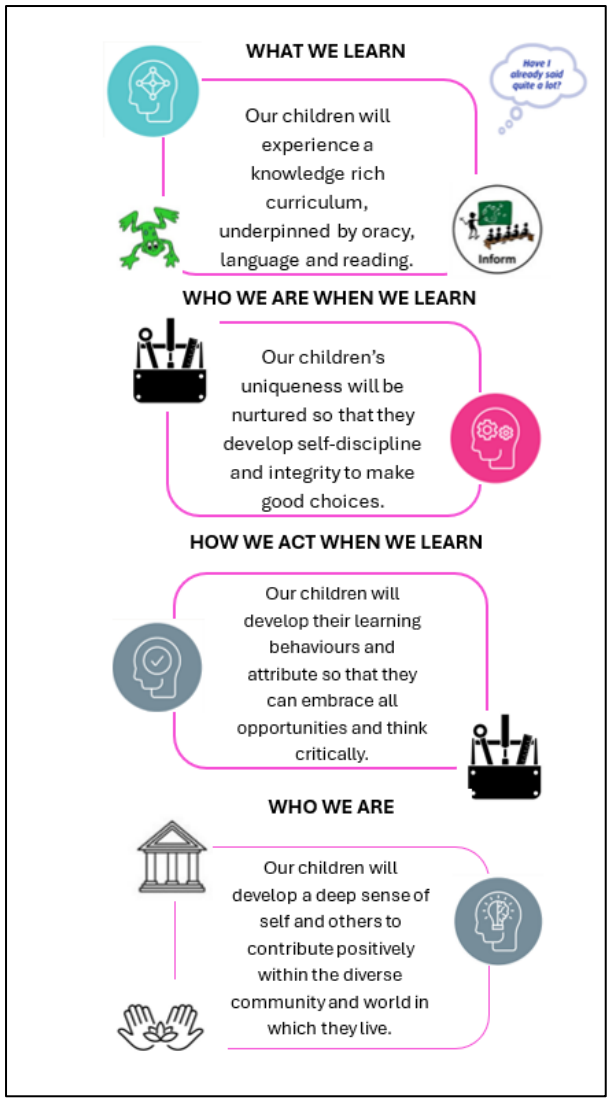
# **Lifton COMPUTING** Overview 2024-2025




Our curriculum has been deliberately designed to be ambitious and meet the needs of our children as well as the National Curriculum expectations. Subjects have been planned to immerse the children within their familiar local context before expanding their knowledge nationally and across the world.

Our curriculum design is rooted in developing our pupils as learners under **4 key principles**:

- Developing learners' learning
- Developing learners' character
- Developing learning behaviour
- Developing learners' moral compass

## Curriculum intent for Computing:

As users and programmers of communication and information technology, our children will develop their computational thinking, logical reasoning and digital literacy. They will use a variety of computer software to express themselves, to develop their ideas, to solve challenges, to design coding programs and systems and to create content. Our emphasis on online safety for all pupils will equip our children with the knowledge and skills to keep themselves and others safe online and to use information technology in an informed and responsible way. Through our curriculum, our children will be enabled to thrive and participate actively in a continually evolving digital world.

# Substantive knowledge content

| | Autumn 1 | Autumn 2 | Spring 1<br>**Class restructure (R/1/2)** | Spring 2 | Summer 1 | Summer 2 |
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| EYFS | **'Awesome Autumn'**<br>**Role-play with Technology**<br>**Recording a journey with Beebots** | | **'Springtime'**<br>**Using Typing Apps (Seesaw, apple notes)**<br>**Giving Instructions** | | **'Summer Fun'**<br>**Online Safety**<br>**Expressive Arts (Seesaw)** | |
| Year 1 | **Technology all around us.**<br>(Computing Systems, Algorithms) | **Digital Painting**<br>(Effective Use of tools, Creating Media) | **Moving a Robot** and **Robot Algorithms**<br><br>(Algorithms and Programming) | **Grouping Data** and using **Pictograms**<br><br>(Data and Information, Algorithms, effective use of tools) | **Digital Writing**<br>(Effective Use of Tools, Creating Media) | **Programming Animations**<br>(Programming, Design and Development) |
| Year 2 | **Information Technology around us**<br>(Computing Systems, Networks)<br>**Y2 unit** | **Digital Photography**<br>(Creating media, Effective Use of Tools)<br>**Year 2 unit** | | | **Digital Music**<br>(Creating media, Design and Development)<br>**Year 2 unit** | **Programming Quizzes**<br>(Programming, Design and Development)<br>**Year 2 unit** |
| Year 3+4 | **Connecting Computers** | **Stop Frame Animation.**<br>(Creating media, | **Sequencing sounds.** | **Branching databases.**<br>(Data and Information, Effective Use of Tools)<br>**Year 3 unit.** | **Photo Editing**<br>(Effective Use of tools, | **Repetition in games** |

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| | (Computing Systems, Networks) **Year 3 unit** | Effective Use of Tools) **Year 3 unit.** | (Programming, Design and Development) **Year 3 unit** | | Creating Media) **Year 4 unit** | (Programming, Design and Development) **Year 4 unit.** |
| Year 5 | **Sharing Information** (Networks, Effective Use of Tools) | **Video Production** (Creating Media, Design and Development) | **Selection in Physical Computing** (Programming and Computing Systems) | **Flat-file Databases** Data and Information, Effective Use of Tools) | **Vector drawing** (Effective Use of tools, Creating Media) | **Selection in Quizzes** (Algorithms and Programming) |
| Year 6 | **Internet and communication** (Networks, Effective Use of Tools) | **Webpage creation** (creating media, Effective Use of Tools) | **Variables in games** (Programming, Design and Development) | **Introduction to spreadsheets** Data and Information, Effective Use of Tools) | **3D Modelling** (Effective Use of tools, Creating Media) | **Sensing** (Programming, Computing Systems) |

# Disciplinary/Interdisciplinary Knowledge overview

| | Computer Science | Digital Literacy | Information Technology |
|---|---|---|---|
| **KS1** | Understand what algorithms are<br><br>Understand programs execute by following precise and unambiguous instructions<br><br>Create and debug simple programs. | Know what personal information is and what I should not reveal online<br><br>Explain the importance of being kind online<br><br>Recognise common uses of information technology beyond school<br><br>Use technology safely and respectfully, keeping personal information private<br><br>Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. | Use technology purposefully to create, organise, store, manipulate and retrieve digital content |
| **KS2** | Use sequence, selection and repetition in programs.<br><br>Work with variables.<br><br>Use logical reasoning to explain how some simple algorithms work and to | Understand the importance of strong passwords.<br><br>Use technology safely, respectfully and responsibly.<br>Recognise acceptable and unacceptable behaviour. | Use search technologies effectively.<br><br>Appreciate how results are selected and ranked and be discerning in evaluating digital content.<br><br>Create a range of programs, systems and content that accomplish given |

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| | detect and correct errors in algorithms and programs.<br><br>Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration. | Identify a range of ways to report concern about content and contact.<br><br>Explain how they are developing an online reputation which will allow others to form an opinion of them | goals, including collecting, analysing, evaluating and presenting data and information. |