

Computing

Year 3 and 4

Autumn 2

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| Topic Programming | | | | | | |
| Rationale Children within Tilery enjoy the practical aspects of learning and seeing this translate from a screen to something visual whether that be a functioning game/ animation or a BeeBot in the classroom we believe that this can inspire any future aspiring coders or animators we may have. | | | | | | |
| NC Objective use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs | | | | | | |
| Links to other Subject/Topics (Year A) . | | | Links to other Subject/Topics (Year B) Making a Roman army invasion game using coding. Writing a set of instructions on how to use scratch or how to play the created game. | | | |
| Note that E Safety, although it is taught as a topic in computing it will be referred to throughout each lesson where computing is used. | | | | | | |
| Inspiration for Aspiration Teacher, , Teaching, coding, programmer, content creator, engineer, technician | | | | | | |
| Key Content Year 2 <ul style="list-style-type: none"> How can I give commands such as straight forwards/backwards? What does a sequence look like when instructions are given? How can I give a set of instructions to be followed? How can I give instructions to form a simple shape? | | Year 3 Key Content Scratch <ul style="list-style-type: none"> What is Scratch and how is it used? What does a background look like in a Scratch game? How can I add inputs to control my sprite? What are conditional commands and how can I use them in my game? (if...then..) | | | Year 4 Key Content Scratch <ul style="list-style-type: none"> What is Scratch and how is it used? What does a background look like in a Scratch game? How can I add inputs to control my sprite? What are conditional commands and how can I use them in my game? (if...then..) How can I add in timings to change their codes? How can I add in start or stop buttons within my codes? <p>Some aspects are revisited and progressed further within higher year groups.</p> | |
| Concepts | | | | | | |
| Programming | 1 | 2 | 3 | 4 | 5 | 6 |
| Scratch | | | | | | |
| Purple Mash | | | | | | |
| BeeBots | | | | | | |
| Skills and Knowledge Year 2 <ul style="list-style-type: none"> Pupils learn to program a basic floor turtle such as a | | Skills and Knowledge Year 3 <ul style="list-style-type: none"> design write and debug programs that | | | Skills and Knowledge Year 4 | |

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| <p>BeeBot to navigate increasingly complex routes and are able to debug their instructions when the turtle does not reach the intended destination</p> <ul style="list-style-type: none"> • Pupils learn to program an onscreen app such as BeeBot to complete a set task and are able to debug their instructions when the turtle does not reach the intended destination • Pupils use a more complex turtle with standard units to navigate increasingly complex routes, and are able to debug their instructions when the turtle does not reach the intended destination | <p>accomplish specific goals, solve problems by decomposing them in smaller parts</p> <ul style="list-style-type: none"> • use sequence, selection and repetition in programs • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs | <ul style="list-style-type: none"> • design write and debug programs that accomplish specific goals, solve problems by decomposing them in smaller parts • use sequence, selection and repetition in programs • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • Using key features of Scratch to add in start stop features with the aims of a given purpose. |
| <p>Vocab Year 2 Commands, sequence, turn, instructions, follow, task, change, sequence of commands.</p> | <p>Vocab Year 3 Navigate, sprite, game, input, control, program, code, execute, debug, project,</p> | <p>Vocab Year 4 Navigate, scratch, background, sprite, inputs, control, timings, codes, start/stop buttons, sequence, loop, project.</p> |
| <p>By the end of the topic Year 2 children will: Be able to demonstrate effective programming using basic floor turtles such as BeeBot. They exhibit the ability to debug their instructions effectively when the turtle does not reach the intended destination. Additionally, students showcase competence in programming on-screen apps like BeeBot or Scratch to accomplish specific tasks. Finally, children will be able to use taught skills in context with other learning, for example using scratch to code a journey from a famous explorer.</p> | <p>By the end of this topic Year 3 children will be able to: Articulate ‘What is Scratch and its uses’ as well as being able to change a background and add in commands to control their sprite. Children will know what conditional commands are and how to effectively use them within Scratch.</p> | <p>By the end of this topic Year 4 children will be able to: Effectively debug programs such as Scratch in order to fix their sequences. Children will be able to use logical reasoning to explain how and what their sprites will be doing and when. Children will also be able to utilise the start/stop feature within Scratch.</p> |
| <p>Assessment Create a sequence from topic including dialogue based on famous historical events Teacher judgement</p> <p>Example Children are to create a sequence of codes that will show the Romans invading a village and create dialogue within this animation with Y/N responses when clicked.</p> | | |