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.TelligamiPuppet Pals | **Navigators****(IT)**Children opening packages, logging on and saving etc.Children learning the principles around Information Technology and how to navigate hardware.WordP: 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 AppBee 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.InternetTelligamiMicrosoft 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.PublisherSumoPaint | **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.FacetimeSkype | **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 PaintStickman 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 CollageWordPublisher | **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 informationPowerPoint | **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.SumoPaintWordPublisher | **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 PropertiesScratchKanduKodu | **Podcasting****(IT)**Children create, edit and embed audio podcasts using range of resources and packages.AudacityKidblogiPad 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.ScratchKanduKodu |