

Computing 2022-23  
Progression through Concepts

	EIFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Online safety	<p>Children recognise the impact of good choices and consequences of wrong ones. They can select and use technology for a purpose. Children understand that they must ask an adult whether they can use a game or app. Children know that information can be retrieved from computers and can tell an adult if what they see makes them feel worried. 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><b><u>Smartie the Penguin-</u></b> <a href="http://childnet.com">childnet.com</a></p>	<p>Children begin to understand what personal information is and who you can share it with, including the need to keep passwords private. Children know who to tell when they see something that makes them uncomfortable and make sure an adult knows what they are doing. Children recognise the Internet as an exciting place to be but understand the need for a balance in how they spend their time.</p> <p><b><u>Digiduck-</u></b> <a href="http://childnet.com">childnet.com</a></p>	<p>Children understand what personal information is and who you can share it with, including the need to keep passwords private. 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 know who to tell when they see something that makes them uncomfortable and make sure an adult knows what they are doing.</p> <p><b><u>Jessie and Friends-</u></b> <a href="https://www.thinkuknow.co.uk/4-7/">https://www.thinkuknow.co.uk/4-7/</a></p>	<p>Children recognise the need to keep personal information and passwords private. They recognise the need for a secure password. 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><b><u>Hector's world</u></b> <a href="https://www.esafety.gov.au/educators/classroom-resources/hectors-world/your-personal-information-online">https://www.esafety.gov.au/educators/classroom-resources/hectors-world/your-personal-information-online</a></p>	<p>Children understand the need for rules to keep them safe when exchanging ideas online. They understand that an adult needs to know what they are doing online and understand how to report concerns, including cyberbullying. Children recognise the need to choose age-appropriate games to play on their devices, and when to limit use. Children understand that any personal information they put online can be seen and used by others. They 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><b><u>The Adventures of Kara, Winston and the SMART Crew</u></b> <a href="https://www.childnet.com/resources/the-adventures-of-kara-winston-and-the-smart-crew/">https://www.childnet.com/resources/the-adventures-of-kara-winston-and-the-smart-crew/</a></p>	<p>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><b><u>ThinkUKnow cybercafé-</u></b> <a href="https://www.thinkuknow.co.uk/8-10/stay-safe/explore/">https://www.thinkuknow.co.uk/8-10/stay-safe/explore/</a></p>	<p>Children recognise their own right to be protected from the inappropriate use of technology by others and their responsibility to report concerns, understanding how to protect themselves from cyberbullying or causing hurt to others, especially when using social networks (including online gaming communities). They make good choices when they present themselves online. 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><b><u>My first phone</u></b> <a href="http://www.myfirstmobilephone.org.uk/download-the-session-plans">http://www.myfirstmobilephone.org.uk/download-the-session-plans</a></p>
Systems and Networks	<p>Explore different types of technology in the role-play area. <b>(N)</b> To know that a computer has a mouse and a keyboard and be able</p>	<p>Understand what technology is Know what technology they have in their lives</p>	<p>Develop the understanding of where technology can be found in the world Be able to name the types of technology</p>	<p>Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer</p>	<p>Children recognise the main component parts of hardware which allow computers to join and form a network. Children understand the function, features and layout of a search</p>	<p>Children understand the value of computer networks but are also aware of the main dangers. Children can select the most appropriate form of online communications</p>	<p>Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. They compare a range of digital content sources and are able to</p>

	<p>to recognise them <b>(N)</b>          Draw a picture on the interactive whiteboard using Smartboard software. <b>(N)</b>          To use a mouse and keyboard and understand keys represent letters and numbers <b>(R)</b>          With adult support where needed, be able to use a computer to find information e.g. QR codes, internet search. <b>(R)</b></p>	<p>Be able to use a mouse and a keyboard          Be able to open a file          Be able to create a typed document and save it</p>	<p>found in shops, schools and at home          Understand why we use IT          Understand how to use IT safely          Use search technologies effectively</p>	<p>for communication and collaboration.          Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p>	<p>engine. They can appraise selected webpages for credibility and information at a basic level.</p>	<p>Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains</p>	<p>rate them in terms of content quality and accuracy.</p>
Programming	<p>Program a floor robot to follow a simple set of instructions <b>(N)</b>          Completes a simple program on an electronic device to achieve a goal <b>(N)</b>          Be able to program a Beebot to follow a two step program. <b>(N)</b>          Follow instructions to play an age appropriate game on the IWB/touchscreen device. <b>(R)</b>          Use a Beebot or similar to programme a</p>	<p>Understand that an algorithm is a set of instructions          Understand that computers read and follow algorithms without thought          Make predictions about programs          Write a program to achieve an aim</p>	<p>Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.           Children can identify the parts of a program that respond to specific events and initiate specific actions.          For example, they can write a cause and effect sentence of what</p>	<p>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.           Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</p>	<p>Understand that conditions control the flow of programs          Link a condition statement to a condition outcome          Design and create a program that uses selection          Children's use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. They understand 'IF statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. As well as understanding how</p>	<p>Children can translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design.</p>	<p>Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. Children test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem.</p>

	pathway on a map or similar. <b>(R)</b>		will happen in a program.		variables can be used to store information while a program is executing, they are able to use and manipulate the value of variables. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.		
Creating Media	Complete a jigsaw game on the interactive whiteboard <b>(N)</b> . Begin to use a mouse to interact with a PC. <b>(N)</b> Be able to take pictures using a digital device and use it for a purpose. <b>(R)</b> Use the mouse to create a picture on screen using an appropriate programme. <b>(R)</b>	Digital Photography Compose and frame an image Select images Edit images using software Produce a final image too meet a brief  Animated storybooks To be able to digitally paint Use a range of tools to digitally paint	Creating pictures I can select and use tools to create digital imagery - controlling the pen and using the fill tool  Making Music Discuss how music makes us feel Understand that music has patterns Create rhythms and patterns in music Use software to compose music	Email To think about different methods of communication. To open and respond to an email using an address book. To learn how to use email safely. To add an attachment to an email. To explore a simulated email scenario.  Graphing To enter data into a graph and answer questions.	Audio Editing Understand that sound can be digitally recorded Understand what input(microphone) and output devices are speakers) Use a digital recording device Edit a digital sound file  Animation Understand that animations are a series of photos or drawings Understand movement is a created by a sequence of images Plan/storyboard an animation	Game creator To plan a game. To design and create the game environment. To design and create the game quest. To finish and share the game. To self and peer evaluate.  3D Modelling Compare 2d and 3D shapes Use modelling software to combine shapes Colour, rotate and resize shapes Design a physical object Improve designs	Blogging Children make clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the Internet

		<p>Create a digital painting Select tools to create digital writing Type on a computer</p>		<p>To solve an investigation and present the results in graphic form.</p>	<p>Create and improve an animation Evaluate an animation</p>		
Data and Information	<p>Understand that objects can be labelled and grouped <b>(N)</b> Be able to label and group objects based on properties<b>(R)</b></p>	<p>Pictograms Use tally charts to collect data Understand that data can be represented in pictograms Use software to create and analyse pictograms Group object and label groups using attributes Draw conclusions from represented data Be able to present and discuss data</p>	<p>Presenting ideas To explore how a story can be presented in different ways. To make a quiz about a story or class topic. To make a fact file on a non-fiction topic. To make a presentation to the class.</p>	<p>Branching Databases Understand how 'yes/no' can sort data Understand that attributes can be used to refine data Select appropriate attributes required to find desired data Understand what a branching database is Use a branching database to sort information Compare branching databases to pictograms</p>	<p>Spreadsheets To format cells as currency, percentage, decimal to different decimal places or fraction. To use the formula wizard to calculate averages. To combine tools to make spreadsheet activities such as timed times tables tests. To use a spreadsheet to model a real life situation. To add a formula to a cell to automatically make a calculation in that cell.</p>	<p>Databases Create paper file databases Understand how computers file records Group data Search records Compare data using charts Select flights based on search criteria</p>	<p>Spreadsheets Understand how spreadsheets organise data Manipulate data sets using spread- sheets Write and use formulas Calculate using spreadsheets Plan a budget</p>