

Key Characteristics that we want to promote with our children:

- Competence in coding for a variety of practical and inventive purposes, including the application of ideas within other subjects.
- The ability to connect with others safely and respectfully, understanding the need to act within the law and with moral and ethical integrity.
- An understanding of the connected nature of devices.
- The ability to communicate ideas well by using applications and devices throughout the curriculum.
- The ability to collect, organise and manipulate data effectively.



	Foundation	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
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Computing Curriculum-Rushcliffe Learning Alliance

		Foundation	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
General ICT skills		<ul style="list-style-type: none"> Know that ICT can be used to communicate information electronically. 	<ul style="list-style-type: none"> Identify icons that would start a program. Save/copy/paste 	<ul style="list-style-type: none"> Login in/ out independently. Open and save work. Position fingers on home keys and begin to type with multiple fingers. Start to use right click on a mouse Save/copy/paste 	<ul style="list-style-type: none"> Navigate the server. 	<ul style="list-style-type: none"> Understand copyright issues relating to music, images and video. Touch type with increasing speed. 	<ul style="list-style-type: none"> Discuss when appropriate use of ICT skills. 	<ul style="list-style-type: none"> Evaluate a presentation on the basis of content and appropriate style. Refine the quality of presentations as a result of peer review.
Communication/ connecting	Language /Text	<p>F1</p> <ul style="list-style-type: none"> Create a multimodal story with adult help. Follow instructions to navigate a simple website. Know what a keyboard is for. <p>F2</p> <ul style="list-style-type: none"> Enter single letters from a keyboard to write words and sentences. Know when and how to use the SPACE BAR. 	<ul style="list-style-type: none"> Use a word bank. Highlight text and font, size and colour. Use a keyboard to write words and sentences including SPACE BAR and ENTER KEY. Explore a talking book. Create a multimodal story with adult help. 	<ul style="list-style-type: none"> Input and edit text including changing the appearance/ positioning of text to suit a purpose (font, size, colour, alignment) Read and respond to e-mails. Send annotated replies to e-mails. Send e-mails. Attach files to e-mails with support. 	<ul style="list-style-type: none"> Use cut, paste and delete to organise and reorganise text on screen to suit a purpose. Use font sizes and effects appropriately for audience & purpose Use a spell check and thesaurus. Begin to use all fingers for typing and thumbs for spaces 	<ul style="list-style-type: none"> Contribute to blogs moderated by teachers Forward and send to multiple recipients. Add people to personal address book. Touch type with increasing speed. 	<ul style="list-style-type: none"> Use a desk top publishing package or multimedia package to create presentations for particular audiences. Collaborate with others online on approved and moderated sites Touch type with increasing speed. 	<ul style="list-style-type: none"> Choose the most suitable applications and devices to communicate to a specific audience Touch type with increasing speed.
	Graphics and sound	<p>F1</p> <ul style="list-style-type: none"> Use a mouse, left click, switch on Make a clean page on a paint program. Explore paint tools and brushes. Take a photograph. <p>F2</p> <ul style="list-style-type: none"> Use a painting program to create a representation and simple patterns. Click volume, print, new page, exit. Record and play sounds 	<ul style="list-style-type: none"> Move pictures into the correct positions. Make a clean page on a paint program. Explore paint tools and brushes Use a painting program to create a representation and simple patterns Record and play sounds. Record videos Create a sequence of sounds Create a stop frame animation 	<ul style="list-style-type: none"> Select and use appropriate tools to create pictures and patterns. Control the pen and then flood fill pictures. Use more advanced tools appropriately to create and edit pictures/ photos. Transfer sounds to the computer with adult support. Explore creating musical compositions. Create a stop frame animation 	<ul style="list-style-type: none"> Import and save video & images to a file and retrieve them. Create and edit purposeful compositions using music software. Use graphics packages to create effects 	<ul style="list-style-type: none"> Edit digital images using crop, brightness, contrast & resize tools. Combine digital images from different sources, images and text to make a final image. Find & select sound/ music from audio networks or other sources and import into a multimodal presentation. 	<ul style="list-style-type: none"> Create a non-linear, multimedia text with hyperlinking Import video into a video editing package. Add titles, credits and transitions. Export and save a video. 	<ul style="list-style-type: none"> Edit picture to remove items, add new backgrounds, and merge 2 photos. Film and edit a video for a specific purpose. Use a 3D graphic drawing program to create a realistic representation of real world objects.
Resources		<ul style="list-style-type: none"> 2simple, colourmagic, tuxpaint, cbeebies Easy speak microphones, talking tins 	<ul style="list-style-type: none"> Text ease, Purple mash, 2 Simple software, Colour magic, Revelation Natural Arty, Clipart, Digital photos, Audio and video clips, interactive big books, IPADS 	<ul style="list-style-type: none"> Textease, Clipart, Email, Digital photos, Easi-speak, Heymann email Audio and Video tapes, 'The Big Bus', 'Audio Networks' 	<ul style="list-style-type: none"> saved still and moving images, Digital camera, PowerPoint, Word, Web pages, Living library, Audio Networks, Primary Design, Power Point. Easi-speak 			
Collecting	Research	<p>F2</p> <ul style="list-style-type: none"> Using google images as a search tool with adult support. Use google earth / google maps and street view to look at a journey with adult support. 	<ul style="list-style-type: none"> Click on hyperlinks (text and icons), forward and back buttons to navigate Use a search engine safely. Use tab browsing. How to close, open and minimise a website. Login to Fronter / SharePoint / Office 360 Add to a forum on Fronter. 	<ul style="list-style-type: none"> Pupils can independently navigate a multimedia presentation (interactive book/ website) Use key words to locate information in living library/ website. Use favourites open a website. 	<ul style="list-style-type: none"> Locate a webpage using a URL.(web address) Find and use appropriate images/ text from the internet in their work. Save favourite webpages 	<ul style="list-style-type: none"> Search a branching database to identify objects. Skim and scan search engine results and look at their web address to evaluate usefulness. 	<ul style="list-style-type: none"> Use advanced search techniques, eg. Image size, key words. Evaluate websites and their content. 	<ul style="list-style-type: none"> Use collaborative web environment to share ideas, resources and information for a group project. Exploring and generating digital links. For example QR codes
	working with Data	<p>F2</p> <ul style="list-style-type: none"> Enter data into a pictogram and use it to find answers to simple questions (on whiteboard). Using infant video toolkit -> 2graph. 	<ul style="list-style-type: none"> Use key words to describe objects (Textease word bank) Use a pictogram to answer simple questions. Enter data into a pictogram and use it to find answers to simple questions (on whiteboard). 	<ul style="list-style-type: none"> Use a branching database to answer questions. Use a graphing program to answer questions. Make a table on a spread sheet and create a simple graph 	<ul style="list-style-type: none"> Use a database to generate bar charts and interpret data. Use the database to answer simple questions by sorting a field. Use the database to answer simple questions by using search criteria. Add a record to a file in a computer database. 	<ul style="list-style-type: none"> Create a series of yes/no questions to identify objects. Produce a tree diagram to identify objects. Create a branching database which identifies objects uniquely. 	<ul style="list-style-type: none"> Use graphs to provide supporting evidence for their conclusions about relationships (including data logging results). Identify some of the implications of incorrect data. Enter data into cells. Enter data and formulae into cells, modify the data, make predictions of changes and check results. Create and use a spreadsheet to produce costings which are within budget. Use 'SUM'. 	<ul style="list-style-type: none"> Identify and enter the correct formulae into cells, modify the data, make predictions of changes and check them. Copy formulae to create tables of results. Create graphs from spreadsheets. Create and use a spreadsheet to answer a 'What if?' mathematical investigation.
Resources		<ul style="list-style-type: none"> video toolkit -> 2graph, Google 	<ul style="list-style-type: none"> Textease, Internet, Primary Games, big bus, living library Excel 	<ul style="list-style-type: none"> Textease-spreadsheet, bigbus, 	<ul style="list-style-type: none"> Living library, Textease, Internet, excel, word, 			

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Controlling	<p>Making Things Happen (Control and sensing)</p> <p>F1</p> <ul style="list-style-type: none"> Put instructions in the correct sequence to achieve the correct results. Use a CD player and be able to play, stop and pause and control volume. <p>F2</p> <ul style="list-style-type: none"> Use instructions such as forwards, backwards, turn, left, right. Predict the outcome of a set of instructions and test the results. 	<ul style="list-style-type: none"> Put instructions in the correct sequence to achieve the correct results. Give instructions in a common language. Write a sequence of instructions for others to carry out (algorithm) Write instructions in an agreed format using standardised unit lengths. Predict the outcome of a set of instructions and test the results. Write sets of instructions and interpret them correctly and make and test predictions. Use a cassette recorder to collect and store information as sound. 	<ul style="list-style-type: none"> Enter single commands to control a floor turtle and predict the outcome. Enter a sequence of commands to control a floor turtle and predict the outcome. Programme the floor turtle to repeat instructions. Control motion by specifying the number of steps to travel, direction and turn. Specify user inputs (such as clicks) to control events. Specify the nature of events (such as a single event or a loop) Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?) 	<ul style="list-style-type: none"> Create a program which includes sequence, selection and repetition. Use logical reasoning to detect and correct errors in algorithms and programs 	<ul style="list-style-type: none"> Create a program which responds to various forms of inputs and outputs. Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions). Use variables to store a value. Use the functions define, set, change, show and hide to control the variables. Use logical reasoning to detect and correct errors in algorithms and programs 	<ul style="list-style-type: none"> Solve a problem to accomplish a specific goal which includes variables and a range of inputs and outputs. Use logical reasoning to detect and correct errors in algorithms and programs Use boolean operators <ul style="list-style-type: none"> () < () () = () () > () ()and() ()or() Not() to define conditions. 	<ul style="list-style-type: none"> Use logical reasoning to detect how a simple algorithm works. Design, program and test a program to achieve a specific goal. (eg a game). <ul style="list-style-type: none"> Combine the use of pens with movement Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions. Use the Reporter operators <ul style="list-style-type: none"> () + () () - () () * () () / () to perform calculations. Pick Random () to () Join () () Letter () of () Length of () () Mod () This reports the remainder after a division calculation Round () () of ().
	<p>Developing ideas and Trying Things Out (Modelling)</p> <p>F1</p> <ul style="list-style-type: none"> Complete a simple program. Use a simple website to access content. <p>F2</p> <ul style="list-style-type: none"> Explore a simple adventure game 	<ul style="list-style-type: none"> Explore a simple adventure game Solve a simple problem. Choose an option. Achieve a desired effect by choosing particular options. Use a variety of types of information - text, pictures, sound, colour. 	<ul style="list-style-type: none"> Use a computer simulation/ games to explore options and make choices. Try out ideas to solve a problem and explain to others how to use the 'tools' or 'keys'. Work with others to make decisions and solve a problem. Add text strings, show and hide objects and change the features of an object. Select sounds and control when they are heard, their duration and volume. Control when drawings appear and set the pen colour, size and shape. 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Explore the effects of changing the variables in simulations and use them to make and test predictions, changing the variables in a simulation to achieve a given outcome. Record the outcome of choices in a simulation systematically to help achieve an outcome. 	<ul style="list-style-type: none"> Use a spreadsheet to model real life situations/ investigations Change data in a spreadsheet to answer what if questions 	<ul style="list-style-type: none">
Resources	A.L.E.X, Beebot app, Kodable, Mist			Textease (logo), Flowol2, Ecolog, Scratch Internet BBC Viking Quest, living library			

Support: Generic Computing skills

<p>P4</p> <ul style="list-style-type: none"> Make selections to communicate meanings. Make selections to generate familiar/ preferred sounds or images. Know that certain actions produce predictable results. 	<p>P5</p> <ul style="list-style-type: none"> Use web or mobile applications to manipulate something on screen. Make connections between control devices and information on screen. 	<p>P6</p> <ul style="list-style-type: none"> Use computing to interact with other pupils and adults. Use a keyboard or touch screen to select letters and/or images for own name. Show an understanding that information can be stored on a computer. Respond to simple instructions to control a device. Operate some devices independently. 	<p>P7</p> <ul style="list-style-type: none"> Gather information from different sources. Use computing to communicate meaning and express ideas in a variety of contexts. Begin to choose equipment and applications for a familiar activity. 	<p>P8</p> <ul style="list-style-type: none"> Find similar information in different formats (such as in photographs, books, websites or television programmes). Use computing to communicate and present ideas. Start an application and make a choice from it. Communicate about the uses of computing.
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Connect safely / E-Safety	Content	<ul style="list-style-type: none"> Know that the internet can be used to communicate information in a friendly way. <p>F2 Know what to do when a command box opens, or the page changes unexpectedly (e.g. hector / turning monitor off – then tell an adult)</p>	<ul style="list-style-type: none"> Know the school Acceptable Use Policy and the SMART online rules: Safe/Meeting/Accepting/Reliable/Tell. Know what to do if they view content they think is inappropriate or upsetting (school policy) e.g. know how to minimise a screen if they see something inappropriate on a website and tell a trusted adult. Begin to evaluate web sites by giving opinions about preferred sites. Know that you can be diverted from a website through a link to a new website, advertising or pop-up. Know that anyone can create a web site and it is sometimes difficult to know if information is true. 	<ul style="list-style-type: none"> Be aware of the school Acceptable use Policy and the SMART online rules: Safe/Meeting/Accepting/Reliable/Tell. Know what to do if content is inappropriate or upsetting (school policy) e.g. know who to report to and talk to. Be aware that taking text or images from some sites may be stealing other people's work. Understand the Internet contains fact, fiction and opinion and begin to distinguish between them. Know that the aim of many sites is to sell something or gain personal information. Know when an email should not be opened or messages ignored. 	<ul style="list-style-type: none"> Use a range of sources to evaluate information found online, consider plausibility and develop strategies to make judgements on the sources used e.g. cross-referencing a number of websites. Understand the impact of an individual sending or uploading inappropriate content to a wider audience. Understand wikis are multi-authored and can be hard to verify (e.g. Wikipedia). Have an awareness of the need to check a resource has copyright or can be legally downloaded free of charge from the internet and whether it can be re-used. Check the validity of a website, e.g. look for the author via the 'Contact us' or 'About us' area of the website, or through 'Whois' sites that list the author's details. Know that many commercial providers have sophisticated ways of trying to sell on the internet (e.g. Hoax 'You have a virus' message box to sell antivirus software). 	
	Contact	<p>F2 Discussion around what is safe to share on the school website / class blog: first names, photographs of work etc.</p> <p>Listen to and discuss stories with morals and stranger danger.</p>	<ul style="list-style-type: none"> Know to keep personal information private when communicating online (This could be discussed when sending a class email). Know that online communication is not always confidential and that it can be monitored. 	<ul style="list-style-type: none"> Know to keep personal information and passwords private when communicating online (including email, blogging and instant messaging) Understand that online communication is not always confidential and that it can be monitored). Know that anyone can create a user showing any age or gender and people you meet online may not be who they say they are (social networking, chat rooms and instant messenger). Know they can create an alias or avatar when online. 	<ul style="list-style-type: none"> Demonstrate safe practice when selecting images or content for uploading to an online space. Understand some malicious adults use the internet to make contact and "groom" young children. Know how to report any suspicions (Think You Know REPORT ABUSE page). Understand the need for privacy settings on any social networking sites (and that those privacy settings may not be observed by online 'friends' who can use/share/download your images/content). 	
	Conduct	<p>F2</p> <ul style="list-style-type: none"> Discussion around what is safe to share on the school website. Know that care is needed when using technology. 	<ul style="list-style-type: none"> Learn to respect the work of others that is stored on a shared drive of a network or presented online. Identify some risks presented by new technologies inside and outside school (e.g. online games, mobile phone texting, cyberbullying). Learn the importance of turning power off to save energy when not used. 	<ul style="list-style-type: none"> Know how to respond to unpleasant communications via mobile phone, text, IM or email, chat rooms. (Save the message and show to a trusted adult). Know there are writing conventions for electronic communication (language, tone, accuracy). 	<ul style="list-style-type: none"> Know when to reply to a group email using 'reply all' and when to 'cc'. Understand the importance of appropriate online behaviour and that online bullying is unacceptable. Know to whom to report any incidence. Understand the different audience of a school Learning Platform and an online social network. 	
	Resources	<p>Know It All for Primary http://www.childnet.com/kia/primary/</p> <p>Childnet http://www.childnet.com/kia/primary/smartadventure/chapter4.aspx</p> <p>Think U Know for KS1 http://www.thinkuknow.co.uk/5_7</p> <p>Hector's World and Lee and Kim's adventures http://www.hectorsworld.com/</p> <p>KidSmart http://www.kidsmart.org.uk/</p> <p>BBC Stay safe http://www.bbc.co.uk/cbbc/help/web/staysafe</p>		<p>Know It All for Primary http://www.childnet.com/kia/primary/</p> <p>Captain Kara and Winston's Smart adventure http://www.childnet-int.org/kia/primary/smartadventure/default.aspx</p> <p>Think U Know for KS2 Cyber Café http://www.thinkuknow.co.uk/8_10/cybercafe/Cyber-Cafe-Base/</p> <p>KidSmart http://www.kidsmart.org.uk/</p> <p>BBC Stay safe http://www.bbc.co.uk/cbbc/help/web/staysafe</p> <p>NetSmartz http://www.netsmartzkids.org/</p> <p>Safe Social Networking http://www.safesocialnetworking.org/ https://www.makewav.es</p>		<p>Know It All for Primary http://www.childnet.com/kia/primary/</p> <p>Think U Know for KS2 Cyber Café http://www.thinkuknow.co.uk/8_10/cybercafe/Cyber-Cafe-Base/</p> <p>Information Literacy materials on analysing websites http://novemberlearning.com/resources/information-literacy-resources/</p> <p>Teaching about hoax sites: http://allaboutexplorers.com/about http://www.shsu.edu/~lis_mah/documents/TCEA/hoaxtable.html</p> <p>DigiZen http://www.digizen.org/</p> <p>NetSmartz http://www.netsmartzkids.org/</p>