



Curriculum area	Designed by	Version
Computing	Ben Bulleyment	1.4 (November 2026)
Our curriculum is GREAT! <small>(INTENT)</small>		
Goals	<p>“Computers have become windows through which we can gaze upon a world that is virtually without horizons or boundaries”. Joseph B. Wirthlin</p> <p>Technology is everywhere in the 21st Century and will play a pivotal part in the lives of our young people as they become confident and independent individuals. Part of being independent is being safe and making the right decisions and these skills form a central thread through the three strands of the curriculum.</p> <p>Students will work towards becoming masters of technology by showing they are digitally literate and competent end users of all forms of technology. The Computing curriculum challenges our students to reach their full potential while ensuring the needs of each individual is met. The use of digital technology is always increasing in work places and in private life and the goal of the curriculum is to provide the opportunity for students through developing their digital knowledge and skills to experience ‘WOW’ moments by completing tasks and becoming digital leaders who are ready to meet the challenges of their digital futures.</p>	



Readiness	<p>Through the Computing curriculum students are enhancing their knowledge and practicing skills that will ready them for their life after Queen's Croft. Students will become functional within their operations of computer hardware, apps / software and a range of devices to enable them to be safe and successful users of digital technology in their work and social lives. Interacting with these devices and reading information from a screen supports students understanding of being safe online, being able to identify risks and dangers when interacting with others and forms a functional base for them to complete daily tasks such as understanding online purchasing, banking, public transport timetables and information searches. By developing their communication skills, independence, creativity, resilience, and their critical thinking skills, they can make a positive contribution to their local community.</p>
Education	<p>Explore – Students spend time experiencing how to use the basic functions of different Microsoft products, including Word and Paint. They create documents linked to themes and explore how colour; text and images can enhance the look of documents. Student s experience coding characters to move and develop their spatial awareness though direction giving both online and with concrete objects / manipulatives. Through digital literacy experiences, students use different interfaces to search for information online and interact in a safe and meaningful way.</p> <p>Extend – Students use a range of Microsoft products, including Word, Publisher and PowerPoint in a functional way to create, edit and present documents including leaflets, posters, presentations. They are encouraged to add appropriate formatting features to meet the needs and desires of the intended audience and the content of the publication. Students stretch their coding and programming understanding and application through becoming proficient in block-based coding, focusing on working independently to debug obvious errors before experiencing using text-based code. Through digital literacy lessons, they are encouraged to review their online habits, behaviours and actions while being encouraged to be digital detectives to question the intentions of others within the digital world.</p> <p>Excel – Students use advanced features of a range of Microsoft products to work between documents to create informative and create pieces of research linked to target audiences. Students compare different sources and are challenged to justify and explain similarities and differences linked to audience understanding. When coding and programming, students are confronted with block and text-based coding languages and have opportunities to complete game and real-world challenges. Students continue with real-life scenarios as they transition into digital literacy lessons and discuss the power (and dangers) to life in the 21st Century, focusing on online interactions.</p>



Achievement	<p>Students are continuously assessed within each strand of Computing (lined to national curriculum content) and given opportunities to showcase their knowledge, understanding and skills linked to their digital usage and the digital world. Each unit of work will have up-to-date knowledge and skills outcomes linked to each pathway to demonstrate individual progress. Through exploring coding and digital learning platforms, for example for the Explore pathway, Kind Kingdom and the Extend / Excel pathways, code.org students gain knowledge and skills based certification based on their experiences.</p> <p>Students travelling through the 14 – 16 curriculum have the opportunity to work through the Functional Skills ICT (up to August 2024) and Digital (from September 2024) qualification framework to develop their application of their skills while working through the pathways to gain accreditation based at their level of understanding and application. These accreditations link to real-world tasks and provide an excellent base knowledge for students to take to their next stage of education or employment.</p>
Talent	<p>Outside of the weekly timetable, students receive regular access to Computing activities which are designed to stretch, challenge, intrigue and provide opportunity for them to use digital resources in a fun, safe and semi-structured way. Talent sessions have been designed to allow students to explore a range of in-depth coding and programming projects, to experience using computers in different ways, for example through quiz club and to access digital resources for leisure. Throughout these sessions, students are constantly reminded to practice being safe online and these messages are supported through the annual Safer Internet Day workshops, assemblies and parental workshops.</p>

Education Pathways- Key Stage 3 & 4

	Education Goals <i>Explore Pathway</i>	Education Goals <i>Extend Pathway</i>	Education Goals <i>Excel Pathway</i>
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	This class group typically are working towards Y1 NC expectations	This class group typically are working towards Y3 NC expectations	This class group typically are working towards Y4 NC expectations
Year 7			
Autumn 1	Information Technology <i>Use technology purposefully to create digital content, for example . . .</i> <ul style="list-style-type: none"> • Move the mouse or trackpad and left click to select an object. • Drag and drop with mouse or trackpad to move objects around the screen. • Develop mouse and keyboard skills to be able to type short sentences accurately. • Change colours, font size and style to edit documents in Word. • Change the colour of individual pixels to accurately re-create basic artwork. • Change the colour of individual pixels to accurately re-create detailed artwork. • Use zoom controls to help fill small shapes. 	Information Technology <i>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 . . .</i> <ul style="list-style-type: none"> • Add, resize and organise colour or picture backgrounds. • Add, resize, organise characters/objects to different panels. • Add narration using text and direct speech using speech bubbles. • Save documents independently. • Add and edit backgrounds. • Add and edit characters, including changing posture, expression and clothing. 	Information Technology <i>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, for example . . .</i> <ul style="list-style-type: none"> • Create an icon using different shapes and fill tools. • Combine shapes and lines, then arrange them in front/behind each other. • Combine shapes, colour and text to re-create an icon. • Change the colour, size and style of text to match an icon, then arrange images and use masking and opacity tools.



		<ul style="list-style-type: none"> • Add narration and speech bubbles, including formatting text. • Duplicate objects to match scenes. • Search for objects to use. • Use various lines and fill tools plus copy/paste and rotation to create pattern effects. • Use shapes, fill, copy/paste, zoom and flip to create reflective symmetry effects. • Use stamps, copy/paste, layers and multiple frames to create animated GIF computer game graphics. 	<ul style="list-style-type: none"> • Create a stop-motion video by duplicating slides that include backgrounds and shapes. • Create animation using transition and animation effects (morph, motion paths, pulse etc), including taking and editing a screenshot. • Animate individual elements of objects. • Create animated GIF files by animating pixels.
Autumn 2	Information Technology <i>Use technology purposefully to create digital content, for example . . .</i> <ul style="list-style-type: none"> • Change the colour and pattern of elements. • Position and rotate objects on a design. Position objects in relation to each other. Resize, rotate, flip and arrange objects behind/in front of each other. • Change the background colour of a page. 	Information Technology <i>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 . . .</i> <ul style="list-style-type: none"> • Create ascending and descending scales. • Add chords evenly across the scales. • Add arpeggios and melodies. • Add a steady and even rhythm. 	Information Technology <i>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, for example . . .</i> <ul style="list-style-type: none"> • Change appearance of cells in a spreadsheet (fill colour and border) then add and align text.



	<ul style="list-style-type: none"> • Add, resize and position images on a page. • Type and position text on a page, if possible, using capital letters and punctuation. • Label pictures with text. • Use word-banks for writing sentences about pictures. 	<ul style="list-style-type: none"> • Use sampled sounds to create an effective mix. • Build beats, melody (tones) and effects. • Create an icon using different shapes and fill tools. • Combine shapes and lines, then arrange them in front/behind each other. • Combine shapes, colour and text to re-create an icon. • Change the colour, size and style of text to match an icon, then arrange images and use masking and opacity tools. 	<ul style="list-style-type: none"> • Find and add data to a spreadsheet, resize cells and use the software to create a suitable chart with a title. • Understand 3D spatial awareness. • Add 3D shapes, resize, adjust height, duplicate and use the different perspective. • Re-create different types of buildings using 3D shapes. • Create roads/paths by adjusting the height of 3D shapes. • Add windows and door shapes. Add, move, change colour and duplicate a brick. • Rotate bricks. • Use sloping bricks and special bricks for a purpose. • Change the transparency of bricks.
Spring 1	Information Technology <i>Use technology purposefully to create digital content, for example . . .</i> <ul style="list-style-type: none"> • Add, resize and organise colour or picture backgrounds. 	Information Technology <i>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 . . .</i>	Information Technology <i>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, for example . . .</i>



	<ul style="list-style-type: none"> • Add, resize, organise characters/objects to different panels. • Add narration using text and direct speech using speech bubbles. • Save documents with names and titles in a range of places (on the school server and on websites) • Understand that different instruments make their own sound and that instruments can be divided into groups. • Create a rhythm using a pattern of beats. Create digital sounds using patterns and shapes. • Create a simple melody using patterns and adjust tempo. 	<ul style="list-style-type: none"> • Copy and paste text and images. • Find and replace words. • Format text for a purpose. • Edit images inside documents. • Add bullet points to make lists. • Experiment with keyboard shortcuts. • Choose a suitable page shape and add a title and subtitle. • Change the background colour/texture of a page. • Add, resize and change the colour of a shape then copy and paste it. • Search for and add suitable images then resize and position them. • Create another page with a background, image, shapes and text. • Add an audio recording of the page text. • Use hyperlinks for navigation between the page. 	<ul style="list-style-type: none"> • Add scene images. • Add scripted voiceover audio, adjust the volume and crop clips (including splitting a clip). • Add more clips and use transition effects. • Add titles. • Use elements such as shapes. • Add music background music and adjust the volume. • Export a project.
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Spring 2

Computer Science

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions, for example . . .

- Place instructions into the correct order (sequence) to make something work.
- Use direction arrows to move an on-screen object (character/sprite) to achieve an objective.
- Predict a route and sequence direction commands (algorithm) to achieve an objective.
- Correct the errors within a simple sequence (debug).
- Predict a route and sequence distance commands to program an on-screen object to achieve an objective.
- Predict and sequence movement and pen commands to program the drawing of different 2D shapes.
- Sequence code blocks, including movements and execute (start program) blocks to write a program to achieve an objective.

Computer Science

Design, write and debug programs that accomplish specific goal, including simulating physical systems, for example . . .

- Design, write and debug programs that accomplish specific goals in Scratch. (Including outputs)
- Use repetition in programs.
- Work with various forms of inputs; keyboard, mouse and touch screen
- Write programs that simulate physical systems.
- Create a 3D place using various design tools within Kudu.
- Write a program to control a character using inputs.
- Write a program with conditions to create an if statement (If the character touches an object it will disappear).
- Add a multi-player aspect.
- Write a program with variables (scoring system).

Computer Science

Use sequence, selection, and repetition in programs; work with various forms of input and output to . . .

- Program inputs with loops, selection and sensing for interactions.
- Work with variables and various forms of input and output.
- Debug programs that accomplish goals. (Correcting errors)
- Use selection, data variables and operators.
- Program a virtual robot using Scratch blocks.



		<ul style="list-style-type: none"> • Program operators (equals) to achieve a score and win game. 	
Summer 1	<p>Digital Literacy (inc. E-safety) <i>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, for example . . .</i></p> <ul style="list-style-type: none"> • Understand what the internet is and how people use it. • Understand what personal information is and why we keep personal information private. • Understand why websites ask for personal information. • Identify where to go for help and support when concerned or if something upsets them online. • Know what the dangers of sharing photos online are. 	<p>Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i></p> <ul style="list-style-type: none"> • Understand what to do if something upsets you online. • Understand why and how people can be nasty online. • Describe the term ‘sharing online’ and why we need to get permission to share photos and videos of other people. • Understand why people pretend to be someone else online. • Understand why we only talk to people we know in the real world, when online. • Understand why we should not always trust what we read online and how to check 	<p>Digital Literacy (inc. E-safety) <i>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content by . . .</i></p> <ul style="list-style-type: none"> • Understand what to do if something upsets you online. • Understand why and how people can be nasty online. • Describe the term ‘sharing online’ and why we need to get permission to share photos and videos of other people. • Understand why people pretend to be someone else online. • Understand why we only talk to people we know in the real world, when online. • Understand why we should not always trust what we read online and how to check.



	<ul style="list-style-type: none"> • Know people are not always who they say they are when online. 	<ul style="list-style-type: none"> • Understand the importance of being kind in the real world and also online. • Understand the importance of using avatars and how to make them. 	<ul style="list-style-type: none"> • Understand the importance of being kind in the real world and also online. • Understand the importance of using avatars and how to make them.
Summer 2	<p>Digital Literacy (inc. E-safety) <i>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, for example . . .</i></p> <ul style="list-style-type: none"> • Understand how a web-page displays information in different ways; text, images, videos and interactive elements. • Use a web-page to answer questions using keywords. 	<p>Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact, for example . . .</i></p> <ul style="list-style-type: none"> • Understand what important parts of inside a computer or mobile device do to help with the performance (CPU, Fan, Hard Drive, RAM, Graphics Card). • Understand that memory is measured in bytes and gigabytes. • Use search filters on websites to find suitable information. 	<p>Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable / unacceptable behaviour; identify a range of ways to report concerns about content and contact through . . .</i></p> <ul style="list-style-type: none"> • Appreciate how search results are selected and ranked and show awareness of different strategies for finding specific information. • Understand the features of an Internet Browser • Use search technologies (different websites) to find specific pieces of information. • Reference the correct source of information • Be discerning in evaluating digital content. • Check the internet for fake news by cross-referencing facts.



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	Education Goals <i>Explore Pathway</i> This class group typically are working towards Y2 NC expectations	Education Goals <i>Extend Pathway</i> This class group typically are working towards Y4 NC expectations	Education Goals <i>Excel Pathway</i> This class group typically work towards Y5 NC expectations
Year 8			
Autumn 1	Information Technology <i>Use technology purposefully to create, organise, store, manipulate and retrieve digital content, for example . . .</i> <ul style="list-style-type: none"> • Copy and paste text and images. • Find and replace words. • Format text for a purpose. • Edit images inside documents. 	Information Technology <i>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. . .</i> <ul style="list-style-type: none"> • Create an icon using different shapes and fill tools. 	Information Technology <i>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, for example . . .</i>



	<ul style="list-style-type: none"> • Add bullet points to make lists. • Experiment with keyboard shortcuts. • Use lines and fill tools to make interesting patterns and mimic an artist's style (e.g. Mondrian). • Add a variety of shapes (outlines and fill) and label them with text. • Re-create graphics using pixels with different colours. • Add a background and objects to a frame (including text). • Copy/clone a frame and move objects to create an animation, including flipping objects. • Create an animation with multiple objects moving simultaneously. • Create animated drawings of characters by cropping photos and adjusting points of movement. 	<ul style="list-style-type: none"> • Combine shapes and lines, then arrange them in front/behind each other. • Combine shapes, colour and text to re-create an icon. • Change the colour, size and style of text to match an icon, then arrange images and use masking and opacity tools. • Use the tools / features within presentation software (PowerPoint), to design an app about your school, specifically showing: <ul style="list-style-type: none"> • Slide size and background colour choices • A range of text and images (including transparent images) on different pages • Icons • Interactions using hyperlinks. 	<ul style="list-style-type: none"> • Use the tools / features within presentation software (PowerPoint), to design an app about your school, specifically showing: <ul style="list-style-type: none"> • Slide size and background colour choices • A range of text and images (including transparent images) on different pages • Icons • Interactions using hyperlinks. • Select and use non-adjacent cells plus resize multiple cell widths and copy/paste cells. • Find data and create a spreadsheet to suit it. • Use formulae to find totals, averages and maximum/minimum numbers. • Search a database for specific information.
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<p>Autumn 2</p>	<p>Information Technology <i>Use technology purposefully to create, organise, store, manipulate and retrieve digital content, for example . . .</i></p> <ul style="list-style-type: none"> • Understand what data is and collect it as a tally. • Use software to label a pictogram and add data to each column. • Edit a table with correct titles and numbers. • Use software to create a bar chart/pie chart/line chart suitable for the data. • Interpret a pictogram/bar chart/line chart. • Add a book cover with title, author, colour and image. • Add multiple pages based on a theme. Add text on different pages. • Add images on different pages to match the theme/text. • Add voice recordings to match the text and theme. 	<p>Information Technology <i>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.</i></p> <ul style="list-style-type: none"> • Change appearance of cells in a spreadsheet (fill colour and border) then add and align text. • Find and add data to a spreadsheet, resize cells and use the software to create a suitable chart with a title. • Understand 3D spatial awareness. • Add 3D shapes, resize, adjust height, duplicate and use the different perspective. • Re-create different types of buildings using 3D shapes. • Create roads/paths by adjusting the height of 3D shapes. • Add windows and door shapes. Add, move, change colour and duplicate a brick. • Rotate bricks. • Use sloping bricks and special bricks for a purpose. 	<p>Information Technology <i>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.</i></p> <ul style="list-style-type: none"> • Add page colour and style. • Add, position and format text on different pages. • Add and position images. • Add audio, including hiding it behind an object. • Add hyperlinks to text and images. • Search for shapes. • Lock and arrange shapes. • Layer tracks using sounds and effects. • Create effective instrument tracks. • Edit tracks and effectively adjust volume and add effects.
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		<ul style="list-style-type: none"> Change the transparency of bricks. 	
Spring 1	<p>Computer Science <i>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.</i></p> <ul style="list-style-type: none"> Create and debug simple programs by selecting code blocks, placing them in the correct sequence and executing a program. Use logical reasoning to predict the behaviour of simple programs. Simplify a program by using a loop. Use inputs in a program. 	<p>Information Technology <i>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, for example . . .</i></p> <ul style="list-style-type: none"> Add scene images. Add scripted voiceover audio, adjust the volume and crop clips (including splitting a clip). Add more clips and use transition effects. Add titles. Use elements such as shapes. Add music background music and adjust the volume. Export a project. Choose a suitable page shape and add a title and subtitle. Change the background colour/texture of a page. 	<p>Computer Science <i>Design, write and debug programs that accomplish specific goals; 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.</i></p> <ul style="list-style-type: none"> Program inputs for control, selection (conditions) and sensing for interaction and data variables for scoring and a game timer. Program distance sensing and movement. Program Inputs, outputs, loops, selection, sensing and variables.



		<ul style="list-style-type: none"> • Add, resize and change the colour of a shape then copy and paste it. • Search for and add suitable images then resize and position them. • Create another page with a background, image, shapes and text. • Add an audio recording of the page text. • Use hyperlinks for navigation between the pages. 	<ul style="list-style-type: none"> • Program list variables that chooses randomly.
Spring 2	Computer Science <i>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 to . . .</i> <ul style="list-style-type: none"> • Program movements. • Program outputs for audio or text. • Find errors in a program (debug). • Program inputs (touch or clicking) • Program selection/conditions (if statements). 	Computer Science <i>Design, write and debug programs that accomplish specific goals. Use sequence, selection, and repetition in programs, work with 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, for example . . .</i> <ul style="list-style-type: none"> • Program inputs with loops, selection and sensing for interactions. • Work with variables and various forms of input and output. • Debug programs that accomplish goals. (correcting errors) 	Computer Science <i>Design, write and debug programs that accomplish specific goals; 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.</i> <ul style="list-style-type: none"> • Change the variables of text-based commands.



		<ul style="list-style-type: none"> • Use selection, data variables and operators. • Program a virtual robot using Scratch blocks. 	<ul style="list-style-type: none"> • Write text-based commands accurately and use fill effects, stamps and functions. • Write text-based commands to program digital art. • Write text commands/functions to program keyboard inputs in a game. • Programming a Logo turtle to move and use pen. • Use co-ordinates in with a Logo turtle. • Print labels in Logo. • Program a loop (repetition) and shapes in Logo Turtle. • Program colours in Logo turtle. • Program variables in Logo turtle.
Summer 1	Digital Literacy (inc. E-safety) <i>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, for example . . .</i>	Digital Literacy (inc. E-safety) Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. <ul style="list-style-type: none"> • Understand what to do if something upsets you online. 	Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i>



	<ul style="list-style-type: none"> • Understand what personal information is and why we keep personal information private. • Understand why websites want personal information. • Identify when and where to go for help when concerned. • Understand the dangers of sharing photos online. 	<ul style="list-style-type: none"> • Understand why and how people can be nasty online. • Describe the term 'sharing online' and why we need to get permission to share photos and videos of other people. • Understand why people pretend to be someone else online. • Understand why we only talk to people we know in the real world, when online. • Understand why we should not always trust what we read online and how to check. • Understand the importance of being kind in the real world and also online. • Understand the importance of using avatars and how to make them. 	<ul style="list-style-type: none"> • Understand to keep personal information private. • Respect and protect against online bullies. • Understand the consequences of sharing photo/videos online. • Understand the term digital footprint. • Check online content is trustworthy. • Understand how, where and who can we report concerns we have to. • Understand the pitfalls of in-app purchases. • Understand how and why companies/people track our online behaviour and how we can prevent it.
Summer 2	Digital Literacy (inc. E-safety) <i>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, for example . . .</i>	Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i>	



	<ul style="list-style-type: none"> • Understand that people online are not always who they say they are. • Understand how to trust information online. • Learn to use the Internet responsibly. • Understand why we should be respectful. 	<ul style="list-style-type: none"> • Appreciate how search results are selected and ranked and show awareness of different strategies for finding specific information. • Understand the features of an Internet Browser • Use search technologies (different websites) to find specific pieces of information. • Reference the correct source of information • Be discerning in evaluating digital content. • Check the internet for fake news by cross-referencing facts. 	
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	Education Goals <i>Explore Pathway</i> This class group typically are working towards Y3 NC expectations	Education Goals <i>Extend Pathway</i> This class group typically work towards Y5 NC expectations	Education Goals <i>Excel Pathway</i> This class group typically work towards Y6 NC expectations
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Year 9

Autumn 1

Information Technology

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 . . .

- Add, resize and organise colour or picture backgrounds.
- Add, resize, organise characters/objects to different panels.
- Add narration using text and direct speech using speech bubbles.
- Save documents independently.
- Add and edit backgrounds.
- Add and edit characters, including changing posture, expression and clothing.
- Add narration and speech bubbles, including formatting text.
- Duplicate objects to match scenes.
- Search for objects to use.

Information Technology

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.

- Use the tools / features within presentation software (PowerPoint), to design an app about your school, specifically showing:
 - Slide size and background colour choices
 - A range of text and images (including transparent images) on different pages
 - Icons
 - Interactions using hyperlinks.
- Select and use non-adjacent cells plus resize multiple cell widths and copy/paste cells.
- Find data and create a spreadsheet to suit it.
- Use formulae to find totals, averages and maximum/minimum numbers.

Information Technology

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.

- Add, adjust and fill shapes.
- Group shapes to improve accuracy and speed.
- Add and customise gradient effects.
- Adjust transparency/opacity for a purpose.
- Use a colour picker correctly.
- Accurately rotate shapes.
- Adjust the colours, brightness and contrast to improve a photo.
- Create a before and after slide in presentation software.
- Take and crop a screenshot.
- Add drawing and text layers.



	<ul style="list-style-type: none"> • Use various lines and fill tools plus copy/paste and rotation to create pattern effects. • Use shapes, fill, copy/paste, zoom and flip to create reflective symmetry effects. • Use stamps, copy/paste, layers and multiple frames to create animated GIF computer game graphics. 	<ul style="list-style-type: none"> • Search a database for specific information. 	<ul style="list-style-type: none"> • Import new images as layers and resize them to fit. • Add colour elements to a black and white photo using layers and eraser tools. • Understand how technology has changed over time. Combine text and images to present ideas. • Understand the impact (positive/negative) technological changes have on society. • Predict how technology will change in the future.
Autumn 2	<p>Information Technology <i>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 . . .</i></p> <ul style="list-style-type: none"> • Create ascending and descending scales. • Add chords evenly across the scales. • Add arpeggios and melodies. • Add a steady and even rhythm. 	<p>Information Technology <i>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.</i></p> <ul style="list-style-type: none"> • Add page colour and style. • Add, position and format text on different pages. • Add and position images. 	<p>Information Technology <i>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.</i></p> <ul style="list-style-type: none"> • Create a static homepage. • Choose a suitable theme for your website. • Change the site identity to a suitable title, tagline and website icon.



	<ul style="list-style-type: none"> • Use sampled sounds to create an effective mix. • Build beats, melody (tones) and effects. • Create an icon using different shapes and fill tools. • Combine shapes and lines, then arrange them in front/behind each other. • Combine shapes, colour and text to re-create an icon. • Change the colour, size and style of text to match an icon, then arrange images and use masking and opacity tools. 	<ul style="list-style-type: none"> • Add audio, including hiding it behind an object. • Add hyperlinks to text and images. • Search for shapes. • Lock and arrange shapes. • Layer tracks using sounds and effects. • Create effective instrument tracks. • Edit tracks and effectively adjust volume and add effects. 	<ul style="list-style-type: none"> • Upload a suitable header and/or background image. • Adjust the website sidebar and add suitable widgets. • Add text and images to a page and edit them. • Add multiple pages and edit the navigation, including sub-menus. • Provide constructive feedback for your classmates' websites.
Spring 1	<p>Information Technology <i>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 . . .</i></p> <ul style="list-style-type: none"> • Copy and paste text and images. • Find and replace words. • Format text for a purpose. 	<p>Computer Science <i>Design, write and debug programs that accomplish specific goals; 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.</i></p>	<p>Computer Science <i>Design, write and debug programs that accomplish specific goals; 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.</i></p>



	<ul style="list-style-type: none"> Edit images inside documents. Add bullet points to make lists. Experiment with keyboard shortcuts. Choose a suitable page shape and add a title and subtitle. Change the background colour/texture of a page. Add, resize and change the colour of a shape then copy and paste it. Search for and add suitable images then resize and position them. Create another page with a background, image, shapes and text. Add an audio recording of the page text. Use hyperlinks for navigation between the page. 	<ul style="list-style-type: none"> Program inputs for control, selection (conditions) and sensing for interaction and data variables for scoring and a game timer. Program distance sensing and movement. Program Inputs, outputs, loops, selection, sensing and variables. Program list variables that chooses randomly. 	<ul style="list-style-type: none"> Understand why computers/electronics use binary. Match a sequence of binary code to create digital art. To convert binary code to denary numbers (decimal numbers) and visa versa. Write basic python syntax Print text Use Python as a calculator. Program loops to repeat text Program interactive inputs Find errors in a program (debugging) Program a trivia chatbot using 'send message' functions.
Spring 2	Computer Science <i>Design, write and debug programs that accomplish specific goal, including simulating physical systems.</i>	Computer Science <i>Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input</i>	Computer Science <i>Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input</i>



	<ul style="list-style-type: none"> • Design, write and debug programs that accomplish specific goals in Scratch. (Including outputs) • Use repetition in programs. • Work with various forms of inputs; keyboard, mouse and touch screen • Write programs that simulate physical systems. • Create a 3D place using various design tools within Kudu. • Write a program to control a character using inputs. • Write a program with conditions to create an if statement (If the character touches an object it will disappear). • Add a multi-player aspect. • Write a program with variables (scoring system). • Program operators (equals) to achieve a score and win game. 	<p><i>and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</i></p> <ul style="list-style-type: none"> • Change the variables of text-based commands. • Write text-based commands accurately and use fill effects, stamps and functions. • Write text-based commands to program digital art. • Write text commands/functions to program keyboard inputs in a game. • Programming a Logo turtle to move and use pen. • Use co-ordinates in with a Logo turtle. • Print labels in Logo. • Program a loop (repetition) and shapes in Logo Turtle. • Program colours in Logo turtle. • Program variables in Logo turtle. 	<p><i>and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</i></p> <ul style="list-style-type: none"> • Add and align text and change colour. • Program background colour. • Add and align images. • Add hyperlinks to other websites. • Add an iframe (such as a Google Map) and adjust the height and width. • Understand how computers use information to learn by solving new problems and following new instructions. • Understand and use examples of machine learning. • Understand how artificial intelligence is used to perform tasks often only performed by humans. ● Discuss and show awareness of potential dangers of AI.
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<p>Summer 1</p>	<p>Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i></p> <ul style="list-style-type: none"> • Understand what to do if something upsets you online. • Understand why and how people can be nasty online. • Describe the term ‘sharing online’ and why we need to get permission to share photos and videos of other people. • Understand why people pretend to be someone else online. • Understand why we only talk to people we know in the real world, when online. • Understand why we should not always trust what we read online and how to check • Understand the importance of being kind in the real world and also online. • Understand the importance of using avatars and how to make them. 	<p>Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i></p> <ul style="list-style-type: none"> • Understand to keep personal information private. • Respect and protect against online bullies. • Understand the consequences of sharing photo/videos online. • Understand the term digital footprint. • Check online content is trustworthy. • Understand how, where and who can we report concerns we have to. • Understand the pitfalls of in-app purchases. • Understand how and why companies/people track our online behaviour and how we can prevent it. 	<p>Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i></p> <ul style="list-style-type: none"> • Understand Computer Networks, Internet, Cloud Computing and Bluetooth and how they help us. • What is email and how can we use it safely? • Understand how and why we collaborate online (including blogging). • Use comprehension skills to find clues that match the column headings of a spreadsheet. • Use spreadsheet tools (filters and conditional formatting) to find the specific data to match the clues.
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Summer 2	Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i> <ul style="list-style-type: none">• Understand what important parts of inside a computer or mobile device do to help with the performance (CPU, Fan, Hard Drive, RAM, Graphics Card).• Understand that memory is measured in bytes and gigabytes.• Use search filters on websites to find suitable information.		Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i> <ul style="list-style-type: none">• Understand to keep personal information private.• Respect and protect against online bullies.• Understand the consequences of sharing photo/videos online.• Understand the term digital footprint.• Check online content is trustworthy.• Understand how, where and who can we report concerns we have to.• Understand the pitfalls of in-app purchases.• Understand how and why companies/people track our online behaviour and how we can prevent it.
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	Education Goals <i>Explore Pathway</i> This class group typically are working towards Y4 NC expectations	Education Goals <i>Extend Pathway</i> This class group typically work towards the Computing Key Stage 3 subject statements	Education Goals <i>Excel Pathway</i> This class group typically work towards the Computing Key Stage 3 subject statements.
Year 10			



<p>Autumn 1</p>	<p>Information Technology <i>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.</i></p> <ul style="list-style-type: none"> • Create an icon using different shapes and fill tools. • Combine shapes and lines, then arrange them in front/behind each other. • Combine shapes, colour and text to re-create an icon. • Change the colour, size and style of text to match an icon, then arrange images and use masking and opacity tools. • Use the tools / features within presentation software (PowerPoint), to design an app about your school, specifically showing: <ul style="list-style-type: none"> • Slide size and background colour choices • A range of text and images (including transparent images) on different pages • Icons 	<p>Information Technology Create, reuse, revise, and repurpose digital artefacts for a given audience. Understand a range of ways to use technology safely, respectfully, responsibly, and securely, including protecting their online identity and privacy; recognise inappropriate content, contact, and conduct and know how to report concerns, <i>for example . . .</i></p> <ul style="list-style-type: none"> • Choose search terms relating to a particular issue. • Identify key features of a good poster. • Use tools to copy an image into another application. • Create a poster using a desktop publishing application (Word). • Plan a poster to clearly convey a message. • Choose how to combine text and graphics in a slide. • Modify a logo using a graphic editing program. 	<p>Information Technology Create, reuse, revise, and repurpose digital artefacts for a given audience. Understand a range of ways to use technology safely, respectfully, responsibly, and securely, including protecting their online identity and privacy; recognise inappropriate content, contact, and conduct and know how to report concerns, <i>for example . . .</i></p> <ul style="list-style-type: none"> • Choose search terms relating to a particular issue. • Identify key features of a good poster. • Use tools to copy an image into another application. • Create a poster using a desktop publishing application (Word). • Plan a poster to clearly convey a message. • Choose how to combine text and graphics in a slide. • Modify a logo using a graphic editing program.
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	<ul style="list-style-type: none"> Interactions using hyperlinks. 	<ul style="list-style-type: none"> Use digital tools to provide feedback on design choices. Modify a logo so that it fits in with the planned slide styles. Plan a consistent layout for a set of slides. Create a styled set of slides based on a plan. Evaluate content against a rubric. Search for and add a suitable image. Search for suitable text for slides 	<ul style="list-style-type: none"> Use digital tools to provide feedback on design choices. Modify a logo so that it fits in with the planned slide styles. Plan a consistent layout for a set of slides. Create a styled set of slides based on a plan. Evaluate content against a rubric. Search for and add a suitable image. Search for suitable text for slides
Autumn 2	Information Technology <i>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.</i> <ul style="list-style-type: none"> Change appearance of cells in a spreadsheet (fill colour and border) then add and align text. 	Information Technology <i>Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems, for example . . .</i> <ul style="list-style-type: none"> Define 'protocol' and provide examples of non-networking protocols. Define what a computer network is and explain how data is transmitted between computers across networks. 	Information Technology <i>Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems, for example . . .</i> <ul style="list-style-type: none"> Explain the difference between a general-purpose computing system and a purpose-built device.



	<ul style="list-style-type: none"> • Find and add data to a spreadsheet, resize cells and use the software to create a suitable chart with a title. • Understand 3D spatial awareness. • Add 3D shapes, resize, adjust height, duplicate and use the different perspective. • Re-create different types of buildings using 3D shapes. • Create roads/paths by adjusting the height of 3D shapes. • Add windows and door shapes. Add, move, change colour and duplicate a brick. • Rotate bricks. • Use sloping bricks and special bricks for a purpose. • Change the transparency of bricks. 	<ul style="list-style-type: none"> • List examples of the hardware necessary for connecting devices to networks. • Compare wired to wireless connections. • Define 'bandwidth'. • Define what the internet is. • Explain how data travels between computers across the internet. • Describe how internet-connected devices can affect me. • Describe how services are provided over the internet. • Explain the difference between the internet, its services, and the World Wide Web. • Explain the term 'connectivity'. 	<ul style="list-style-type: none"> • Describe how the hardware components used in computing systems work together in order to execute programs. • Describe the function of the hardware components used in computing systems. • Analyse how the hardware components used in computing systems work together in order to execute programs. • Define what an operating system is. • Associate the use of artificial intelligence with moral dilemmas. • Describe how machine learning differs from traditional programming. • Describe the steps involved in training machines to perform tasks (gathering data, training, testing) • Identify examples of artificial intelligence and machine learning in the real world • Provide broad definitions of 'artificial intelligence' and 'machine learning'.
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Spring 1

Information Technology

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, for example . . .

- Add scene images.
- Add scripted voiceover audio, adjust the volume and crop clips (including splitting a clip).
- Add more clips and use transition effects.
- Add titles.
- Use elements such as shapes.
- Add music background music and adjust the volume.
- Export a project.
- Choose a suitable page shape and add a title and subtitle.
- Change the background colour/texture of a page.
- Add, resize and change the colour of a shape then copy and paste it.

Information Technology

Design, use, and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems. Undertake creative projects that involve selecting, using, and combining multiple applications, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users, for example,

- Identify columns, rows, cells, and cell references in spreadsheet software.
- Use formatting techniques in a spreadsheet.
- Use basic formulas with cell references to perform calculations in a spreadsheet (+, -, *, /).
- Use the autofill tool to replicate cell data.
- Collect data.
- Explain the difference between primary and secondary sources of data.
- Create appropriate charts in a spreadsheet.
- Use a spreadsheet to sort and filter data.

Information Technology

Design, use, and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems. Undertake creative projects that involve selecting, using, and combining multiple applications, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users, for example,

- Identify columns, rows, cells, and cell references in spreadsheet software.
- Use formatting techniques in a spreadsheet.
- Use basic formulas with cell references to perform calculations in a spreadsheet (+, -, *, /).
- Use the autofill tool to replicate cell data.
- Collect data before explaining the difference between data and information.
- Explain the difference between primary and secondary sources of data.
- Create appropriate charts in a spreadsheet.
- Use the functions SUM, COUNTA, MAX, and MIN in a spreadsheet.
- Use a spreadsheet to sort and filter data.



	<ul style="list-style-type: none"> • Search for and add suitable images then resize and position them. • Create another page with a background, image, shapes and text. • Add an audio recording of the page text. • Use hyperlinks for navigation between the pages. 		<ul style="list-style-type: none"> • Use the functions AVERAGE, COUNTIF, and IF in a spreadsheet.
Spring 2	<p>Computer Science <i>Design, write and debug programs that accomplish specific goals. Use sequence, selection, and repetition in programs; work with 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.</i></p> <ul style="list-style-type: none"> • Program inputs with loops, selection and sensing for interactions. • Work with variables and various forms of input and output. • Debug programs that accomplish goals. (correcting errors) • Use selection, data variables and operators. • Program a virtual robot using Scratch blocks. 	<p>Computer Science <i>Pupils will be able to use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; design and develop modular programs that use procedures or functions. Understand several key algorithms that reflect computational thinking; use logical reasoning to compare the utility of alternative algorithms for the same problem.</i></p> <ul style="list-style-type: none"> • Use block coding languages such as Scratch and Blockly in a coherent and logical manner. • Describe what an event block of code is and how it can be used. • Recognise when if and if-else blocks of code can be used to make code more efficient. 	<p>Computer Science <i>Pupils will be able to use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; design and develop modular programs that use procedures or functions. Understand several key algorithms that reflect computational thinking; use logical reasoning to compare the utility of alternative algorithms for the same problem.</i></p> <ul style="list-style-type: none"> • Identify when a problem needs to be broken down. • Implement and customise GUI elements to meet the needs of the user. • Develop a partially complete application to include additional functionality.



		<ul style="list-style-type: none"> • Use if and if-else blocks of code correctly. • Join statement blocks together to shorten lines of code to show efficiency in your coding. • Write efficient lines of code to complete more advanced tasks in the fewest possible lines / blocks. • Modify and adapt code to change variables to suit specific tasks. • Begin to debug incorrect code by finding errors within blocks and correcting them. • Introduce probability into lines of code to change the outcome of an event. 	<ul style="list-style-type: none"> • Recognise that events can control the flow of a program. • Use user input in an event-driven programming environment. • Use variables in an event-driven programming environment. • Establish user needs when completing a creative project. • Identify and fix common coding errors. • Pass the value of a variable into an object. • Apply decomposition to break down a large problem into more manageable steps.
Summer 1	Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i> <ul style="list-style-type: none"> • Understand to keep personal information private. • Respect and protect against online bullies. 	<p>Understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to report a range of concerns.</p> <ul style="list-style-type: none"> • Discuss the main safety concerns of being online. • Reflect on online activity from a safety perspective. • Define online reputation and discuss what it 	<p>Understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to report a range of concerns.</p> <ul style="list-style-type: none"> • Discuss the main safety concerns of being online. • Reflect on online activity from a safety perspective. • Define online reputation and discuss what it is



	<ul style="list-style-type: none"> • Understand the consequences of sharing photo/videos online. • Understand the term digital footprint. 	<p>is made up of.</p> <ul style="list-style-type: none"> • Discuss techniques on how to build a positive online reputation. • Discuss the ways in which one's online reputation might be under threat and how to defend it. • Discuss the ethics of big data use. • Investigate the legal rights to privacy within the UK. • Debate whether the right to privacy is important, why this might be the case, and if the right to privacy is in tension with any other rights. • Identify ways to protect one's data online. 	<p>made up of.</p> <ul style="list-style-type: none"> • Discuss techniques on how to build a positive online reputation. • Discuss the ways in which one's online reputation might be under threat and how to defend it. • Define the terms 'big data' and 'data analytics'. • Investigate the stakeholders who use big data and why. • Explain how data is collected on and how it is used. • Discuss the ethics of big data use. • Investigate the legal rights to privacy within the UK. • Discuss which rights are believed to be upheld. • Debate whether the right to privacy is important, why this might be the case, and if the right to privacy is in tension with any other rights. • Evaluate what data created online is valuable, and to whom. • Discuss ways in which data might be stolen.
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			<ul style="list-style-type: none"> • Define terms 'phishing' and 'malware'. • Identify ways to protect one's data online.
Summer 2	Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i> <ul style="list-style-type: none"> • Check online content is trustworthy. • Understand how, where and who can we report concerns we have to. 	Digital Literacy (inc. E-safety) Understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to report a range of concerns. <ul style="list-style-type: none"> • Discuss examples of disinformation spread online. • Define the term 'fake news' and discuss the quantity of fake news available online. • Identify why fake news exists and who creates it. • Discuss ways of identifying fake news and other forms of disinformation. • Explain why some content online can be potentially harmful. • Demonstrate how to report illegal online content. • Debate the right to access information in the context of safety concerns online. 	Digital Literacy (inc. E-safety) Understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to report a range of concerns. <ul style="list-style-type: none"> • Discuss examples of disinformation spread online. • Define the term 'fake news' and discuss the quantity of fake news available online. • Identify why fake news exists and who creates it. • Discuss ways of identifying fake news and other forms of disinformation. • Explain why some content online can be potentially harmful. • Describe the UK laws governing online content. • Discuss why policing online spaces can be difficult.



		<ul style="list-style-type: none">• Determine practical actions that can be made to protect oneself online.	<ul style="list-style-type: none">• Demonstrate how to report illegal online content.• Discuss how we decide what content should be illegal.• Compare UK laws with those in other countries.• Discover different technologies used to access and share information online.• Debate the right to access information in the context of safety concerns online.• Reflect on how big data and other tools help to target information to specific users.• Discuss the impact this might have on different people's online experiences and the potential disadvantages of living in an online bubble.• Contemplate the potential harms of being online.• Determine practical actions that can be made to protect oneself online.
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	Education Goals <i>Explore Pathway</i> This class group typically work towards Y5 NC expectations	Education Goals <i>Extend Pathway</i> This class group typically work towards the Computing Key Stage 3 subject statements with some elements of work touching the Key Stage 4 statements.	Education Goals <i>Excel Pathway</i> This class group typically work towards the Computing Key Stage 3 subject statements with some elements of work touching the Key Stage 4 statements.
Year 11			
Autumn 1	Information Technology <i>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.</i> <ul style="list-style-type: none"> • Use the tools / features within presentation software (PowerPoint), to design an app about your school, specifically showing: • Slide size and background colour choices • A range of text and images (including transparent images) on different pages 	Information Technology <i>Pupils will be able to understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems. Understand how instructions are stored and executed within a computer system, for example ...</i> <ul style="list-style-type: none"> • Explain the difference between a general-purpose computing system and a purpose-built device. 	Information Technology <i>Pupils will be able to undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users.</i> <ul style="list-style-type: none"> • Define data science. • Explain how visualising data can help identify patterns and trends. • Use an appropriate software tool to visualise data sets and look for patterns or trends.



	<ul style="list-style-type: none"> • Icons • Interactions using hyperlinks. • Select and use non-adjacent cells plus resize multiple cell widths and copy/paste cells. • Find data and create a spreadsheet to suit it. • Use formulae to find totals, averages and maximum/minimum numbers. • Search a database for specific information. 	<ul style="list-style-type: none"> • Describe how the hardware components used in computing systems work together in order to execute programs. • Describe the function of the hardware components used in computing systems. • Analyse how the hardware components used in computing systems work together in order to execute programs. • Define what an operating system is. • Associate the use of artificial intelligence with moral dilemmas. • Describe how machine learning differs from traditional programming. • Describe the steps involved in training machines to perform tasks (gathering data, training, testing) • Identify examples of artificial intelligence and machine learning in the real world • Provide broad definitions of 'artificial intelligence' and 'machine learning'. 	<ul style="list-style-type: none"> • Evaluate findings to support arguments for or against a prediction. • Recognise examples of where large data sets are used in daily life. • Select criteria and use data set to investigate predictions. • Define the terms 'correlation' and 'outliers' in relation to data trends. • Identify the steps of the investigative cycle. • Solve a problem by implementing steps of the investigative cycle on a data set. • Use findings to support a recommendation. • Create a data capture form. • Identify the data needed to answer a question defined by the learner. • Identify the steps of the investigative cycle.
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Autumn 2	Information Technology <i>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.</i> <ul style="list-style-type: none"> • Add page colour and style. • Add, position and format text on different pages. • Add and position images. • Add audio, including hiding it behind an object. • Add hyperlinks to text and images. • Search for shapes. • Lock and arrange shapes. • Layer tracks using sounds and effects. • Create effective instrument tracks. • Edit tracks and effectively adjust volume and add effects. 	Information Technology <i>Develop their capability, creativity, and knowledge in... information technology.</i> <ul style="list-style-type: none"> • Compare inclusivity and accessibility within traditional and modern teams. • Interpret the advantages and disadvantages of 24/7/365 availability. • Examine modern technology tools that assist inclusivity and accessibility. • Explore communication tools. • Evaluate collaborative working. • Evaluate effective online communication. • Formulate a proposal that identifies essential skills for the modern workplace. • Assess the functions and features Justify the selection of communication platforms. • Evaluate the security of using the cloud for storage and document/data creation of cloud computing. • Recognise methods of creating a network when mobile or remote working. • Evaluate the advantages and disadvantages of ad hoc networks. 	Information Technology <i>Create, reuse, revise, and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability.</i> <ul style="list-style-type: none"> • Describe what HTML is. • Modify and apply HTML tags using inline styling to improve the appearance of web pages. • Use HTML to structure static web pages. • Display images within a webpage. • Describe what CSS is. • Use CSS to style static web pages. • Analyse how search engines select and rank results when searches are made. • Describe what a search engine is. • Explain how search engines 'crawl' through the World Wide Web and how they select and rank results. • Create hyperlinks to allow users to navigate between multiple web pages. • Discuss the impact of search technologies and the issues that arise by the way they function and the way they are used. • Use search technologies effectively.
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		<ul style="list-style-type: none"> • Judge the security of ad hoc networks. • Evaluate the impact of mental well-being on individuals. • Evaluate the impact of physical well-being on individuals. 	
Spring 1	Computer Science <i>Design, write and debug programs that accomplish specific goals; 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.</i> <ul style="list-style-type: none"> • Program inputs for control, selection (conditions) and sensing for interaction and data variables for scoring and a game timer. • Program distance sensing and movement. 	Information Technology <i>Develop their capability, creativity, and knowledge in computer science, digital media, and information technology. Develop and apply their analytic, problem-solving, design, and computational thinking skills.</i> <ul style="list-style-type: none"> • Create a spreadsheet model for a given scenario. • Demonstrate how to use formulae to perform calculations. • Apply cell formatting. • Implement formatting to make the spreadsheet readable and to highlight different specific information. • Format cells correctly, e.g. cells representing 	Information Technology <i>Develop their capability, creativity, and knowledge in computer science, digital media, and information technology. Develop and apply their analytic, problem-solving, design, and computational thinking skills.</i> <ul style="list-style-type: none"> • Create a spreadsheet model for a given scenario. • Demonstrate how to use formulae to perform calculations. • Apply cell formatting. • Implement formatting to make the spreadsheet readable and to highlight different specific information.



	<ul style="list-style-type: none"> • Program Inputs, outputs, loops, selection, sensing and variables. • Program list variables that chooses randomly. 	<p>money should be currency, etc.</p> <ul style="list-style-type: none"> • Select the most suitable chart to visualise the selected data. • Recognise the importance of clear titles and labels. 	<ul style="list-style-type: none"> • Use data validation when entering data in order to reduce user error. • Implement conditional formatting techniques. • Format cells correctly, e.g. cells representing money should be currency, etc. • Select the most suitable chart to visualise the selected data. • Recognise the importance of clear titles and labels. • Implement and test a macro to carry out a repetitive task. • Implement a LOOKUP function to retrieve data. • Implement an IF function to give the user feedback.
Spring 2	<p>Computer Science</p> <p><i>Design, write and debug programs that accomplish specific goals; 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</i></p>	<p>Information Technology</p> <p>Understand a range of ways to use technology safely, respectfully, responsibly, and securely, including protecting their online identity and privacy; recognise inappropriate content, contact, and conduct, and know how to report concerns.</p>	<p>Information Technology</p> <p>Understand a range of ways to use technology safely, respectfully, responsibly, and securely, including protecting their online identity and privacy; recognise inappropriate content, contact, and conduct, and know how to report concerns.</p>



	<p><i>some simple algorithms work and to detect and correct errors in algorithms and programs.</i></p> <ul style="list-style-type: none"> • Change the variables of text-based commands. • Write text-based commands accurately and use fill effects, stamps and functions. • Write text-based commands to program digital art. • Write text commands/functions to program keyboard inputs in a game. • Programming a Logo turtle to move and use pen. • Use co-ordinates in with a Logo turtle. • Print labels in Logo. • Program a loop (repetition) and shapes in Logo Turtle. • Program colours in Logo turtle. • Program variables in Logo turtle. 	<ul style="list-style-type: none"> • Explain the difference between data and information. • Critique online services in relation to data privacy. • Explain the need for the Data Protection Act. • Recognise how human errors pose security risks to data. • Explain how a DDoS attack can impact users of online services. • Identify strategies to reduce the chance of a brute force attack being successful. • Compare security threats against probability and the potential impact to organisations. • Explain how networks can be protected from common security threats. • Identify the most effective methods to prevent cyberattacks. 	<ul style="list-style-type: none"> • Explain the difference between data and information. • Critique online services in relation to data privacy. • Identify what happens to data entered online. • Explain the need for the Data Protection Act. • Recognise how human errors pose security risks to data. • Implement strategies to minimise the risk of data being compromised through human error. • Define hacking in the context of cyber security. • Explain how a DDoS attack can impact users of online services. • Identify strategies to reduce the chance of a brute force attack being successful. • Explain the need for the Computer Misuse Act • Recognise how human errors pose security risks to data. • Implement strategies to minimise the risk of data being compromised through human error.
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			<ul style="list-style-type: none"> • Examine how different types of malware causes problems for computer systems. • Question how malicious bots can have an impact on societal issues. • Compare security threats against probability and the potential impact to organisations. • Explain how networks can be protected from common security threats. • Identify the most effective methods to prevent cyberattacks.
Summer 1	Digital Literacy (inc. E-safety) <i>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i> <ul style="list-style-type: none"> • Understand to keep personal information private. • Respect and protect against online bullies. • Understand the consequences of sharing photo/videos online. • Understand the term digital footprint. 	Information Technology <i>Develop their capability, creativity, and knowledge in computer science, digital media, and information technology. Develop and apply their analytic, problem-solving, design, and computational thinking skills.</i> <ul style="list-style-type: none"> • Describe the purpose of HTML and tags when designing a website. • Create a simple webpage using basic tags. • Describe what is meant by the term 'accessibility'. 	Information Technology <i>Develop their capability, creativity, and knowledge in computer science, digital media, and information technology. Develop and apply their analytic, problem-solving, design, and computational thinking skills.</i> <ul style="list-style-type: none"> • Describe the purpose of HTML and tags when designing a website. • Create a simple webpage using basic tags. • Describe what is meant by the term 'accessibility'.



	<ul style="list-style-type: none"> • Check online content is trustworthy. • Understand how, where and who can we report concerns we have to. • Understand the pitfalls of in-app purchases. • Understand how and why companies/people track our online behaviour and how we can prevent it. 	<ul style="list-style-type: none"> • Extend an HTML page to include: <ul style="list-style-type: none"> • Images <code></code> • Hyperlinks <code><a href></code> • Identify the common features of existing websites and the basics of what makes good web design. • Design and create pages for a mini website. • Create hyperlinks between pages stored locally within a folder. • Insert images stored locally within a folder. 	<ul style="list-style-type: none"> • Extend an HTML page to include: <ul style="list-style-type: none"> • Images <code></code> • Hyperlinks <code><a href></code> • Identify the common features of existing websites and the basics of what makes good web design. • Design and create pages for a mini website. • Create hyperlinks between pages stored locally within a folder. • Insert images stored locally within a folder. •
Summer 2		Information Technology <i>Develop their capability, creativity, and knowledge in computer science, digital media, and information technology. Develop and apply their analytic, problem-solving, design, and computational thinking skills.</i>	Information Technology <i>Develop their capability, creativity, and knowledge in computer science, digital media, and information technology. Develop and apply their analytic, problem-solving, design, and computational thinking skills.</i>
		<ul style="list-style-type: none"> • Describe the purpose of CSS and why it is needed in addition to HTML. 	<ul style="list-style-type: none"> • Describe the purpose of CSS and why it is needed in addition to HTML.



		<ul style="list-style-type: none">• Experiment with CSS by changing the style of the tags.• Describe the purpose of DIV tags.• Apply knowledge of CSS to DIVs within webpages.• Explain how to plan a website by developing a house style and sketched wireframe.• Describe the box model in CSS.• Apply skills to position items within a page.• Construct a three-page website.• Self/peer evaluate the produced website.	<ul style="list-style-type: none">• Experiment with CSS by changing the style of the tags.• Describe the purpose of DIV tags.• Apply knowledge of CSS to DIVs within webpages.• Explain how to plan a website by developing a house style and sketched wireframe.• Describe the box model in CSS.• Apply skills to position items within a page.• Construct a three-page website.• Self/peer evaluate the produced website.
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