**Computing at Our Lady of the Rosary Primary school**

**Yearly Plan of Events**

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| Year | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Rec | Information Technology | | Computer Science | | Online Safety | |
| 1 | The Use of IT | Keyboard and Mouse Skills | Coding | Digital Art | Text and Images | Comic Creation |
| 2 | Keyboard and Mouse Skills | | Coding | Data Handling | Animation | Microsoft Word |
| 3 | Microsoft Word | | Coding | Branching Databases | Stop Motion Animation and iMovie | |
| 4 | Apple Clips | | Coding | Microsoft PowerPoint (with Internet Research) | Microsoft Word | eBook Creation |
| 5 | Graphic Design using Publisher | | Coding | App Creation (PPT) | Video Editing | Inside a Computer and The Internet |
| 6 | Image Editing | | Coding | Spreadsheets | Website Creation | |

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| **Computing**  **Purpose of study**  A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.  **Aims**  The national curriculum for computing aims to ensure that all pupils:   * can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation * can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems * can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems * are responsible, competent, confident and creative users of information and communication technology.   **Attainment targets**  By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.  **Subject content**  **Key stage 1**  Pupils should be taught to:   * 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 * use technology purposefully to create, organise, store, manipulate and retrieve digital content * 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   **Key stage 2**  Pupils should be taught to:   * 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, and the opportunities they offer for communication and collaboration * use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content * 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 * use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | | | | | | |
| **EYFS** | | | | | | |
| **Guidance** | **Autumn** | | **Spring** | | **Summer** | |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| **Topic/Focus** | Information Technology | | Computer Science | | Online Safety | |
| **Key Knowledge** | **Plugs –** contain dangerous electricity that can hurt you.  **Search –** look for some information.  **Instruction –** an order of how to do something  **Order -** what happens first, next and then the end.  **Mouse**- a device that controls the pointer on a computer  **Monitor**- the computer screen  **Tablet-** a hand held computer  **Keyboard**- what we use to type letters/numbers/ symbols.  **Bee bot-** programmable robot | | | | | |
| **Key Skills** | **IT**  **Mouse and keyboard**  **Use** a dominant hand and move the arrow to a destination with instruction (hand over hand)  **Hold** a mouse and move the arrow to a destination with some errors.  **Hold** a mouse and move the arrow confidently to a destination.  **Create** a drawing using a mouse  **Click** on applications/programs with support.  **Double** click on an application.  **Find** given keys related to letters/numbers  **Press** keys relating to letters and numbers with accuracy  **Independently** press keys relating to letters and numbers  **Type** name independently | | **Computer Science**  **Follow** 2 directional instructions verbally. (As a class, in pairs, independently)  **Sequence** 3 images around a familiar event in order (first, then, last). (As a class, in pairs, independently)  **Name** forward, back, left, right  **Applications**  Independently identify basic apps and programs from images (As a class, independently)  **Images**  **Find** the camera app and take a picture.  **Take** a picture independently on a tablet when on the app.  **Take** pictures that link to a story. | | **Online Safety**  **Identify** dangers around computers (eg. Electricity, water, wires, running in ICT).  **Hold** a tablet safely and respectfully.  **Talk** about the dangers of strangers.  **Point** to images of people they should tell if something scares them on technology.  **Name** people they should tell if something scares them on technology.  **Equipment**  **Identify** a mouse, monitor, tablet and keyboard from pictures.  **Use** the vocab mouse, monitor, tablet and keyboard when talking about computers. | |

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| **Year 1** | | | | | | |
| **Guidance** | **Autumn** | | **Spring** | | **Summer** | |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| **Topic/Focus** | The Use of IT | Keyboard and Mouse Skills | Coding | Digital Art | Text and Images | Comic Creation |
| **Key Knowledge** | **Technology-** Identify and define different digital devices inside and outside of school – tablet, TV, washing machine, toaster.  **Understand-** digital devices come in all shapes and sizes.  **Digital devices**- any device which uses electronics to function- hairdryer, alarm clock  **Uses**- the way in which we use a device for a particular purpose and need at that time. i.e. a hairdryer – hot for adults, cooler for children.  **Keyboard Functions-** arrow keys  **Mouse-** left click | **Technology-** Identify and define different digital devices inside and outside of school.  **Understand-** digital devices come in all shapes and sizes.  **Keyboard and Mouse Functions -** letters,space bar, enter **and** left click only | **Algorithm –** A set of clear instructions in a certain order**.**  **Programmable** – Can receive instructions.  **Beebot** – Programmable robot  **Directional language** – left, right, go, forward, backward  **Objective**- the goal you want to achieve/ what you want to happen  **Input** – Adding information into a computer**.**  **Outcome –** The result  **Command –** A single instruction.  **Debug**- correcting a mistake in an algorithm. | **Digital Art-** art created using computing  **Tools**- a selection of items which change the way the art is created. i.e. pen, paint, brush  **Pixels**- a minute area of illumination on a display screen, one of many from which an image is composed | **Image** – a picture of something.  **Resize** – To change the size of something.  **Place** – the position of text/image. | **Panel –** Scenes of the story in a comic.  **Narration –** Tell the story in words.  **Stickers –** Added to panels to show effects.  **Scale –** Change the size of an object.  **Arrange –** Put the objects in front or behind each other.  **Flip** – Turn an object to face the other way. |
| **Key Skills** | **Turn** on a navigate a variety of devices  **Log on** independently  **Use** the mouse to left-click, select and drag  **Find** letters on the keyboard and begin to type. | **Turn** on a navigate a variety of devices  **Log on** independently  **Use** the mouse to left-click, select and drag to play games.  **Find** letters on the keyboard and begin to type with fluency. | **Create** an algorithm to get a Beebot from one place to another  **Change** my algorithm to avoid obstacles  **Debug** my algorithm to fix errors or problems | **KidsDoodle (iPad) and pixilart.com (computers)**  **Explore** digital drawings  **Discuss** what I like, dislike and interesting features  **Explore** digital drawings using KidsDoodle  **Use** the tools on Pixilart.com to create a digital drawing | **Add, move and resize** images.  **Add** text and adjust size and placement..  **Insert resize and place**  **Place** text next to images.  **Use** word banks to write sentences about images.  [https://www.abcya.com/games/abcya\_paint](about:blank) | **Understand** the advantage of creating a comic digitally.  **Know** the different aspect of a comic: scenes, backgrounds, characters, narration, speech bubbles and stickers.  **Add, resize and organise** backgrounds.  **Add, resize and organise** characters/objects within panels.  **Add** narration using text and speech bubbles.  [**https://makebeliefscomix.com/Comix/**](about:blank) **See LB for log in details.** |

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| **Year 2** | | | | | | |
| **Guidance** | **Autumn** | | **Spring** | | **Summer** | |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| **Topic/Focus** | Keyboard and Mouse Skills | | Coding | Data Handling | Animation | Microsoft Word |
| **Key Knowledge** | **Technology-** Identify and define different digital devices inside and outside of school.  **Understand-** digital devices come in all shapes and sizes.  **Keyboard and Mouse Functions -** letters,space bar, enter **and** left click only | | **Algorithm –** A set of clear instructions in a certain order**.**  **Programmable** – Can receive instructions.  **Beebot** – Programmable robot  **Directional language** – left, right, go, forward, backward  **Objective**- the goal you want to achieve/ what you want to happen  **Outcome –** The result  **Command –** A single instruction.  **Debug**- correcting a mistake in an algorithm. | **Key** – represent letters, numbers, functions and symbols**.**  **Power button –** Turns the power on and off.  **Log on –** Getting on to your account/work.  **Shutting down** – Getting off your account and turn off power.  **Mouse** – Know the three different clicks.  **Programs –** Need to know word, publisher, painting programs, camera, mouse skill games, keyboard games by icons. | **Animation**- the creation of multiple slides with a tiny amount of movement, which together looks like a video of movement  **Frames**- each image taken  **Storyboard**- the planning out of your animation  **Movement**- the tiny amount of movement between each frame | **Power button –** Turns the power on and off.  **Log on –** Getting on to your account/work.  **Shutting down** – Getting off your account and turn off power.  **Mouse** – Know the three different clicks.  **Program Icons –** Need to know word, publisher, painting programs, camera, mouse skill games, keyboard games by icons. |
| **Key Skills** | **Turn** on a navigate a variety of devices  **Log on** independently  **Use** the mouse to left-click, select and drag to play games.  **Find** letters on the keyboard and begin to type with fluency. | | **Create** an algorithm to get a Beebot from one place to another  **Change** my algorithm to avoid obstacles  **Debug** my algorithm to fix errors or problems | **Answer** questions about a pictogram  **Collect** data for a pictogram  **Label** a pictogram and add data to each column  **Edit** a table to create a bar chart and a pie chart  **Ask and answer** questions about graphs that I have created  **Match** common symbols to basic definitions. (cross, save, windows symbol, word, print)  **Find** a specific program independently | **Study and comment** upon animations  **Experiment** with the Junior Infant Animation Tool and share my successes and difficulties  **Plan** my own animation  **Create** my own animation  **Evaluate** my project | **Open** a Microsoft Word Blank Document  **Type** my name onto a Microsoft Word Document  **Save** my work  **Add and resize** a clipart image  **Insert and type** into a text box |
| **Catch up skills due to COVID-19 Pandemic** | | |

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| **Year 3** | | | | | | |
| **Guidance** | **Autumn** | | **Spring** | | **Summer** | |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| **Topic/Focus** | Microsoft Word | | Coding | Branching Databases | Stop Motion Animation and iMovie | |
| **Key Knowledge** | **Spell check –** A tool for checking spelling.  **Format –** to change the way an item looks.  **Font** – the style of writing, colour  **Copy –** A tool which copies but does not delete an item. **(Select, Right Click, Copy)**  **Paste –** A tool which places a copied or cut item. **(Right Click, Paste)** | | **Program –** This is the purpose of the activity.  **Block knowledge –** Flag, stop, motion, events, control, looks, sound.  **Sprite –** The character.  **Backdrop –** The background of the stage.  **Script –** The sequence of the blocks.  **Costumes –** The look of the sprite at a given time.  **Repeat Function**- a way of block repeating instructions previously set  **Turns-** degrees | **Database – Lots of data stored on a computer.**  **Branching Database –** A way of organising and classifying a group of objects. | **Stop motion Animation**- the creation of multiple slides with a tiny amount of movement, which together looks like a video of movement  **Frames**- each image taken  **Storyboard**- the planning out of your animation  **Movement**- the tiny amount of movement between each frame  **Onion skin**- in 2D computer graphics, is a technique used in creating animated cartoons and editing movies to see several frames at once.  **Export**- To save a copy of the current open document, database, image or video into a file format required by a different application  **iMovie**- a video editing application developed by Apple. | |
| **Key Skills** | **Add, edit and format** text  **Add and edit** an image  **Copy and paste** text and images  **Save** my work  **Retrieve** my work | | **Create** an algorithm to accomplish a goal.  **Debug** an algorithm to fix errors.  **Add** sprites and backgrounds to a project.  **Change** costumes on a sprite.  **Use** sequence to create an animation scene. | **Investigate** questions with yes/no answers.  **Identify** information needed to collect relevant data.  **Explain** how data can be used to answer questions.  **Retrieve** information from branching databases.  **Create** questions with yes/no answers  **Compare** information shown in branching databases. | **Study and comment** upon animations, focussing on the use of onion skin  **Use** Stop Frame Animator to create my own animation  **Create** my own Lego animation  **Compare** the StikBot app and the Stop Frame Animator app.  **Use** a storyboard to plan an animation  **Choose** from Stop Motion Animation or StikBot to create my own animation (iPad apps)  **Export** my animation into iMovie (iPad app)  **Add** a title and sound to my animation video | |

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| **Year 4** | | | | | | |
| **Guidance** | **Autumn** | | **Spring** | | **Summer** | |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Topic/Focus | Apple Clips | | Coding | Microsoft PowerPoint (with Internet Research) | Microsoft Word | eBook Creation |
| Key Knowledge | **Internet** – a system that lets you connect all over the world.  **Device/app** – a thing which is made or adapted for a specific purpose.  **Save**- a place which stores your work to return to it later.  **Organise**- create a Clip which is in a logical order. | | In addition to previous years:  **Loop –** a form of repeat.  **Infinite loop –** a loop that carries on indefinitely.  **Count-controlled loop** – a loop that stops after X times.  **Decomposition** - Break something into smaller parts. | **Alignment –** where the text is placed. (Left, Right, Centre, Justify)  **Transitions –** The movement from one slide to another.  **Animations –** The movement of items on a slideshow (e.g. a floating title) | **Bold -** Slightly thinker font in the same style.  **Italics –** Words typed are on a slight angle.  **Alignment –** where the text is placed. (Left, Right, Center, Justify)  **Text box Function** (I.e. Insert – Text Box – Draw Text Box/ Simple text box) | **eBook –** A digital book accessed on a tablet, laptop, phone, etc.  **Hyperlink –** A link to access a webpage/page in the book.  [https://app.bookcreator.com/](about:blank)  See LB for login information. |
| Key Skills | **Add and record** video to ‘Clips’  **Add** posters and simple effects  **Add** images from the internet  **Pinch** whilst recording to create a zoom effect  **Sequence** my video  **Edit** a previously recorded ‘Clips’  **Create** a clip based on a topic area. | | **Compare** the different input devices used in technology.  **Understand** the difference between the two different types of coding loop.  **Modify** code to see how it changes its behaviour.  **Use** loops, movement and looks blocks to animate sprites.  **Decompose** a WAGOLL game.  **Plan** a game using loops.  **Create** a game using loops. | **Use** reliable internet research to inform my presentation.  **Add** in a new slide, start and end a slideshow.  **Add**, edit and format text  **Copy and paste** text and images  **Add** an image and edit it inside a document  **Change** the background of the presentation.  **Add** transitions and animations to slides.  **Save** my work.  **Retrieve** my work. | **Type** an extended piece of work including paragraph, alignment, title, text box and an image  **Format** typed work to change the font colour, underline, bold and italics.  **Use** the spell check tool for all words in a text.  **Save** my work  **Retrieve** my work | **Add** page colour and style then position and format text.  **Add** and position images from camera/internet  **Add** audio, including hiding it behind an object.  **Use** hyperlinks on text and images.  **Insert** and **format** shapes. |

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| **Year 5** | | | | | | |
| **Guidance** | **Autumn** | | **Spring** | | **Summer** | |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Topic/Focus | **Graphic Design using Publisher** | | **Coding** | **App Creation (PPT)** | **Video Editing** | **Inside a Computer and The Internet** |
| Key Knowledge | **Publisher** – A piece of software that allows you to design brochures, menus, etc.  **Client** – A customer of a business.  **Brief** – A set of instructions/requirements to follow. | | In addition to previous years:  **Decomposition –** Break something into smaller parts.  **Condition –** A computer’s way of making a choice.  **IF Statement –** The code used to support a condition. | **Navigate –** A way to move around on the computer.  **Hyperlink –** a shortcut to another page/slide/website. | **Green screen**- software that allows the placement of any image onto the green screen's interchangeable background  **Autocue**- a device which projects an enlarged image of a script for use by the presenter/reader  **Content**- the make-up of the animation  **Edit**- change something created to better suit the outcome and improve it. | **Hardware –** the parts that make up a computer.  **CPU** – The processor. The ‘thinking’ part of the computer.  **Power supply** – Supplies power to the computer  **RAM –** Allows information to be stored and retrieved quickly.  **SSD –** Where files are stored.  **Network** – a series of digital devices connected to one another.  **World Wide Web –** Part of the internet that has websites and webpages. |
| Key Skills | **Choose** an appropriate template for a publication.  **Select** a colour scheme that is linked to a business.  **Plan** what they want a document to look like.  **Add** text boxes, images, shapes and tables to a document.  **Copy and paste** images from the internet and other sources.  **Use** transparency to ensure all items on a publication are clear and visible.  **Produce** an attractive publication that meets a client brief. | | **Decompose** a WAGOLL game.  **Create** a scene composing of an appropriate background and sprites.  **Code** the sprites to move on user input.  **React** to certain conditions being met.  **Complete** a PoP task based on a similar game. | **Adjust** slide size to mimic a phone or tablet.  **Add** text and images to a slide.  **Add** icons and text to use as navigation.  **Create** hyperlinks to have navigation.  **Duplicate** slides to create multiple pages of the app.  **Use** the internet to research a topic for the app. | **Experiment** with green screen by changing the background to my picture  **Work** in a group to plan a video  **Create** an autocue script on Apple Pages (iPad app)  **Work** in a group to record content for my video (including green screen)  **Present** my work and provide feedback to others | **Identify** hardware inside a computer.  **Remove and add** pieces of hardware from a PC.  **Understand** the job each piece of hardware does.  **Evaluate** issues with a PC and explain why it may have occurred.  **Describe** how devices connect to each other.  **Outline** how information via the WWW.  **Recognise** the need for security on the internet.  **Describe** what can be shared on the WWW.  **Explain** how the internet is used to view the WWW. |

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| **Year 6** | | | | | | |
| **Guidance** | **Autumn** | | **Spring** | | **Summer** | |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Topic/Focus | Image Editing leading into Creation of Poster | | Coding | Spreadsheets | Website Creation | |
| Key Knowledge | **Fake News** – News that is not real, and is created for attention, profit or political reasons. | | In addition to previous years:  **Decomposition –** Break something into smaller parts.  **Condition –** A computer’s way of making a choice.  **IF Statement –** The code used to support a condition. | **Spreadsheet -** computer application which allows users to organise, analyse, and store data in a table.  **Cell –** A box that holds data, typically numbers.  **Formula –** a calculation to work out an answer. | **Word wide web –** a directory of websites that can be accessed using a browser.  **Website-** a set of related web pages located under a single domain name  **Hyperlink –** a shortcut to another page/slide/website.  **Navigate –** A way to move around on the computer.  **Buttons-** are used on forms, website homepages, dialog boxes, and toolbars. Buttons are used when you want a user to act (submit, cancel, delete)  **It is important to differentiate between buttons and links.** **Links-** are used to direct users to other pages (about me, read more) | |
| Key Skills | **Discover** what fake news is and why people create it.  **Analyse** several news sources for validity.  **Understand** how to identify fake news.  **Edit** an image to create a fake news story (to show how easy it can be).  **Create** a pulication to advise of the dangers of fake news.  **Choose** the right software for this publication (based on prior learning) | | **Decompose** a WAGOLL game.  **Create** a scene composing of an appropriate background and sprites.  **Code** the sprites to move on user input.  **React** to certain conditions being met.  **Complete** a PoP task based on a similar game. | **Answer** questions from data.  **Explain** what some data shows.  **Build** a data set in a spreadsheet application.  **Write** formula to carry out calculations.  **Apply** a formula to multiple cells.  **Present and Produce** graphs to show data. | **Study** features of different websites and evaluate them  **Add** and format text within a website  **Organise** sections and pages  **Add and edit** images  **Create** videos to add onto my website  **Include** features such as hyperlinks, buttons and files  **Evaluate** my work and provide feedback for others | |
| *Same as Year 5 (Covid-19 Catch up)* |