

**Computing Curriculum**

At North Tawton Primary School, we believe in giving children the skills needed for the 21st Century – computing is a key component of this. Our curriculum is designed to give our learners the skills and knowledge needed to access computing technology.

Technology is changing the lives of everyone; many of the jobs and careers that our children will undertake have not yet been invented. Through teaching computing, we equip children to participate in a rapidly changing world where work and leisure activities are increasingly transformed by technology.

It is our intention to inspire and enable children to find, explore, analyse, exchange and present information both purposefully and with clarity. We also focus on developing the skills necessary for children to be able to be discerning consumers and creators of information in all of its forms and to do so with confidence and security.

Computational thinking is a major factor in enabling children to be confident, creative and independent learners and it is our intention that children have every opportunity available to allow them to develop and personalise this skill in all curriculum areas.

The computing curriculum is designed to build upon knowledge and skills with technology with a strong thread of online safety.

**Programme of study**

|  |
| --- |
| EYFS |
| Subject | Knowledge | Skills | Key Vocabulary |
|  | Children know that technology can be used for a range of purposes at home and schoolChildren can name a range of technology devices and uses *(e.g. ‘You use your computer to take the register and it sends it to Mrs Chapman so she can see it on her computer’)*Children know that information can be retrieved from technology | Children can use technology to complete simple games and programsChildren can use technology to retrieve simple information *(e.g. Using voice control to find pictures of animals)*Children can express their ideas using technology *(e.g. using drawing programs)*Children can explain uses of technology at home and school | **Device****Technology****Computer****Information** |

|  |
| --- |
| Year 1 |
| Subject | Knowledge | Skills | Key Vocabulary |
| Understanding algorithms and e-safety  Create and de-bug simple programmes and e-safety  Digital literacy and e-safety   | Children know that an algorithm is a set of instructionsChildren understand that devices follow algorithms precisely and unambiguously Children know how to create a simple algorithmChildren know that a program is a set of instructions that execute a taskChildren know that a program is created by a set of algorithmsChildren know how to create digital content *(e.g. word processing documents)*Children know how to save digital contentChildren know how to retrieve digital contentChildren know what personal information isChildren know that they should not share personal information online (including photos)Children can recognise online threats to their safetyChildren know where to seek help with online safety | Children can create a simple algorithmChildren can test a simple algorithmChildren can de-bug a simple algorithmChildren can create a simple programChildren can test a simple programChildren can de-bug a simple programChildren can create digital content Children can save digital contentChildren can retrieve digital contentChildren can use online safety toolsChildren use a computer programme to create art | **Algorithm****Program****Bug****De-bug****Digital****Digital content****e-safety****online safety** |

|  |
| --- |
| Year 2 |
| Subject | Knowledge | Skills | Key Vocabulary |
| Logical reasoning and e-safety  Digital literacy beyond school and e-safety  Digital content and e-safety   | Children know that technological devices are unambiguously and precisely logicalChildren know that programs are defined by algorithms and will follow them logicallyChildren know how to use a range of programs at home and schoolChildren can create digital content beyond school *(e.g. creating posters using digital photos, publishing programs)*Children know how to organise digital content using folders and sub foldersChildren know how to manipulate digital contentChildren know common methods of stealing personal informationChildren know what safe online groups look like | Children can predict the behavior of a program using logical reasoningChildren can create digital content using a range of programsChildren can create digital content outside of the school environmentChildren can organise digital content in folders and sub foldersChildren can manipulate digital contentChildren can spot unsafe contentChildren can use a program to create musicChildren can use a program to create and manipulate photos | **Logic****Logical reasoning****Folders** |

|  |
| --- |
| Year 3 |
| Subject | Knowledge | Skills | Key Vocabulary |
| Connecting computersGraphics and presentations including research and e-safety  Sequencing in musicBuilding databasesDesktop publishing | Children understand how devices connect to one anotherChildren understand the benefits and functions of connected devicesChildren know how to use graphic programsChildren know how to create an animationChildren know how to design simple programsChildren know how to create simple programsChildren know how to de-bug simple programsChildren understand the use of data storing and sorting programmesChildren know how to use programs to create a document | Children can connect a device to othersChildren can create graphics and animations using technologyChildren can design a program to complete a given taskChildren can create a program to complete a given taskChildren can de-bug a simple program to complete a given taskChildren can store, sort and retrieve dataChildren can present information using programs | **Connections****Internet****Wireless****Data****Graphics** |

|  |
| --- |
| Year 4 |
| Subject | Knowledge | Skills | Key Vocabulary |
| Working with Data and e-safety  Networks and communications and e-safety Audio editing | Children know how to organise data on digital programs *(e.g. spreadsheets)*Children use data stored digitally to create charts and graphsChildren understand computer networks such as the internetChildren know that technology can be used to communicate instantly with people around the worldChildren know how to be safe when communicating via digital technology *(acceptable use)*Children know how digital data can be manipulated to mislead readersChildren know they have a responsibility to act respectfully online. Children know how to use digital devices to record audioChildren know how to edit audio in digital filesChildren understand the use of digital devices for photos | Children can oraganise data and retrieve information from digital data sourcesChildren can represent dataChildren can use networks to communicate with othersChildren can identify unsafe uses of computer networksChildren can record and edit audio using digital devices.Children can create and edit photos using digital devices | **Data sources****Communications****networks** |

|  |
| --- |
| Year 5 |
| Subject | Knowledge | Skills | Key Vocabulary |
| Video editingDatabasesSelection | Children know how to use programs to enhance presentationsChildren know how communication networks can be used to work collaboratively Children know how to correct algorithms in their programsChildren know how collaborative working can be manipulated positively and negativelyChildren understand the role of technology and digital devices in the creation of videoChildren understand the purposes and functions of databasesChildren understand binary coding and how this enables selection for a variety of purposes | Children can create presentations using programs to enhanceChildren can work collaboratively on a single piece of contentChildren can identify when images have been manipulatedChildren can explain how algorithms workChildren can create and edit videoChildren can create, sort and retrieve data from a data baseChildren use selection for a variety of purposes | **Collaborative working****Databases****Coding** |

|  |
| --- |
| Year 6 |
| Subject | Knowledge | Skills | Key Vocabulary |
| CommunicationsWebsitesSpreadsheetsVariables Modelling Sensing | Children know how to safely communicate using technology and devices Children know how to use the internet safely to search for contentChildren understand how search results are rankedChildren recognise the features of a website and how to use these for various functionsChildren understand the use of a variable in programming Children understand the function and purpose of spreadsheetsChildren understand the use of 3D modellingChildren understand the use of laser and other sensing tools in technology | Children can use the internet to safely search for contentChildren can create a basic websiteChildren can use a variable to affect a programChildren can use spreadsheets to organise and retrieve dataChildren can create 3D models using technologyChildren can use lasers and other sensing tools to affect a program.  | **Search ranking****Functions****Modelling****Sensing****Variables** |