Newchurch Computing Overview

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| **Key Stage 1** | **Key Stage 2** |
| **Computer Science**   * Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions * Create and debug simple programs * Use logical reasoning to predict the behaviour of simple programs   **Information Technology**   * Use technology purposefully to create, organise, store, manipulate and retrieve digital content   **Digital Literacy**   * Recognise common uses of information technology beyond school * Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies | **Computer Science**   * 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 * Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs * Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web * Appreciate how [search] results are selected and ranked   **Information Technology**   * Use search technologies effectively * Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information   **Digital Literacy**   * Understand the opportunities [networks] offer for communication and collaboration * Be discerning in evaluating digital content * Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact |

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| **Theme**  **Year Group** | One | **Two** | **Three** | **Four** | **Five** | **Six** |
| **EYFS** | **Photographers**  **(DL)**  Children take images and discuss the pictures they have taken, this can be linked to a theme and pieced together using image and animation packages.  iPad camera | **Control technology**  **(CS)**  Use control resources to manipulate an object using system of instructions.  Bee Bots | **Verbal recordings**  **(IT)**  Use iPad Apps to record and present verbal responses to learning.  Telligami  Puppet Pals | **Navigators**  **(IT)**  Children opening packages, logging on and saving etc.  Children learning the principles around Information Technology and how to navigate hardware.  Word  P: Drive | **Mini Artists**  **(DL)**  Children using drawing packages o create images linked to a key topic e.g. PAN.  Sumo Paint | **Control technology**  **(CS)**  Use control resources to manipulate an object using system of instructions.  Develop use of obstacles and courses. Have the children develop their own.  Bee Bot App  Bee Bots |
| **1** | **Manipulating images (DL)**  Collecting images using collage apps linked to their learning. Adding text to support images.  Using internet to search for and use images.  Pic-Collage | **Using algorithms**  **(CS)**  Use basic coding methods to control sprites.  Make basic sequential instructions.  Espresso coding – On The Move | **Researching/E-Safety**  **(IT)**  Using the internet as a research tool safely.  Present their findings using basic packages e.g. Word or Telligami for those who struggle to type.  Internet  Telligami  Microsoft Word or Powerpoint | **Communicators**  **(IT)**  Use Puppet Pals app to record and present stories.  Children could write their own stories or record ones they already know or learn.  Puppet Pals | **Card Makers**  **(DL)**  Children create images which can be used within a publisher template to make a greetings card.  Publisher  SumoPaint | **Control technology**  **(CS)**  Use basic coding methods to control sprites.  Make basic sequential instructions.  Espresso coding – On The Move |
| **2** | **Visual communication**  **(DL)**  Using media to conduct video conferences and live chat. Introducing the idea of webcams.  Facetime  Skype | **Using algorithms**  **(CS)**  Use coding methods to control sprites.  Make sequential instructions.  Espresso coding – Different Sorts Of Input | **Animators**  **(IT)**  Children create stick man animations then develop this by creating images in Sumo Paint and then importing them to Stick Man Animator.  Sumo Paint  Stickman Animator | **Poster Maker**  **(IT)**  Children use features of Publisher and Pic Collage to create posters around a given theme. This needs to include images and information and involve looking at examples.  Pic Collage  Word  Publisher | **Blogging/E-Safety**  **(DL)**  Children create a blog using the online tools which investigates a given topic and includes images. Children also comment on their peers blog using comments function.  Kidblog | **Control technology**  **(CS)**  Use coding methods to control sprites.  Make sequential instructions.  Espresso coding – Buttons And Instructions |
| **3** | **Adventure Stories and Flow Charts**  **(DL)**  Children create narratives using PowerPoint which use internal links to move between slides based on reader’s choices.  Or make flowcharts which allow for the categorisation of information  PowerPoint | **Using algorithms**  **(CS)**  Use coding methods to control sprites.  Make sequential instructions.  Espresso coding – Sequence And Animation | **Stop Frame Animation**  **(IT)**  Children shoot continuous films using stop frame technology, make post production edits including sound.  Lego Film Maker | **Visual editing**  **(IT)**  Children will take pictures, edit them and create their own. These pictures can then be merged within one document.  SumoPaint  Word  Publisher | **Chat Rooms and Threads/E-Safety**  **(DL)**  Using school VLE develop use of threads and interaction between children through chat rooms.  VLE | **Control technology**  **(CS)**  Use coding methods to control sprites.  Make sequential instructions.  Espresso coding – Conditional Events (Selection) |
| **4** | **E-Mailing**  **(DL)**  Creating accurate emails and ensuring the information is presented accurelty. Responding to emails and adding/opening attachments.  Google Mail | **Using algorithms**  **(CS)**  Use coding methods to control sprites.  Make sequential instructions.  Espresso coding – Introduction To Variables | **Book Creator**  **(IT)**  Children create their own narratives using multimedia features such as images, sounds and video.  Book Creator | **Data Recording**  **(IT)**  Use spreadsheets to collect, record, sort and present data e.g. graphs. This can be linked to current topic e.g. temperatures.  Excel | **Wikis/E-Safety**  **(DL)**  Children create Wiki which can be edited by their peers and added to as project develops.  WikiSpaces | **Control technology**  **(CS)**  Use coding methods to control sprites.  Make sequential instructions.  Espresso coding – Repetition And Loops |
| **5** | **Website Designers**  **(DL)**  Children develop knowledge of design features and use structures to construct basic webpages with hyperlinks and suitable information for communication.  Google Sites | **Using algorithms**  **(CS)**  Use coding methods to control sprites.  Make sequential instructions.  Espresso coding – Speed, Direction And Coordinates | **Musicians**  **(IT)**  Producing digital audio using sound effects and recorded elements. Edit and adjust sounds to make compositions.  Audacity | **3D Design**  **(IT)**  Children use the features of 3D design packages to support their knowledge of architectural features.  Sketch-Up | **Blogging/E-Safety**  **(DL)**  Children create blogs which offer support and advice on e-safety and which include hyperlinks to other sites.  Kidblog | **Control technology**  **(CS)**  Use coding methods to control sprites.  Make sequential instructions.  Espresso coding – Random Numbers And Simulations |
| **6** | **Presenters**  **(DL)**  Children use Prezi to develop, interpret and present information on a given/chosen topic.  Import images and videos to form multimedia presentation.  Prezi | **Using algorithms**  **(CS)**  Use complex coding methods to control sprites, edit backgrounds and develop variables.  Espresso Coding – More Complex Variables or Object Properties  Scratch  Kandu  Kodu | **Podcasting**  **(IT)**  Children create, edit and embed audio podcasts using range of resources and packages.  Audacity  Kidblog  iPad recording tools | **Databasing**  **(IT)**  Children create spreadsheets which use complex formulae for four operations and percentage.  Excel | **Movie Makers/E-Safety**  **(DL)**  Children plan, film and edit movies based on theme of e-safety.  Import soundtracks and use post production techniques.  iMovie | **Control technology**  **(CS)**  Use complex coding methods to control sprites, edit backgrounds and develop variables.  Scratch  Kandu  Kodu |