Barefoot Computing Scheme of Work 2023-2024

EYFS						
Term	Autumn 1	Autumn 1	Spring 1	Spring 2	Summer 1	Summer 2
Computing Events				8th Feb – Internet Safety Day		
Key Vocab						Algorithm, instructions, set of rules, sequencing, program.
Teaching Topics						**Understand what algorithms are.** Barefoot resources: - Lego building algorithm. I can say what an algorithm is. I can verbally say clear instructions for someone else to follow. I can write a basic algorithm. I can change my algorithm with adult support.

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Year 1						
Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing Events			8th Feb – Internet Safety Day			
Key Vocab	Algorithm, instructions, set of rules, sequencing, program, decomposition programming, perseverance, bugs, errors,	Program, debugging, problem, computational thinking, coding, problem solving	Programming, logic, algorithms, tinkering, collaborating, Program, algorithm, set of rules, Debugging, bug, perseverance,	Logic, programming, tinkering, computational thinking, debugging	Rules, health, well-being, lifestyle, technology, positive, negative, engaged, support, features, data.	Online, internet, reputation, protection, information, support, identity, difficulties, search engines.
Teaching Topics	**Understand what algorithms are** **Understand how algorithms are implemented as programs on digital devices.** Barefoot resources: - Lego building algorithm. - Crazy character algorithm.	**Understand that programs execute by following precise and unambiguous instructions** Use the program Scratch Jr to help with this topic I can explain what computational thinking is. I can explain what programming is.	**Create and debug simple programs** Barefoot resources: - Bee-bots - Scratch tinkering activity. - Pizza pickle scratch debugging - Bee-bots - River crossing. Use the program Scratch Jr to help with this topic	**Use logical reasoning to predict the behaviour of simple programs** Barefoot resources: - World map logic activity. I can explain what logical reasoning is. I can predict what a program will do.	**Health, well-being, and lifestyle** I can identify rules that help keep us safe and healthy in and beyond the home when using technology. I can give some examples of ways to stay fit and healthy.	**Online reputations and managing online information.** I can explain how I represent myself in different ways online. I can explain ways in which and why I might change my identity depending on what I am doing online (avatar)

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	- Sharing sweet algorithm - Bee-bots I can say what an algorithm is. I can write an algorithm. I can create clear instructions for someone else to follow. I can use an algorithm accurately. I am able to improve my algorithm with support from an adult.	I can identify what the problem is with my code and think of ways to fix it. I can independently think of ways to solve my problem. I can identify ways to program a device (bee-bot or Scratch Jr) I can reflect on whether my solution has worked.	I can use algorithms confidently. I can explain that tinkering is when we try something new and discover what it does. I can explain that collaborating means working with a group to achieve the best result. I can explore Scratch Jr for myself. I can gain confidence in editing my algorithm on Scratch Jr. I can begin to make predictions about what my program will do. I can confidently write an algorithm.	I can explain why I think a program will act in this way. I can identify the sequence of steps that helps the program run. I can test my commands to see if my predictions are correct. Then I can independently make changes to the algorithm to ensure the program runs smoothly.	I can explain why spending too much time use technology can sometimes have a negative impact on me. I can provide examples of activities where it is easy to spend a lot of time engaged in technology (games, films, videos, apps) I can explain how I might recognise that I need support to control my use of technology and who might provide support for this. I can identify features and things	I can identify ways that I put information on the internet. I can recognise that I need to be careful before I share any information online. I know who I should ask if I am not sure if I should put something online. I can describe what is appropriate to say and do on online platforms (opinions, likes, shares, forwards) I can identify and demonstrate actions to support others who are

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	I can explain that decomposition is a breakdown of tasks into smaller manageable chunks. I can create a sequence of instructions. I can write an algorithm. I can program a floor robot to move to a specific point. I can explain that a bug is an error in my algorithm code. I can confidently debug errors in a program.		I can program and debug a Bee-Bot to follow my algorithm. I can predict what will happen when the Bee-Bot uses my algorithm. I can persevere when something has gone wrong. I can explore different ways to solve the problem with my algorithm. I can debug a program I can say what a program will do. I can explain what the bug was and how I will fix it		online that might negatively impact my well-being (instant replying, negative images/ text online, messaging) I can demonstrate ways to protect and manage data on my devices (find my phone/ipod)	experiencing difficulties online. I can talk about how to use the internet to find out information. I can give examples of how to find information (voice, search engines) I can explain what autocomplete is and how to choose the best suggestion. I can explain the difference between a belief, opinion, and fact.

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	Year 2					
Terms	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing Events			8th Feb – Internet Safety Day			
Key Vocab	Algorithm, instructions, set of rules, sequencing, program, programming, decomposition, perseverance, bugs, errors,	Program, debugging, problem, computational thinking, coding, problem solving	Programming, logic, algorithms, tinkering, collaborating, Program, algorithm, set of rules, Debugging, bug, perseverance,	Logic, programming, tinkering, computational thinking, debugging	Rules, health, well-being, lifestyle, technology, positive, negative, engaged, support, features, data.	Online, internet, reputation, protection, information, support, identity, difficulties, search engines.
Teaching Topics	**Understand what algorithms are** **Understand how algorithms are implemented as programs on digital devices** Barefoot resources: - Lego building algorithm.	**Understand that programs execute by following precise and unambiguous instructions** Use the program Scratch Jr to help with this topic I can explain what computational thinking is.	**Create and debug simple programs** Barefoot resources: - Bee-bots - Scratch tinkering activity. - Pizza pickle scratch debugging - Bee-bots - River crossing.	**Use logical reasoning to predict the behaviour of simple programs** Barefoot resources: - World map logic activity. I can explain what logical reasoning is.	**Health, well-being, and lifestyle** I can identify rules that help keep us safe and healthy in and beyond the home when using technology. I can confidently give some examples of	**Online reputations and managing online information.** I can explain how I represent myself in different ways online. I can explain ways in which and why I might change my identity depending

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		- Crazy character algorithm. - Sharing sweet algorithm. - Bee-bots I can confidently say what an algorithm is. I can write a clear algorithm. I can create clear instructions for someone else to follow. I can use an algorithm accurately. I am able to improve my	I can explain what programming is. I can identify what the problem is with my code and think of ways to fix it. I can independently think of ways to solve my problem. I can identify ways to program a device (bee-bot or Scratch Jr) I can reflect effectively on whether my solution has worked.	I can use algorithms confidently. I can explain that tinkering is when we try something new and discover what it does. I can explain that collaborating means working with a group to achieve the best result. I can work collaboratively with my peers. I can explore Scratch Jr for myself. I have increasing confidence in editing	I can confidently predict what a program will do. I can explain why I think a program will act in the way that it does. I can identify the sequence of steps that helps the program run. I can test my commands to see if my predictions are correct. Then I can independently make changes to the algorithm to ensure the program runs smoothly.	ways to stay fit and healthy. I can explain why spending too much time using technology can sometimes have a negative impact on me. I can provide examples of activities where it is easy to spend a lot of time engaged in technology (games, films, videos, apps) I can explain how I might recognise that I need support to control my use of technology and who might provide support for this.	on what I am doing online (avatar) I can confidently identify ways that I put information on the internet. I can recognise that I need to be careful before I share any information online. I know who I should ask if I am not sure if I should put something online. I can describe what is appropriate to say and do on online platforms (opinions, likes, shares, forwards)

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		algorithm with support from an adult. I can explain that decomposition is a breakdown of tasks into smaller manageable chunks. I can create a sequence of instructions. I can confidently write an algorithm. I can program a floor robot to move to a specific point. I can explain that a bug is an error in		my algorithm on Scratch Jr. I can make predictions about what my program will do. I can confidently write an algorithm. I can program and debug a floor robot to follow my algorithm. I can predict what will happen when the Bee-Bot/ floor robots uses my algorithm. I can persevere when something has gone wrong.		I can identify features and things online that might negatively impact my well-being (instant replying, negative images/ text online, messaging) I can demonstrate ways to protect and manage data on my devices (find my phone/ipod)	I can identify and demonstrate actions to support others who are experiencing difficulties online. I can talk about how to use the internet to find out information. I can give examples of how to find information (voice, search engines) I can explain what autocomplete is and how to choose the best suggestion. I can explain the difference between a belief, opinion, and fact.

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		my algorithm code. I can confidently debug errors in a program independently.		I can explore different ways to solve the problem with my algorithm. I can debug a program. I can say what a program will do. I can explain what the bug was and how I will fix it. I can persevere when something has gone wrong. I can explore Scratch Jr independently with increasing confidence.			