



## Progression of Skills in Computing at Albourne

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Computer science</b> <b>Espresso</b>	<p><b><u>Unit 1A-On the Move</u></b>            To know what a block code is.            To know that a computer needs instructions.            To understand the term programming.            To make an object move up, down, left and right on the screen.</p> <p><b><u>Unit 1B-simple inputs.</u></b>            To make an object do something by clicking it.            Introduce children to the term algorithm.</p>	<p>Recap learning from year 1.</p> <p><b><u>Unit 2A- Different sorts of inputs</u></b>            Children will begin to understand that objects can be programmed to do actions when a key is pressed, and that 'key pressed' is an 'event'.            To program keys to move objects around.            To fix codes by debugging.            To understand what an algorithm is.</p> <p><b><u>Unit 2B- Buttons and Instructions</u></b>            To create a simple code to make an object do something when clicked.            To code an object to do more than one action (pop/disappear).</p>	<p>Recap on learning from year 2:</p> <p><b><u>Unit 3A: sequence and animation.</u></b>            To animate an object through simple instructions.            To program a sequence of actions, making different pieces of code execute at different times            To program a sequence of objects to appear and disappear at specific times to simulate a physical system.            To use time commands.</p> <p><b><u>Unit 3B- Conditional Events</u></b>            To use conditional 'if' statements to program a game.</p>	<p>Recap on learning from year 3:</p> <p><b><u>Unit 4A) Introduction to variables</u></b>            To use variables to keep track of the score in a game.            To program the variable to increase in value by different amounts.            To know that the value of a variable can change as a result of an input or event, or in response to a condition being used.            To write a code which includes a variable that will increase in value when a condition is met.</p> <p><b><u>Unit 4B- repetition and loops.</u></b>            To be introduced to the concepts of 'repeat ' and 'loop ' in coding.            To write code that uses a loop.            Use a loop to make an animation.            To use loops to create animations that repeat infinitely.</p>	<p>Recap on learning from year 4:</p> <p><b><u>Unit 5A-speed, direction and co-ordinates.</u></b>            To set values in code to program the speed of an object.            To change an object's direction and heading.            To use conditional events and values that represent angles in my code.            To using co-ordinates in code.            To make an object rotate to the orientation (angle) required.</p> <p><b><u>Unit 5B-Random numbers and simulations.</u></b>            To write code that uses random numbers to simulate.            To write code that uses random numbers to move objects random distances.            To write code that uses random numbers to move objects in random directions.            To write a code which uses random numbers to move objects at random speeds,</p>	<p>Recap on learning from year 5.</p> <p><b><u>Unit 6A- More complex variables.</u></b>            To write code that prompts the user to input the value of a variable when they click on a button.            To write code for an app that performs a calculation which uses variables.            To write code that performs calculations with variables and writes the results to the screen.            To write code that detects the time from the computer and displays it as a digital 24 hour clock.</p> <p><b><u>Unit 6B-Object properties</u></b>            To write code that detects the length of a swipe /drag event and use it to set the speed of the object.            To use coordinates and random numbers in a code to make an object move up and down the Y axis.            To set parameters in a code and use them to control the movements of objects.            To write code that uses random numbers and variables to control when an object moves.</p>

<p><b><u>Information technology</u></b></p>	<p>To understand what is a computer.          To understand how computers are used in everyday life.          To understand computers have no intelligence and can do nothing unless a program is run.          To be able to log on/off.          To be able to load the desktop.          To be able to maximise/minimise.          To be able to right-hand click.          Has an awareness of what the internet is and what it used for.          Can identify web browsers          To be able to load websites</p>	<p>Understands the term: <i>SURFING THE WEB</i>.          Talk about various types of technology.          Talk about how technology may be used in the classroom, at home and in the community.          Beginning to understand that other people have created the information which is available online.          Identify some benefits of using technology at home, in the classroom and in the community.          Beginning to talk about differences between the physical world and the Internet.</p>	<p>To gain an understanding of real world databases: (Rightmove/Amazon/Tesco)</p>	<p>To change background and design of PowerPoint by selecting a theme.          To be able to post and edit colour/font type/size using different options.          To embed photographs/images in PowerPoint.</p>	<p>Is aware of the history of the web.          Understands the difference between the internet and internet service e.g. world wide web.          Is able to find physical places using Google maps/street view.          Understands that each computer has a unique address called an IP address and can identify their computers IP address.          Understands how images and text is sent via the internet and emails (packet switching).</p>	<p>Learning how barcodes and QR codes work.          Learning that messages can be sent by binary code, reading binary up to 8 characters and carrying out binary calculations.          Recognising that computers transfer data in binary and understanding simple binary addition.</p>
<p><b><u>Digital Literacy</u></b></p>	<p>To open a <b>Paint</b> document.          To explore and use the different features on Paint.          - brushes, size          - shapes          - line          - fill          - erasing/undo          - save          To create a picture using Paint.          To save work.           Has an awareness of the Keyboard, lowercase alphabet and full stop.</p>	<p><b>MS Word</b>          Is able to open a word document.          Is able to highlight text/change the size/change the colour/change the font/insert pictures.          Use the caps lock key to create capital letters.          Is able to edit work.          Is able to save work.          Has an awareness of the Keyboard - numbers, capital letters, question marks and exclamation marks.          Is able to open a new or existing document/ overtyping and manipulate text/spell-check work          Is able to use the shift key/change font size/          To learn how to import images from clipart.</p>	<p>Learning to be a responsible digital citizen; understanding their responsibilities to treat others respectfully and          Recognising when digital behaviour is unkind.          Learning about cyberbullying.  <b>MS Excel Spreadsheets:</b>          To be able to alter the height and width of rows and columns.          To be able to manipulate cells (size, colour, font, set borders merge, copy, delete and align data).          To be able to construct simple formulae (addition, subtraction, division, multiplication, percentage.)</p>	<p><b>MS WORD</b>          Is able to create a blank publication/insert and colour text boxes/create Word Art objects/change orientation/ print preview/ insert and delete new pages/ insert background colours.          Is able to change margins/use tabulation/insert page breaks/add page numbers/wrap text round images/indent text on a page/ insert symbols          Is able to edit text via: changing case/character spacing          Is able to insert table /add and delete rows/add and delete columns          Is able to edit text via: changing case/character spacing          Is able to insert table /add and delete rows/add and delete columns  <b>MS PPT</b>          Add/delete slides/change slide layout/insert slide transitions/insert custom animation text and pictures/add sounds to custom animated text and images          Is able to share and exchange their ideas with others.</p>	<p><b>MS WORD</b>          Is able to change margins/use tabulation/insert page breaks/add page numbers/wrap text round images/indent text on a page/ insert symbols          Is able to edit text via: changing case/character spacing          Is able to insert table /add and delete rows/add and delete columns  <b>MS PPT</b>          Add/delete slides/change slide layout/insert slide transitions/insert custom animation text and pictures/add sounds to custom animated text and images          Is able to add action buttons/          link action buttons to different slides/add</p>	<p>Is able to discuss which applications would be suited to particular purposes eg PPT- presentations, PUB and WORD - documentation.          Using logical thinking to explore software independently, Using search and word processing skills to create a presentation.          Planning, recording and editing video/animation.          Creating and editing sound recordings for a specific purpose.          Adding multiple elements: music, voiceover, sound, text and transitions to create presentation.   <b>MS Excel: Spreadsheets:</b></p>

		<p>Has an awareness of the Keyboard - numbers, capital letters, question marks and exclamation marks.</p>		<p>Can place fingers in home key position and develops accuracy.          To be able to use the shift key when accessing the £ sign and other MS excel symbols.          Is able to use some keyboard shortcuts.          Is able to use both hands when typing.</p>	<p>hyperlinks to websites/make action buttons transparent/add bullet points          Is able to share and exchange their ideas with others.           Is able to type with increasing speed and accuracy.          Is able to use some keyboard shortcuts.</p>	<p>To be able to construct simple formulae (addition, subtraction, division, multiplication, percentage.)          To be able to construct formulae using built-in functions (average, sum)          To be able to replicate formulae.          To be able to sort data (single column) in a table and understands how sorting can improve searching for information.          To know what is a bar, pie and line chart/graph and when to use          To be able to create graphs and insert/delete/amend legends and titles.          To be able to sort multiple columns of data in a table.          To be able to create and use custom list in a table (days of the week or months of the year)          To be able to use auto filter.          To be able to analyse and evaluate data and information.          To be able to identify that poor quality data leads to unreliable results, and inaccurate conclusions.           Is able to type with increasing speed and accuracy.           Uses some numeric keypad and ctrl commands (ctrl-c, ctrl-v etc)          Is able to use keyboard shortcuts.</p>
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<p><b>E Safety</b></p>	<p>Children understand that their password belongs to them. Children recognise the impact of good choices and consequences of wrong ones. Children understand that they need an adult with them when using the Internet. Children recognise who they can ask for help and know when they need help. Children understand that they need to share equipment and take turns.</p>	<p>Recap Reception learning: To be able to understand the importance of asking for help from an adult when: Pop ups appear/unknown Emails appear/anything unfamiliar on the screen appears. To have an awareness of keeping personal information private. To understand what to do when concerned about content or being contacted via the internet or electrical device. Children begin to recognise the need to know who they are sharing their learning with online and recognise the difference between real and imaginary online experiences. Children recognise the Internet as an exciting place to be but understand the need for a balance in how they spend their time and make good choices about age appropriate activities.</p>	<p>Recap year 1 learning: To understand the importance of communicating safely and respectfully online, and the need for keeping personal information private. To understand what to do when concerned about content or being contacted. Who to speak to- who is a trusted adult?</p>	<p>Recap year 2 learning: Children understand the need for rules to keep them safe when exchanging ideas online. To be able to use computers safely and responsibly; knowing a range of ways to report unacceptable content and contact when online. Understands the concept of 'digital footprint'. Using Childnet SMART, explain e-safety rules: -Stay safe - Don't meet up -Accepting files -Reliable -Tell someone Children understand that an adult needs to know what they are doing online and understand how to report concerns, including cyberbullying. Children understand that any personal information they put online can be seen and used by others.</p>	<p>Recap year 3 learning: To understand the importance of communicating safely and respectfully online, and the need for keeping personal information private. To understand what to do when concerned about content or being contacted. Recognising what appropriate behaviour is when collaborating with others online. To know strategies for keeping safe online, including social media, the responsible use of ICT and mobiles. Recognising that information on the Internet might not be true or correct and that some sources are more trustworthy than others. Children recognise the need to choose age-appropriate games to play on their devices, and when to limit use. Children recognise the need to protect their devices from viruses. Children understand that any personal information they put online can be seen and used by others. Children recognise that they can use online tools to collaborate and communicate with others and the importance of doing this responsibly, choosing age-appropriate websites. Children recognise the effect their writing or images might have on others.</p>	<p>Recap year 4 learning: To demonstrate responsible use of technologies and online services, and knows a range of ways to report concerns. To understand the concept of 'digital shadow' To know strategies for keeping safe online, including social media, the responsible use of ICT and mobiles. To know the importance of protecting personal information, including passwords, addresses and images. Children understand appropriate and inappropriate use of the Internet including excessive use. Children recognise the risks and rewards of using Internet communication tools and understand how to protect themselves and the devices they use. Children understand the need to respect the rights of other users, and understand their own responsibility for information that is shared and how it may impact on others.</p>	<p>Recap on previous E-safety learning: To know strategies for keeping safe online, including social media, the responsible use of ICT and mobiles. To know the importance of protecting personal information, including passwords, addresses and images. To make children aware of risks when using mobile phones, legal restrictions on social sites. Link to transition work for KS3. What is netiquette? Children recognise their own right to be protected from the inappropriate use of technology by others and their responsibility to report concerns. (CEOP) Children understand how to use social networking websites appropriately, keeping an adult informed about their online activity. They make good choices when they present themselves online. Children recognise the appropriate online tools to collaborate and communicate with others, understanding how to protect themselves from cyberbullying or causing hurt to others, especially when using social networks. Children understand the need to respect the rights of other users, and understand their own responsibility for information that is shared and how it may impact on others.</p>
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