Dobcroft Infant School Curriculum Map

Computing

Subject Intent - At Dobcroft Infant School, our intent is to prepare children for the future by giving them opportunities to gain knowledge and develop skills that will equip them for an ever changing digital world. Knowledge and understanding of IT is of increasing importance for children's future both at home and for employment. Our Computing curriculum focuses on a progression of skills in digital literacy, computer science, information technology and online safety to ensure that children become competent in safely using, as well as understanding, technology. Our intention is that Computing also supports children's creativity and cross curricular learning to engage children and enrich their experiences in school.

<table>
<tr><th></th><th>A1</th><th>A2</th><th>SP1</th><th>SP2</th><th>SU1</th><th>S2</th></tr>
<tr><td>FS2</td><td colspan="6"><u>Key points to make:</u>
Computing is taught in lessons, but also drip fed throughout curriculum. It is cross curricular e.g. taught through DT with the use of TASC. There is a heavy emphasis on child initiated learning and modelling. Teachers will model key skills on the board and make use of 'in the moment teaching' to elaborate on certain points and to keep children engaged. It is implicit to drip feed and model skills and they will be underlying.
Example of taught lesson is via 2 Simple 2 Music - Dick Whittington making music/ Cinderella characters which links to the Art and Imaginative and Creative ELG.

Please note: DIS are part of the Early Adopters Foundation Stage scheme of work. Computing has been taken out of this scheme, so we have written our own in accordance with this. Due to Covid-19, the cohort of children starting Foundation Stage has changed due to technological advancements and exposure of ever changing and new technologies. This is why we feel it is paramount to teaching these computing skills in an underlying and child initiated way, making links to the real life world through technology so the children can see the importance and the dexterity of technology (e.g. in role play having plastic phones, tills, laptops, listening to music on the computer etc.).

<u>FS2 Key Concepts</u>
• Online Safety
• Information Technology
• Problem Solving
• Computer skills</td></tr>
<tr><td></td><td colspan="2">Learning objectives:
- Learn how to use a mouse
- Learn to use the classroom computer
- Begin to log on independently to access simple programs.

Additional resources used:
- Class computer
- interactive whiteboard
- purple mash
- 2Simple</td><td colspan="2">Learning objectives:
- Learn to use a range of every day technology with some initial support.
- Learn how to use technology safely & respectfully (link to Safer Internet Day)

Additional resources used:
- Class computer
- interactive whiteboard
- purple mash
- 2Simple
- iPad
- Beebots</td><td colspan="2">Learning objectives:
- Children to be confident in using class technology independently.

Additional resources used:
- Class computer
- interactive whiteboard
- purple mash
- 2Simple
- iPad
- Beebots</td></tr>
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	End Point: Children can use 2simple with developing mouse control and understand that something can be saved and retrieved using different software.		- Interent Safety Day resources **End Point:** Children become confident at identifying different ways in which they can communicate and understand that technology is part of everyday life.		**End Point:** Children can access a range of technology in the classroom, and can choose the appropriate technology to record a specific event independently.	
Y1	**National Curriculum strands hit:** - Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - Recognise common use 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. **Unit name (NCCE):** Technology around us **Learning objectives:** - To identify technology - To identify a computer and its main parts. - To use a mouse in different ways - To use a keyboard to type - To use the keyboard to edit text - To create rules for using technology responsibility **Additional resources used:** - Chromebooks - Dance mat typing - Class computer (Nessy learning)	**National Curriculum strands hit:** - Use technology purposefully to create, organise, store, manipulate and retrieve digital content - 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. **Unit name (NCCE):** Digital painting **Learning objectives:** - To describe what different freehand tools do - To use the shape tool and the line tools - To make careful choices when painting a digital picture - To explain why I chose the tools I used - To use a computer on my own to paint a picture. - To compare painting a picture on a computer and on paper **Additional resources used:** - Chromebooks - Dance mat typing	**National Curriculum strands hit:** - Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise, unambiguous instructions. - Create and debug simple programs. - Use logical reasoning to predict the behaviour of simple programs. - 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. **Unit name (NCCE):** Moving a robot **Learning objectives:** - To explain what a given command will do. - To act out a given word. - To combine forwards and backwards commands to make a sequence.	**National Curriculum strands hit:** - Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise, 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 - 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. **Unit name (NCCE):** Programming animations. **Learning objectives:** - To choose a command for a given purpose. - To show that a series of commands can be joined together. - To identify the effect of changing a value.	**National Curriculum strands hit:** - 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. **Unit name (NCCE):** Grouping data **Learning objectives:** - To label objects - To identify that objects can be counted. - To describe objects in different ways. - To count objects with the same properties - To compare groups of objects. - To answer questions about groups of objects.	**National Curriculum strands hit:** - Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - 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. **Unit name (NCCE):** Digital writing **Learning objectives:** - To use a computer to write. - To add and remove text on a computer. - To identify that the look of text can be changed on a computer. - To make careful choices when changing text. - To explain why I used the tools that I chose. - To compare writing on a computer with writing on paper. - To compare writing on a computer with writing on paper. **Additional resources used:**

	- paintz.app - Purple Mash **Key skills learnt:** Keyboard skills Mouse skills **Key vocab:** - technology - computer - mouse - keyboard **Online Safety (Project Evolve)** **Unit name:** Managing Online Information **Learning objectives:** - To simple examples of how to find information using digital technology. - To know / understand that we can encounter a range of things online. - To know how to get help from a trusted adult. **Key vocab:** - technology - information - safely - trusted	- Class computer (Nessy learning) - Paintz.app **Key skills learnt:** Manipulation of a computer programme **Key vocab:** - technology - computer - mouse - keyboard - tools **Online Safety (Project Evolve)** **Unit name:** Online Bullying **Learning objectives:** - To describe how to behave online in ways that do not upset other people. **Key vocab:** - online - behave - respect	- To combine four direction commands to make sequences - To plan a simple program - To find more than one solution to a problem. **Additional resources used:** - Beebots - Beebot mats - iPads - Safer Internet Day resources **Key Skills learnt:** - Programming - Debugging **Key vocab:** - technology - computer - mouse - keyboard - algorithms - program - command **Online Safety (Project Evolve)** **Unit name:** Online Relationships **Learning objectives:** - To know when to ask permission to do something online. -To use the internet with adult support to communicate with known people online. - To explain why it is important to be kind online. **Online safety- Safer Internet Day (theme dependent)**	- To explain that each sprite has its own instructions. - To design the parts of a project. - To use my algorithms to create a program. **Additional resources used:** -Ipads - Chromebooks - ScratchJr - Purple Mash **Key Skills learnt:** - Programming - Debugging - Problem solving - Sequencing **Key vocab:** - technology - computer - mouse - keyboard - algorithms - program - debug - command - sequence **Online Safety (Project Evolve)** **Unit name:** Self Image and Identity **Learning objectives:** - To recognise that there are people online who could make someone feel sad, embarrassed or upset. - To know how to get help from a trusted adult.	**Additional resources used:** - Chromebooks - Google Slides **Key Skills learnt:** - organising data - grouping data **Key vocab:** - technology - computer - mouse - keyboard - data **Online Safety (Project Evolve)** **Unit name:** Health, Well-being and Lifestyle **Learning objectives:** - To explain rules to keep safe when using technology both at home and in school. **Key vocab:** - online - safely technology	- Chromebooks - Google Docs - Clicker 7 **Key Skills learnt:** - typing for a purpose - manipulation of text on an online writing frame **Key vocab:** - technology - computer - mouse - keyboard - text **Online Safety (Project Evolve)** **Unit name:** Online Reputation **Learning objectives:** - To recognise that information can stay online and be copied. - To know which types of information should not be put online without asking a trusted adult first. **Key vocab:** - online - information - trusted

			- To understand that some online activities can be detrimental to our mental health. - To understand that people on the internet are not always who they say they are. **Key vocab:** - online - relationship - permission - communicate - internet - respect	**Key vocab:** - online - identity - self-image - trusted		
Y2	**National Curriculum strands hit:** - Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - Recognise common use 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. **Unit name:** Information technology around us **Learning objectives:** - To recognise the uses and features of information technology. - To identify information technology in the home.	**National Curriculum strands hit:** - Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise, unambiguous instructions. - Create and debug simple programs. - Use logical reasoning to predict the behaviour of simple programs. - 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. **Unit name:** Robot algorithms.	**National Curriculum strands hit:** - Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - 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. **Unit name:** Making music **Learning objectives:** - To say how music can make us feel. - To identify that there are patterns in music. - To describe how music can be used in different ways. - To show how music is made from a series of notes.	**National Curriculum strands hit:** - Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - 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. **Unit name:** Pictograms. **Learning objectives:** - To recognise that we can count and compare objects using tally charts. - To recognise that objects can be represented as pictures. - To create a pictogram. - To select objects by attribute and make comparisons.	**National Curriculum strands hit:** - Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - Recognise common use 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. **Unit name:** Digital photography **Learning objectives:** - To know what devices can be used to take photographs	**National Curriculum strands hit:** - Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise, 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. - 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.

	- To identify information technology beyond school. - To explain how information technology benefits us. - To show how to use information technology safely. - To recognise that choices are made when using information technology. **Additional resources used:** - Chromebooks - Google slides **Key skills learnt:** Keyboard skills Mouse skills Data retrieval **Key vocab:** - technology - computer - mouse - keyboard - features - information technology (IT) **Online Safety (Project Evolve)** **Unit name:** Privacy and Security **Learning objectives:** - To explain how passwords can be used to keep information safe. To explain what is meant by 'private' and 'keeping things private'. - To describe and explain some rules for keeping personal information private.	**Learning objectives:** - To describe a series of instructions as a sequence. - To explain what happens when we change the order of instructions. - To use logical reasoning to predict the outcome of a program (series of commands). - To explain that programming projects can have code and artwork. - To design an algorithm. - To create and debug a programme that I have written. **Additional resources used:** - Beebots - Beetbot mats - Other unplugged resources - Safer Internet Day resources **Key Skills learnt:** - Programming - Debugging **Key vocab:** - technology - computer - mouse - keyboard - algorithms - program - debug - command **Online Safety (Project Evolve)** **Unit name:** Online Bullying **Learning objectives:** - To explain what bullying is,	- To create music for a purpose. - To review and refine our computer work. **Additional resources used:** - Chromebooks - Ipads - Chrome Music Lab - Purple Mash **Key Skills learnt:** - creating music on a technological device - using tools within a programme to create music **Key vocab:** - technology - computer - mouse - keyboard - text - music **Online Safety (Project Evolve)** **Unit name:** Copyright & Ownership **Learning objectives:** - To recognise that content on the internet may belong to other people. **Key vocab:** - content - copyright - ownership - internet	- To recognise that people can be described by attributes. - To explain that we can present information using a computer. **Additional resources used:** -Chromebooks - Ipads - j2data Pictogram - Purple Mash **Key Skills learnt:** - organising data - grouping data - manipulating data - data representation **Key vocab:** - technology - computer - mouse - keyboard - data **Online Safety (Project Evolve)** **Unit name:** Self-Image and Identity **Learning objectives:** - To explain how people may look and act differently online and offline. - To give examples of incidents online that may make someone feel sad, worried, uncomfortable or frightened and how they might get help. **Key vocab:** - online -offline	- To use a digital device to take a photograph. - To describe what makes a good photograph. - To decide how photographs can be improved. - To use tools to change an image. - To recognise that images can be changed. **Additional resources used:** - Digital camera - iPad camera - Editing apps **Key skills learnt:** Using a camera on a technological device **Key vocab:** - technology - computer - camera **Online Safety (Project Evolve)** **Unit name:** Health, well-being and lifestyle **Learning objectives:** - To explain simple rules for using technology in different settings and environments. **Key vocab:** - technology - rules - safety - settings	**Unit name:** An introduction to quizzes. **Learning objectives:** - To explain that a sequence of commands has a start. - To explain that a sequence of commands has an outcome. - To create a program using a given design. - To change a given design. - To create a program using my own design. - To decide how my project can be improved. **Additional resources used:** - Ipads - Chromebooks - ScratchJr - Purple Mash **Key Skills learnt:** - Designing - Programming - Debugging - Problem solving - Sequencing - Editing **Key vocab:** - technology - computer - mouse - keyboard - algorithms - program - debug - command - sequence - editing

	Key vocab: - technology - password - private - information - safety	how people bully and how bullying can make someone feel. - To know how someone experiencing bullying can get help. **Key vocab:** - bullying - emotions - support	**Unit name:** Online relationships **Learning objectives:** - To know who to ask before sharing personal information online. - To understand that everyone has the right to say no. - To identify who can help if something happens online without their consent. **Online safety- Safer Internet Day (theme dependent)** - To understand that some online activities can be detrimental to our mental health. - To understand that people on the internet are not always who they say they are. **Key vocab:** - personal information - consent - respect			**Online Safety (Project Evolve)** **Unit name:** Online Reputation **Learning objectives:** - To explain how information put online can last a long time. - To understand that anyone's online information can be seen by others. - To know who to speak to if something has been put online without their consent. **Key vocab:** - information - online - consent

Key Concepts and End Points for KS1:

Key Concepts

- Online Safety
- Information Technology (IT)
- Computational Thinking
- Programs
- Computer skills

End Points

- Children will understand and apply the fundamental principles and concepts of computer science including logic, algorithms and data representation.
- Children will analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
- Children will evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- Children will be responsible, competent, confident and creative users of information and communication technology.
- Children will be able to use technology safely & respectfully and understand how to keep personal information private.