meant by 'being sceptical'. Give examples of when and why it is important to be 'sceptical'. I can explain what is meant by a 'hoax'. Explain why I need to think carefully before I forward anything online. Explain why some information I find online may not be honest, accurate or legal. Explain why information that is on a large number of sites may still be inaccurate or untrue; assess how this might happen Explain how search engines work and how results are selected and ranked. Demonstrate the strategies I would apply to be discerning in evaluating digital content. Describe how some online information can be opinion and can offer examples. Explain how and why some people may present 'opinions' as 'facts'. Define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online. Demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important. Identify, flag and report inappropriate content. <p><u>Privacy and Security</u></p> <ul style="list-style-type: none"> Create and use strong and secure passwords, using different passwords for a range of online services; describe effective strategies for managing those passwords (including knowing what to do if my password is lost or stolen.) Explain how many free apps or services may read and share my private information with others. Explain how and why some apps may request or take payment for additional content and explain why I should seek permission from a trusted adult before purchasing. Explain what app permissions are and give some examples from the technology or services I use. Describe simple ways to increase privacy on apps and services that provide privacy settings. Describe ways in which some online content targets people to gain money or information illegally; describe strategies to help me identify such content. <p><u>Copyright and Ownership</u></p> <ul style="list-style-type: none"> Assess and justify when it is acceptable to use the work of others and give examples of content that is permitted to be reused. Demonstrate the use of search tools to find and access online content which can be reused by others. Demonstrate how to make references to and acknowledge sources I have used from the internet. 	<ul style="list-style-type: none"> 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. <p>Education for a Connected World: (non-statutory guidance)</p> <p><u>Online Relationships</u></p> <ul style="list-style-type: none"> Explain that there are some people I communicate with online who may want to do me or my friends harm; Recognise that this is not my/our fault. Make positive contributions and be part of online communities. Describe some of the communities in which I am involved and describe how I collaborate with others positively. Show I understand my responsibilities for the well-being of others in my online social group. Explain how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming). Demonstrate how I would support others (including those who are having difficulties) online. Demonstrate ways of reporting problems online for both myself and my friends.
Duration	Cycle		
Term 3	B		
Making it real			
 <p>Study of Steve Jobs (American business man famous for co-founding Apple Inc)</p>			<p>Key Vocabulary:</p> <p>software package, vector, tools, object, resize/rotate, select, duplicate, element zoom, align, resize handles, modify, effect, grid, layers, position, group, pixel,</p> <p>Appropriate vocabulary will be selected from this list based on content.</p>

Focus		Milestone for end of Key Stage 2	National Curriculum Objectives: By the end of the Key Stage 2
Creating Media Editing Video		<ul style="list-style-type: none"> Recognise video as moving pictures, which can include audio. Identify digital devices that can record video. Capture video using a digital device. Recognise the features of an effective video. Identify that video can be improved through reshooting and editing. Consider the impact of the choices made when making and sharing a video. <p>Ongoing:</p> <p><u>Managing Online Information</u></p> <ul style="list-style-type: none"> Use different search technologies effectively. Explain key concepts including: data, information, fact, opinion, belief, true, false, valid, reliable and evidence. Understand the difference between online misinformation and; explain what is meant by 'being sceptical'. Give examples of when and why it is important to be 'sceptical'. I can explain what is meant by a 'hoax'. Explain why I need to think carefully before I forward anything online. Explain why some information I find online may not be honest, accurate or legal. Explain why information that is on a large number of sites may still be inaccurate or untrue; assess how this might happen Explain how search engines work and how results are selected and ranked. Demonstrate the strategies I would apply to be discerning in evaluating digital content. Describe how some online information can be opinion and can offer examples. Explain how and why some people may present 'opinions' as 'facts'. Define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online. Demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important. Identify, flag and report inappropriate content. <p><u>Privacy and Security</u></p> <ul style="list-style-type: none"> Create and use strong and secure passwords, using different passwords for a range of online services; describe effective strategies for managing those passwords (including knowing what to do if my password is lost or stolen.) Explain how many free apps or services may read and share my private information with others. Explain how and why some apps may request or take payment for additional content and explain why I should seek permission from a trusted adult before purchasing. Explain what app permissions are and give some examples from the technology or services I use. Describe simple ways to increase privacy on apps and services that provide privacy settings. Describe ways in which some online content targets people to gain money or information illegally; describe strategies to help me identify such content. <p><u>Copyright and Ownership</u></p> <ul style="list-style-type: none"> Assess and justify when it is acceptable to use the work of others and give examples of content that is permitted to be reused. Demonstrate the use of search tools to find and access online content which can be reused by others. Demonstrate how to make references to and acknowledge sources I have used from the internet. 	<p>Pupils should be taught:</p> <ul style="list-style-type: none"> 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. <p>Education for a Connected World: (non-statutory guidance) (Term 3)</p> <p><u>Online Bullying</u></p> <ul style="list-style-type: none"> Recognise when someone is upset, hurt or angry online. Describe how to get help for someone that is being bullied online and assess when I need to do or say something or tell someone. Explain how to block abusive users. Explain how I would report online bullying on the apps and platforms that I use. Describe the helpline services who can support me and what I would say and do if I needed their help (e.g. Childline). Describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me. Identify a range of ways to report concerns both in school and at home about online bullying.
Duration	Cycle		
Term 2	B		
Making it real			
 <p>Study of Steve Jobs (American business man famous for co-founding Apple Inc)</p>			
			<p>Key Vocabulary: video, audio, visual (AV), storyboard, digital device, app, record, integrated, lens, zoom, angle, lighting, movement, script, capture, edit, clipping, transitions, special effects, overlay text, reshoot, titles, credits, evaluate.</p> <p>Appropriate vocabulary will be selected from this list based on content.</p>

Focus		Milestone for end of Key Stage 2	National Curriculum Objectives: By the end of the Key Stage 2
Programming A Selection in physical computing		<ul style="list-style-type: none"> Control a simple circuit connected to a computer. Write a program that includes count-controlled loops. Explain that a loop can stop when a condition is met, e.g. Number of times. Conclude that a loop can be used to repeatedly check whether a condition has been met. Create a controllable system which includes selection. <p>Ongoing: <u>Managing Online Information</u></p> <ul style="list-style-type: none"> Use different search technologies effectively. Explain key concepts including: data, information, fact, opinion, belief, true, false, valid, reliable and evidence. Understand the difference between online misinformation and; explain what is meant by 'being sceptical'. Give examples of when and why it is important to be 'sceptical'. I can explain what is meant by a 'hoax'. Explain why I need to think carefully before I forward anything online. Explain why some information I find online may not be honest, accurate or legal. Explain why information that is on a large number of sites may still be inaccurate or untrue; assess how this might happen <p><u>Making it real</u></p> <ul style="list-style-type: none"> Explain how search engines work and how results are selected and ranked. Demonstrate the strategies I would apply to be discerning in evaluating digital content. Describe how some online information can be opinion and can offer examples. Explain how and why some people may present 'opinions' as 'facts'. Define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online. Demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important. Identify, flag and report inappropriate content. <p><u>Privacy and Security</u></p> <ul style="list-style-type: none"> Create and use strong and secure passwords, using different passwords for a range of online services; describe effective strategies for managing those passwords (including knowing what to do if my password is lost or stolen.) Explain how many free apps or services may read and share my private information with others. Explain how and why some apps may request or take payment for additional content and explain why I should seek permission from a trusted adult before purchasing. Explain what app permissions are and give some examples from the technology or services I use. Describe simple ways to increase privacy on apps and services that provide privacy settings. Describe ways in which some online content targets people to gain money or information illegally; describe strategies to help me identify such content. <p><u>Copyright and Ownership</u></p> <ul style="list-style-type: none"> Assess and justify when it is acceptable to use the work of others and give examples of content that is permitted to be reused. Demonstrate the use of search tools to find and access online content which can be reused by others. Demonstrate how to make references to and acknowledge sources I have used from the internet. 	<p>Pupils should be taught:</p> <ul style="list-style-type: none"> 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 <p>Education for a Connected World: (non-statutory guidance) <u>Health, Well-Being and Lifestyle</u></p> <ul style="list-style-type: none"> Describe ways technology can affect healthy sleep and can describe some of the issues. Describe some strategies, tips or advice to promote healthy sleep with regards to technology Describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose. Assess and action different strategies to limit the impact of technology on my health (e.g. nightshift mode, regular breaks, correct posture, sleep, diet and exercise). Explain the importance of self-regulating my use of technology: demonstrate the strategies I use to do this (e.g. monitoring my time online, avoiding accidents) <p>Key Vocabulary: microcontroller, Crumble controller, components, LED, sparkle, crocodile clips, connect, battery box, program, repetition, infinite loop, output devices, motor, count controlled loop, switch, true, false, input, selection, condition, action, task, design, repetition, algorithm, program, debug, evaluate</p> <p>Appropriate vocabulary will be selected from this list based on content.</p>
Duration	Cycle		
Term 4	B		
 <p>Study of Steve Jobs (American business man famous for co-founding Apple Inc)</p>			

Focus		Milestone for end of Key Stage 2	National Curriculum Objectives: By the end of the Key Stage 2
Data and Information Flat-file databases		<ul style="list-style-type: none"> Use a form to record information. Compare paper and computer-based databases. Apply my knowledge of a database to ask and answer real-world questions. Explain that tools can be used to select data to answer questions. Apply knowledge of a database to ask and answer real-world questions. <p>Ongoing: <u>Managing Online Information</u></p> <ul style="list-style-type: none"> Use different search technologies effectively. Explain key concepts including: data, information, fact, opinion, belief, true, false, valid, reliable and evidence. Understand the difference between online misinformation and; explain what is meant by 'being sceptical'. Give examples of when and why it is important to be 'sceptical'. I can explain what is meant by a 'hoax'. Explain why I need to think carefully before I forward anything online. Explain why some information I find online may not be honest, accurate or legal. Explain why information that is on a large number of sites may still be inaccurate or untrue; assess how this might happen Explain how search engines work and how results are selected and ranked. Demonstrate the strategies I would apply to be discerning in evaluating digital content. Describe how some online information can be opinion and can offer examples. Explain how and why some people may present 'opinions' as 'facts'. Define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online. Demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important. Identify, flag and report inappropriate content. <p><u>Privacy and Security</u></p> <ul style="list-style-type: none"> Create and use strong and secure passwords, using different passwords for a range of online services; describe effective strategies for managing those passwords (including knowing what to do if my password is lost or stolen.) Explain how many free apps or services may read and share my private information with others. Explain how and why some apps may request or take payment for additional content and explain why I should seek permission from a trusted adult before purchasing. Explain what app permissions are and give some examples from the technology or services I use. Describe simple ways to increase privacy on apps and services that provide privacy settings. Describe ways in which some online content targets people to gain money or information illegally; describe strategies to help me identify such content. <p><u>Copyright and Ownership</u></p> <ul style="list-style-type: none"> Assess and justify when it is acceptable to use the work of others and give examples of content that is permitted to be reused. Demonstrate the use of search tools to find and access online content which can be reused by others. Demonstrate how to make references to and acknowledge sources I have used from the internet. 	<p>Pupils should be taught:</p> <ul style="list-style-type: none"> 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. <p>Education for a Connected World: (non-statutory guidance) <u>Online Reputation</u></p> <ul style="list-style-type: none"> Search for information about an individual online and create a summary report of the information I find. Describe ways that information about people online can be used by others to make judgments about an individual. Explain how I am developing an online reputation which will allow other people to form an opinion of me. Describe some simple ways that help build a positive online reputation
Duration	Cycle		
Term 5	B		
Making it real			
 <p>Study of Steve Jobs (American business man famous for co-founding Apple Inc)</p>			
			<p>Key Vocabulary:</p> <p>database, data, chart, group/sort, field, flat-file, navigate, record, template, tools, value, refine, filter</p> <p>Appropriate vocabulary will be selected from this list based on content.</p>

Focus		Milestone for end of Key Stage 2	National Curriculum Objectives: By the end of the Key Stage 2
Programming B Selection in quizzes		<ul style="list-style-type: none"> • Explain how selection is used in computer programs. • Relate that a conditional statement connects a condition to an outcome. • Explain how selection directs the flow of a program. • Design a program which uses selection. • Create a program which uses selection. • Evaluate my program. <p>Ongoing: <u>Managing Online Information</u></p> <ul style="list-style-type: none"> • Use different search technologies effectively. • Explain key concepts including: data, information, fact, opinion, belief, true, false, valid, reliable and evidence. • Understand the difference between online misinformation and; explain what is meant by 'being sceptical'. • Give examples of when and why it is important to be 'sceptical'. I can explain what is meant by a 'hoax'. • Explain why I need to think carefully before I forward anything online. • Explain why some information I find online may not be honest, accurate or legal. • Explain why information that is on a large number of sites may still be inaccurate or untrue; assess how this might happen • Explain how search engines work and how results are selected and ranked. • Demonstrate the strategies I would apply to be discerning in evaluating digital content. • Describe how some online information can be opinion and can offer examples. • Explain how and why some people may present 'opinions' as 'facts'. • Define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online. • Demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important. • Identify, flag and report inappropriate content. <p><u>Privacy and Security</u></p> <ul style="list-style-type: none"> • Create and use strong and secure passwords, using different passwords for a range of online services; describe effective strategies for managing those passwords (including knowing what to do if my password is lost or stolen.) • Explain how many free apps or services may read and share my private information with others. • Explain how and why some apps may request or take payment for additional content and explain why I should seek permission from a trusted adult before purchasing. • Explain what app permissions are and give some examples from the technology or services I use. • Describe simple ways to increase privacy on apps and services that provide privacy settings. • Describe ways in which some online content targets people to gain money or information illegally; describe strategies to help me identify such content. <p><u>Copyright and Ownership</u></p> <ul style="list-style-type: none"> • Assess and justify when it is acceptable to use the work of others and give examples of content that is permitted to be reused. • Demonstrate the use of search tools to find and access online content which can be reused by others. • Demonstrate how to make references to and acknowledge sources I have used from the internet. 	<p>Pupils should be taught:</p> <ul style="list-style-type: none"> • 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 program. <p>Consolidation of Digital Literacy content from Education for a Connected World: (non-statutory guidance)</p> <p>Key Vocabulary:</p> <p>Selection, condition, true, false, count controlled loop, outcomes, conditional statement (the linking together of a condition and outcomes), algorithm, program, debug, task, design, implement, test, run, set up, share, evaluate, constructive.</p> <p>Appropriate vocabulary will be selected from this list based on content.</p>
Duration	Cycle		
Term 6	B		
Making it real			
 <p>Study of Steve Jobs (American business man famous for co-founding Apple Inc)</p>			