Dringhouses Primary School | York

**Dringhouses Discovery Curriculum - Computing Curriculum Progression Plan**

**Intent - We intend to teach the principles of information and computation, how digital systems work, and how we can put this knowledge to use through programming. Through the Key Stage phases, pupils build on this knowledge and understanding to reach a level whereby they can use information technology to create programs, systems and a range of content. Safety is a key focus whilst working in a digital environment and pupils understand the digital footprint we leave. The curriculum will develop pupil's digital literacy – so that they able to use, and express themselves at a level suitable for the future workplace and as active participants in a digital world**

**Implementation - Computing is taught discretely in most cases with opportunities to link to other areas of the curriculum. Skills learnt will be widely used across the whole curriculum. It may be taught weekly but is usually taught in a block e.g. a computing week. We follow the Purple Mash scheme. Computing is planned and delivered in phases across a two year rolling cycle with skills developing across each Key Stage phase. Each Key Stage phase has a set of 30 Chromebooks thus computing weeks are usually staggered to ensure all students have access to a device eg Class 6 - Week 1, Class 7 - Week 2, Class 8 - Week 3. Progression across the Key Stage phases is outlined in this document along with Skills, powerful knowledge and key vocabulary that the children are taught..**

**Impact - Computing knowledge and skills are assessed by teaching staff throughout a term and reported at the end of each year via each child's school report. Assessment may be made through observation, talking with children, recorded work.**

| Computing | Early Years | Key Stage 1 | Lower Key Stage 2 | Upper Key Stage 2 |
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| Skills | Turn an ipad on/off.<br>Using a touch screen device (IWB/ipad) confidently. Develop touch screen skills.<br>Use the ipad to take photos.<br>Use software to create digital art on a touch screen device.<br>Navigate around an ipad confidently.<br>Use a keyboard to write captions.<br>Use a keyboard to write captions/short sentences.<br>Practise key maths skills using technology (games/apps)<br>Use simple programming.<br>Use a keyboard on a chromebook. Use a keyboard on a touch screen. | **Who are you?**<br>Log on to my own user area on the chromebooks.<br>Use a touch screen device.<br>Use a track pad (or mouse) and a keyboard as input devices.<br>Complete age appropriate tasks (2diy tasks) on purplemash.<br>**What's in the toy box?**<br>Follow instructions to log-in to purple mash and other online programs.<br>Talk confidently about and take steps to keep myself safe and happy online.<br>Keep passwords safe.<br>**Digging for Dinosaurs!**<br>Use a recording device to take a photo or video.<br>Use a range of paint packages.<br>Begin to manipulate digital content (such as select most appropriate photo and delete others, edit or use art software). | **School of Rock!**<br>Use search technologies to find specific information.<br>Navigate a webpage to find what I need.<br>Present my findings in a document or as a powerpoint/slides.<br>Sort data using sort features for easier analysis using 2graph.<br>Use ICT to organise, present, analyse and interpret data appropriately into tables, diagrams, tally charts, pictograms and bar charts.<br>**The Jungle Run**<br>Control a device or program through a series of commands (algorithms).<br>Combine or condense my commands to create more complex or efficient routines called procedures/utilising repeat commands.<br>Use logical reasoning to debug errors in code. | **A Lasting Legacy**<br>Choose an appropriate search engine to find information related to a topic.<br>Be able to check accuracy of information by using a variety of different sources on the internet.<br>Present my findings using a word processing, multimedia or publishing package for a specific audience.<br>Be able to create a simple database to store and search relevant information.<br>Create different types of graphs and charts that are appropriate to the data I am using.<br>Effectively use graphs, sorting, and searching and using them to interpret/answer a specific question.<br>**Invasions**<br>Discuss e-safety and show an understanding of personal safety and the implications of misuse. |

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| | | **Going on Safari!**<br>Explain what a pictogram is showing me.<br>Sort data into simple lists.<br>Enter data into a pictogram.<br>**Once upon a story**<br>Understand what algorithms are ant plan, create and follow a set of commands to control devices for a specific outcome.<br>Recognise common uses of specific technology (Doctors surgery, electronic bus stations, radio stations etc) beyond school and identify their benefits.<br>**Inside the castle walls**<br>Find Locate, listen to, play and begin to record sounds.<br>Use music software (e.g. Garage Band, 2Explore or 2Sequence) to compose a simple piece of music.<br>**Totally Locally!**<br>Make, store and retrieve digital content (I.e in my own user area on purplemash).<br>**Fire Fire!**<br>Talk about websites I use.<br>**Iceberg Ahead!**<br>Evaluate the quality of an image I've captured and make decisions.<br>Save and open images I have created.<br>Communicate a specific idea or artistic style/effect through an image that I create.<br>Experiment with changing or enhancing photographs and pictures (crop, re-colour).<br>Manipulate digital content (such as select most appropriate photo and delete others, edit or use art software).<br>**Art Attack!**<br>Make a simple Y/N tree diagram to sort information.<br>Create a simple branching database (use 2question on Purplemash).<br>**Buzzing!**<br>Predict and explore outcomes when individual buttons and icons are pressed on a programmable device.<br>Write, test and debug simple programs.<br>**By the Seaside**<br>Find, listen to, play and begin to record sounds. | Use age appropriate search engines/trusted websites.<br>Make good choices about how long to spend online.<br>Know to ask a trusted adult before downloading files and games from the Internet.<br>**All creatures Great and Small**<br>Capture, review and delete images on an image capturing device.<br>Choose and use suitable software packages to create, develop, edit and present my ideas for a specific audience.<br>Talk about choices and changes I have made to achieve a specific outcome or purpose.<br>Storyboard and shoot a short stop-motion animated sequence.<br>Record and select appropriate sounds to use in an animation.<br>**Leader and Legacies**<br>Assess whether information is reliable or not.<br>Evaluate and modify a search if needed to get the results I require.<br>Become speedier at typing.<br>Talk about the different ways data can be organised.<br>Make a branching database.<br>Research a question and enter data into my branching database.<br>**York glorious York!**<br>Use video editing software to make simple edits to captured/stored video.<br>Combine a mixture of text, graphics and sound to share my ideas and learning.<br>Use ICT to compose music or sounds including creating melodies.<br>Use ICT to combine a variety of sounds and edit them into one piece of audio appropriate to task.<br>**Eureka**<br>Use repetition in programs to write efficient code.<br>Use pre-defined conditional statements in programs (when x happens, do Y)<br>Have coding skills that can be transferred to a different program.<br>Use the safety features of websites as | Discuss the benefits and dangers of communicating online/through different forms of technology.<br>Discuss why I need to use privacy settings on social networking sites.<br>Create and refine a series of commands (algorithm) and procedures to control or simulate physical systems combining inputs, output and sensing devices.<br>Be able to apply my knowledge of control sequences in terms of inputs and outputs and create simple flow diagrams to explain what is happening.<br>Refine a game based on peer assessment.<br>**Earth and Beyond!**<br>Capture/review different images, considering lighting, positioning and angle appropriate to a given task/audience.<br>Use a range of controls available on an image capture device to create a desired effect.<br>Create and manipulate images to develop a particular style or genre.<br>Choose appropriate hardware to capture and review a range of images, considering lighting, positioning, sound quality and angle.<br>**A Change in Time**<br>Use different strategies for finding relevant information (keywords or filtering).<br>Begin to question information based on author and location and appreciate different viewpoints.<br>Find, save and import pictures, text, video and sound into another document appropriate to the task.<br>Can discuss and develop personal rules to keep me safe at home, in school and when using any electronic device.<br>Can identify secure servers (padlock by the address bar).<br>I can create a fact file on Google Slides using pictures, text, video and sound; ensuring I have credited my sources.<br>**Our Local History**<br>Discuss how ICT enables you to search |

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| | | Use music software (2Explore or 2Sequence) to compose a simple piece of music. | well as reporting concerns to an adult.<br>Talk about e-safety confidently whilst being online at home and at school.<br>Know what a secure password is and can create one. | and sift through large amounts of information; discuss the advantages of using the tools, and the need for accuracy.<br>Collect data using an online quiz, survey or poll.<br>Use and/or, greater/less than (Boolean) to search and sort data when looking for relationships and patterns in data.<br>Use a variety of image manipulation packages and understand their appropriate use.<br>Create a movie including still images and sound and add suitable titles and transitions.<br>Use ICT to compose music or sounds considering specific audience and purpose, such as accompanying a story.<br>Create, amend and combine visual and aural media from different sources for a specific audience or task.<br>**What a wonderful World!**<br>Transfer a procedure learnt in one game to another.<br>Refine a game based on end user feedback.<br>Identify input and output devices in real life.<br>Write a series of commands (algorithms) to control input and output devices using real or virtual on screen devices.<br>Design a game through analysis and decomposition of game elements; add conditions to events in a program. |
| Powerful Knowledge | Talk about different types of technology.<br>Know a password should be private.<br>Know how to access my own user area on purplemash.<br>Use a digital device with a camera to record.<br>Input simple code to make an output | **Who are you?**<br>Name devices that can go on the internet (ipads, tablets, mobile phones, smart speakers) and some that can't (some digital cameras, landlines).<br>Know how to log on to my own user areas and know to keep passwords private.<br>**What's in the toy box?**<br>Know that lots of different devices connect us to each other.<br>Know what to do if I see something online that upsets me and can minimise a screen whilst I tell a trusted adult.<br>Know that not everything on the internet | **School of Rock!**<br>Know what a keyword is and how to use them to create a relevant search.<br>Name search engines such as google, kidrex, or bing.<br>Know that I can use ICT to find and access information quickly.<br>Understand that not all websites may be correct and information should be checked before I use it.<br>Know that organising data means the practice of categorising and classifying data to make it more usable.<br>Know that presenting means showing or displaying information in a way that | **A Lasting Legacy**<br>Know that computer networks, like the internet, provide lots of services and offer opportunities for communication and collaboration.<br>Know the difference between the internet (the network that computers are connected on) and the world wide web (what you see when you're on a webpage etc)<br>Be aware of the impact of using incorrect information in my work.<br>Understand that different programs present and examine data in different ways. |

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| | | is true or reliable.<br>Know what personal information is and that it shouldn't be shared online.<br>**Digging for Dinosaurs!**<br>Know how to capture an image.<br>Create and draw images using computer software (Paint)/a paint package (2paint).<br>Know that devices need to be held still whilst taking an image.<br>**Going on Safari!**<br>Know that images give information.<br>Know that using ICT can modify and create charts quickly and easily.<br>**Once upon a story**<br>Know what an algorithm is.<br>Understand that digital devices work using algorithms.<br>Follow and create simple instructions on a computer.<br>**Inside the castle walls**<br>Know how to log on to my own user areas and know to keep passwords private.<br>Know that computers are used beyond school and can name some examples (in shops, offices etc)<br>**Totally Locally!**<br>Make, store and retrieve digital content (I.e in my own user area on purplemash).<br>**Fire Fire!**<br>Know what to do if I find something inappropriate online (tell a trusted adult).<br>Know and understand that some websites require a password.<br>Know why passwords should be kept private.<br>**Iceberg Ahead!**<br>Understand that technology can capture an image to store and/or share.<br>Know how to capture an image.<br>Create and draw images using computer software/a paint package.<br>**Art Attack!**<br>Know that images give information.<br>I know that using ICT means a user can modify and create charts quickly and easily.<br>**Buzzing!**<br>Know what an algorithm is. | others can see or understand.<br>Know that analysing means studying something carefully to understand it better, looking for patterns, testing predictions, trends, or important details.<br>Know that interpreting means explaining or understanding the meaning of something, like figuring out what data or information is trying to tell us.<br>**The Jungle Run**<br>Know that a keyboard is an input device.<br>Know how to use the repeat command function.<br>Know how to refine a program to make it more appealing to a specific audience.<br>Know that the internet is a tool that is used to support work and learning.<br>Know that not everything on the internet is true, and information should be evaluated and checked for accuracy before it's used.<br>Understand what personal information is and know how to protect personal information when doing different things online and am beginning to understand that electronic communications may be used for manipulation or persuasion.<br>Know that information that you have liked, shared and commented on as well as what others have shared about you may shape what other people think of you.<br>**All creatures Great and Small**<br>Know that lighting is how bright or dark an area is when taking a picture. Good lighting helps to see things clearly in a photo. It can come from natural sources like the sun or artificial sources like lamps.<br>Know that framing is like putting a border around your picture. It's about choosing what to include in the photo and how to arrange the elements.<br>Know that purpose is the reason why you're taking a picture. It could be to remember a special moment, tell a story, or share information.<br>Know that animation is created from a series of still images. | Understand there are different ways of finding errors in data.<br>Understand the need to be consistent with data entry.<br>**Invasions**<br>Understand the responsibility of publishing on the internet (appropriateness, personal safety, relevance of content).<br>Know and understand the potential risks of providing personal information online both inside and outside of school.<br>Understand the importance of appropriate online behaviour and that online (cyber) bullying is unacceptable and able to respect the rights of other users.<br>Know what inputs as well as outputs are from programs.<br>Understand the sequence of input>process>output in computer systems.<br>Know how to use selection in programming.<br>Be able to decide when it's effective to use selective statements (if, then, else) to create a more complex program.<br>**Earth and Beyond!**<br>Be aware of appropriate file types.<br>Understand and can use appropriate technical language such as 'pan', 'close-up' and 'zoom'.<br>Know that media from different sources (stills, video, graphics, animation) can be used to enhance a presentation or communicate an idea and can use them appropriately.<br>Be able to select and use suitable software and hardware to produce a multimedia soundtrack.<br>**A Change in Time**<br>Know how different search engines rank results.<br>Understand what 'Plagiarism' means and that it is important to acknowledge sources.<br>Have a range of criteria for assessing a website.<br>Know that content published online might not be accurate, and I may need to check |

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| | | Understand that digital devices work using algorithms<br>**By the Seaside!**<br>Know that music can be created digitally.<br>Understand that devices have stop, record and playback functions.<br>Talk about the choices I have made. | Understand that evaluation and improvement is a vital part of a design process and ICT allows changes to be made quickly and efficiently.<br>**Leader and Legacies**<br>Know how to use keywords to do an effective search.<br>Know how to access the g-suite via google classroom.<br>Know what a database is and that information can be held as numbers, choices or text.<br>Know that a database is like a digital filing system that stores and organises information in a structured way. It uses tables to hold data, with each table having rows and columns.<br>Know that a branching database is a special type of database that helps you make decisions by following a 'tree' or 'branching' structure. It asks a series of questions, and depending on the answers, it leads you to more specific information.<br>**York glorious York!**<br>Know how to evaluate the quality of captured images and can discuss.<br>Know that sound files can be uploaded on the internet and shared with a wider audience.<br>**Eureka**<br>Know key features of different game genres.<br>Know what makes a good game and that games are made of specific code.<br>Know how to test and debug my own program.<br>Know that putting personal information online means it may be seen and used by others.<br>Understand that emails/messages have to be sent to a specific address and emails from unknown sources should not be opened.<br>Know to that permission is needed for use of images of friends online, or those found online. | the validity of a website/people may not create honest profiles of themselves.<br>Understand the impact of an individual sending or uploading unkind or inappropriate content.<br>Consider the impact of what I post or send online before I send it.<br>**Our Local History**<br>Know how to design questions using key words to search a large, pre-prepared database.<br>Be able to add to a database and recognise the need for accuracy.<br>Be able to plan and create a short stop-motion animated sequence adding titles, credits and audio.<br>Be able to evaluate and improve my work, as part of a design process.<br>Know to acknowledge sources where necessary.<br>**What a wonderful World!**<br>Understand and use variables in programs I create.<br>Understand what happens when changes are made to code.<br>Know how to create a game for an audience considering difficulty level. |
| Key Vocabul | Touch, device, screen<br>Keyboard, input, save | **Who are you?**<br>log on, password, username, trackpad, | **School of Rock!**<br>internet browser, search engine, results | **A Lasting Legacy**<br>search engine, internet, World Wide Web, |

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| ary | User area, password, private<br>Typing, shift<br>Capture, scroll. Programming, code<br>Open | keyboard, mouse, browser, window.<br>**What's in the toy box?**<br>password, personal information, appropriate, responsible, report, cyberbullying, private.<br>**Digging for Dinosaurs!**<br>select, object, animate, draw, design, manipulate.<br>**Going on Safari!**<br>question, answer, branch..<br>**Once upon a story**<br>code, action, sequence, algorithm, program, to debug, event.<br>**Inside the castle walls**<br>composition, SFX (Sound effects), volume, tempo.<br>**Totally Locally!**<br>log on, password, username, trackpad, keyboard, mouse, browser, window.<br>**Fire Fire!**<br>password, personal information, appropriate, responsible, report, cyberbullying, private<br>**Iceberg Ahead!**<br>select, object, animate, draw, design, manipulate.<br>**Art Attack!**<br>question, answer, branch.<br>**Buzzing!**<br>object, action, sequence, algorithm, program, to debug, computer.<br>**By the Seaside**<br>Composition, SFX (Sound effects), volume, tempo. | page, keywords, reliability, classify, chart, data, axis, column, row.<br>**The Jungle Run**<br>input, flowchart, program, repetition, to sequence, logical reasoning, nesting, execute, digital footprint, age-restriction, pop-up advert, anonymous, troll<br>**All creatures Great and Small**<br>select, object, purpose.<br>**Leader and Legacies**<br>internet browser, search engine, results page, keywords, reliability,input, output, classify, database, branching database.<br>**York glorious York!**<br>animation, stop motion, onion skinning.<br>**Eureka**<br>input, sprite, program, repetition, to sequence, logical reasoning,decomposition, digital footprint, age-restriction, pop-up advert, anonymous, troll. | database, collaborative.<br>**Invasions**<br>bot, disinformation, misinformation, cookies, hate-crime, logical reasoning, program, selection, variable<br>**Earth and Beyond!**<br>simulation,<br>**A Change in Time**<br>search engine, internet, World Wide Web, bot, disinformation, misinformation, cookies, hate crime, phish.<br>**Our Local History**<br>database, collaborative, simulation<br>**What a wonderful World!**<br>logical reasoning, program, selection, variable |
| Long Term Planning Link | Role play - toy laptops and mobile phones are available in the provision.<br>Interactive whiteboard - For the children to play interactive games.<br>Ipads to play games from Spring term. | Maths - TTRockstars to develop times tables.<br>Science, History, geography, RE, English - Teacher regularly models internet searches for research purposes and demonstrates how to select and synthesise information.<br>Computing - 2Code, 2Publish, | Spelling - Spelling shed to develop spelling.<br>Maths - TTRockstars to develop times tables.<br>Science, History, geography, RE, English - Internet searches for research purposes and selecting and synthesising information. Microsoft word to publish.<br>Science - Researching and for data handling software<br>DT - Researching and for using software to create designs.<br>PSHCE - Understanding how to stay safe online.<br>Computing - 2Code, 2Publish, | Spelling - Spelling shed to develop spelling.<br>Maths - TTRockstars to develop times tables.<br>Science, History, geography, RE, English - Internet searches for research purposes and selecting and synthesising information. Microsoft word to publish.<br>Science - Researching and for data handling software<br>DT - Researching and for using software to create designs.<br>PSHCE - Understanding how to stay safe online.<br>Computing - 2Code, 2Publish, |

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| Enrichment/ Personal Development | Buddy time with Ipads<br>Beebots | E-Safety Day - Whole School Assembly | September, in both cycles, children will receive a stand alone session with a recap on how to login to the chrome book, how to login to the various platforms that are relevant to KS2 and to care for and safely store passwords and the chrome books themselves.<br>Be Internet Legends - Internet safety day<br>E-Safety Day - Whole School Assembly | Be Internet Legends - Internet safety day<br>E-Safety Day - Whole School Assembly |