# Computing   LONG TERM PLAN

## KS1 & KS2 ANNUAL OVERVIEW

|  | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| Year 1 | Digital Literacy | Information Technology | Computer Science | Computer Science | Information Technology | Information Technology |
| Year 2 | Information Technology | Computer Science | Computer Science | Information Technology | Information Technology | Digital Literacy |
| Year 3 | Information Technology | Information Technology | Information Technology | Information Technology | Computer Science | Digital Literacy |
| Year 4 | Computer Science | Computer Science | Information Technology | Information Technology | Digital Literacy | Digital Literacy |
| Year 5 | Digital Literacy | Computer Science | Computer Science | Information Technology | Information Technology | Information Technology |
| Year 6 | Digital Literacy | Computer Science | Information Technology | Computer Science | Information Technology | Information technology |

# Computing   LONG TERM PLAN

## YEAR 1

| | E ~ Safety | Knowledge & Key Questions | Specific Resources |
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| **E-Safety:** E-Safety should be throughout each term. This can be done when different apps or programs are used and looking at the safety implications, or as part of a standalone lesson. These sites are useful and please let me know of others you find: <br> • Childnet <br> • Think U Know <br> • Scarf PSHCE | | | |
| **Autumn 1** | *National Curriculum: 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. Target Tracker: Understand where to go for help and concerns about content or contact on the internet or other online technologies.* | **Digital literacy:** Recognise common uses of information technology beyond school. <br><br> **Target Tracker: Computers** To recognise how I use technology in my home and at school. <br><br> ▪ Children will edit photos, add borders. <br> ▪ Use photos they have taken to tell a story. | ▪ Ipads <br> ▪ Camera |
| **Autumn 2** | | **Information technology**: Use technology purposefully to create, organise, store, manipulate and retrieve digital content. <br><br> **Target Tracker:** Use technology purposefully to create digital content. <br><br> ▪ using technology purposefully to create; <br> ▪ use programme tools to paint with different colours, use different brushes and to create shapes and fill areas. | ▪ 2 create a picture <br> ▪ Twinkl ~ Painting <br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y1/planit-computing-primary-teaching-resources-y1-painting |
| **Spring 1** | | **Computer science**: Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. <br><br> **Target Tracker: Coding** To explain that an algorithm is a step by step set of instructions. <br><br> ▪ algorithms and what they are; <br> ▪ how algorithms are implemented as programs on digital devices; <br> ▪ programmes and how to execute by following precise and unambiguous instructions. | ▪ Links in with Literacy ~ instructions <br> ▪ Beebots <br> ▪ Twinkl ~ Programming toys <br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y1/planit-computing-primary-teaching-resources-y1-programming-toys |
| **Spring 2** | | **Computer science**: Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs. <br><br> **Target Tracker: Coding** To predict the behaviour of a programmed toy. <br><br> *Building upon Spring 1 knowledge* <br> ▪ using logical reasoning to predict the behaviour of simple programs; <br> ▪ debugging promagraames; <br> ▪ ScratchJr - new project; add new characters and backgrounds; use blocks for movement in different directions; create short sets of sequenced instructions. | ▪ Beebots <br> ▪ Twinkl ~ Programming <br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y1/planit-computing-primary-teaching-resources-y1-writing-algorithms |
| **Summer 1** | | **Information technology**: Use technology purposefully to create, organise, store, manipulate and retrieve digital content. <br><br> **Target Tracker: using computer** | ▪ Twinkl ~ Word Processing Skills <br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y1/planit-computing-primary-teaching-resources-y1-word-processing-skills |

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| | | To use technology purposefully to create digital content. <br><br> ▪ to use a program to create a simple document <br> ▪ type with two hands; <br> ▪ use shift, space and enter correctly; <br> ▪ use undo and redo; <br> ▪ make text bold, italic or underline; <br> ▪ edit text using backspace, delete and the arrow keys; <br> ▪ save their work in their folder. | |
| **Summer 2** | | **Information technology**: <br> Use technology purposefully to create, organise, store, manipulate and retrieve digital content. <br><br> **Target Tracker: using computer** <br> To use a program to create a simple document. <br><br> ▪ log on and log off on a computer independently; <br> ▪ click and drag with a mouse or trackpad; <br> ▪ switch on and shutdown a computer independently; <br> ▪ launch an application by double clicking it; <br> ▪ save and begin to retrieve own work in their folder independently. | ▪ Twinkl ~ Word Processing Skills <br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y1/planit-computing-primary-teaching-resources-y1-word-processing-skills |

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## YEAR 2

|  | E-Safety | Knowledge & Key Questions | Specific Resources |
|---|---|---|---|
| **E-Safety:** E-Safety should be throughout each term. This can be done when different apps or programs are used and looking at the safety implications, or as part of a standalone lesson. These sites are useful and please let me know of others you find: <br> • Childnet <br> • Think U Know <br> • Scarf PSHCE | | | |

| | E-Safety | Knowledge & Key Questions | Specific Resources |
|---|---|---|---|
| **Autumn 1** | *National Curriculum*: 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 **Target Tracker**: Use technology safely and keep personal information private. | **Information Technology:** Use technology purposefully to create, organise, store, manipulate and retrieve digital content. <br><br> **Target Tracker: using computer** Use technology purposefully to create, organise, store, manipulate and retrieve digital content. <br><br> ▪ Save and retrieve work; <br> ▪ insert slides, add and type in a text box; <br> ▪ add images; <br> ▪ format text and text boxes. | ▪ PowerPoint <br> ▪ Twinkl ~ Presentation Skills <br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y2/planit-computing-primary-teaching-resources-y2-presentation-skills |
| **Autumn 2** | | **Computer science**: Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. <br><br> **Target Tracker: coding** Create simple programs; use logical reasoning to predict behaviour of simple programs; create and debug programs. <br><br> ▪ create a program to perform a task; <br> ▪ create and debug a simple program; <br> ▪ predict the behaviour of a programmed toy, clearly relating each action to an algorithm. | ▪ Turtle ~ https://turtleacademy.com/playground <br> ▪ Twinkl ~ Turtle logo <br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y2/preparing-for-turtle-logo |
| **Spring 1** | | **Computer science**: Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. <br><br> **Target Tracker: coding** Create simple programs; use logical reasoning to predict behaviour of simple programs; create and debug programs; use logical reasoning to predict the behaviour of simple programmes; debug simple programs by using logical reasoning to predict the actions instructed by the code. <br><br> *Building upon Autumn 2 knowledge* <br><br> ▪ create a program to perform a task; <br> ▪ find and fix bugs in programs; <br> ▪ understand that a program runs by following clear instructions; <br> ▪ create simple algorithms using a number of different blocks (snap blocks together to combine commands.) | ▪ Scratch ~ scratch.mit.edu/projects/editor/?tutorial=getStarted <br> ▪ Twinkl ~ Scratch <br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y2/programming-turtle-logo-and-scratch |
| **Spring 2** | | **Information technology**: Use technology purposefully to create, organise, store, manipulate and retrieve digital content <br><br> **Target Tracker: using computer** To find, open, edit and save files I am working on. <br><br> ▪ using technology purposefully to create; <br> ▪ using technology purposefully to store; | ▪ Twinkl ~ Computer Art <br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y2/programming-turtle-logo-and-scratch <br> ▪ Links in with Art <br> NC ~ to learn about the work of a range of artists, craft makers and designers, describing the differences and similarities between different practices and disciplines, and making links to their own work. |

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| | | ▪ using technology purposefully to manipulate (switch between program tools to produce different techniques, alter the formatting of a tool to adjust the<br>▪ colour or size.) | |
| **Summer 1** | | **Information technology**:<br>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.<br><br>**Target Tracker: using computers**<br>To find, open, edit and save files I am working on.<br>To use different software, programs and discuss the benefits of their usage.<br><br>▪ find and open software for creating computer art;<br>▪ add text and images to a presentation;<br>▪ retrieve/open a file from a saved location;<br>▪ select a relevant backdrop and character within Scratch;<br>▪ add a second character and position on the backdrop within Scratch. | ▪ Twinkl ~ Using and applying<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y2/planit-computing-primary-teaching-resources-y2-using-and-applying<br><br>**This unit reinforces skills taught throughout the year and links them together.** |
| **Summer 2** | | **Digital literacy:**<br>Recognise common uses of information technology beyond school.<br><br>**Target Tracker: computers**<br>To recognise how others use technology outside of school.<br>Know how to keep my personal information private.<br><br>▪ To recognising common uses of information technology beyond school;<br>▪ follow a weblink;<br>▪ identify search results that will give some useful information;<br>▪ identify search results that will give some useful information. | ▪ Twinkl ~ Using the internet<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y2/planit-computing-primary-teaching-resources-y2-using-the-internet |

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## YEAR 3

| | E-Safety | Knowledge & Key Questions | Specific Resources |
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| **E-Safety:** E-Safety should be throughout each term. This can be done when different apps or programs are used and looking at the safety implications, or as part of a standalone lesson. These sites are useful and please let me know of others you find: <br> • Childnet <br> • Think U Know <br> • Scarf PSHCE | | | |
| **Autumn 1** | | **Information Technology:** <br> Use search technologies effectively <br> 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. <br><br> **Target Tracker: net searching (and networking)** <br> Use simple search technologies. Use simple search technology and recognise that some sources are more reliable than others. <br><br> ▪ use a search engine to find web pages; <br> ▪ understand that not all websites are as reliable as others; <br> ▪ understand how word order affects the results returned; <br> ▪ know how to bookmark or favourite a page and name different types of online communication; <br> ▪ what to do if they feel uncomfortable when communicating online; <br> ▪ dentify how they should behave online. | ▪ Twinkl ~ Internet Research and Communication <br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y3/planit-computing-primary-teaching-resources-y3-internet-research-and-communication |
| **Autumn 2** | | **Information technology:** <br> 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. <br><br> **Target Tracker: using computer** <br> Select and use a variety of software to accomplish goals. <br><br> ▪ draw, order and group objects; <br> ▪ insert text boxes and images; <br> ▪ move, resize and arrange text boxes and images effectively. | ▪ Twinkl ~ Drawing and Desktop Publishing <br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y3/planit-computing-primary-teaching-resources-y3-drawing-and-dtp |
| **Spring 1** | | **Information Technology:** <br> 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. <br><br> **Target Tracker: using computer** <br> Select and use a variety of software to accomplish goals. <br><br> ▪ create slide templates using hyperlinks; <br> ▪ add theme, transitions and animations to a presentation; <br> ▪ use action settings; <br> ▪ insert video / audio; <br> ▪ evaluate slide layout and make improvements. | ▪ PowerPoint (Microsoft applications) <br> ▪ Twinkl ~ Presentation Skills <br> ▪ www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y3/planit-computing-primary-teaching-resources-y3-presentation-skills |
| **Spring 2** | | **Information Technology:** <br> 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. <br><br> **Target Tracker: using computer** <br> Select and use a variety of software to accomplish goals. <br><br> ▪ change the case of text (bold, italic, underline); <br> ▪ align text; <br> ▪ use bullets and numbering; <br> ▪ use redo and undo buttons; <br> ▪ use the control key; <br> ▪ insert and format text boxes. | ▪ Word <br> ▪ Twinkl ~ Word Processing Skills <br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y3/planit-computing-primary-teaching-resources-y3-word-processing-skills <br> ▪ 2 simple 2 type <br> ▪ BBC dance mat ~ https://www.bbc.com/bitesize/articles/z3c6tfr <br> ▪    Expresso |

*E-Safety column (vertical text):* identify a range of ways to recognise acceptable/unacceptable behaviour; recognise acceptable and recognise acceptable and Use technology safely and recognise acceptable and unacceptable behaviour. Use technology safely, respectfully and responsibly; recognise acceptable and Use technology safely and respectfully, keeping personal information safe. Use National Curriculum: use technology safely, respectfully and responsibly; recognise acceptable and unacceptable behaviour; identify a range of ways to report concerns about content and contact. Target Tracker: Use technology safely and respectfully, keeping personal information safe.

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| **Summer 1** | | **Computer Science:**<br>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.<br>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.<br>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.<br><br>**Target Tracker: coding (computers)**<br>Design, write and debug programs that control or simulate virtual events. Use logical reasoning to explain how some algorithms work. I know what output and input devices are and how they are used.<br>I can use a range of input and output devices effectively.<br><br>▪ designing, writing and debugging programs that accomplish specific goals including controlling or simulating physical systems;<br>▪ use sequence, selection and repetition in programs;<br>▪ solving problems by decomposing into smaller parts;<br>▪ working with variables and various forms of input and output;<br>▪ use logical reasoning to explain how some simple; algorithms work and to detect and correct errors in algorithms and programs;<br>▪ create and debug an algorithm -<br>using the move, rotate and repeat commands;<br>using pen up and pen down;<br>that draw regular polygons;<br>that draw shapes;<br>▪ draw patterns. | ▪ Twinkl ~ Programming<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y3/planit-computing-primary-teaching-resources-y3-programming-turtle-logo-and-scratch |
| **Summer 2** | | **Digital Literacy:**<br>Understand the opportunities [networks] offer for communication and collaboration.<br>Be discerning in evaluating digital content.<br>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.<br><br>**Target Tracker: networks**<br>To understand that computer networks enable the sharing of data and information.<br>Understand that the internet is a large network of computers and information can be shared between computers.<br><br>▪ computer networks including the Internet;<br>▪ how computer networks can provide multiple services, such as the world wide web;<br>▪ the opportunities computer networks offer for communication and collaboration. | |

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## YEAR 4

| | E-Safety | Knowledge & Key Questions | Specific Resources |
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| **E-Safety:** E-Safety should be throughout each term. This can be done when different apps or programs are used and looking at the safety implications, or as part of a standalone lesson. These sites are useful and please let me know of others you find:  • Childnet  • Think U Know  • Scarf PSHCE | | | |
| **Autumn 1** | National Curriculum: use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Target Tracker: Understanding that what I say or post on the internet might be copied, shared, and stored by others. To know what to do if I see anything worrying online. | **Computer Science:** 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.  **Target Tracker**: **coding** To break program into smaller parts. To use logical thinking to identify and solve potential bugs during coding. To use other programs as I code.  ▪ design, write and debug programs that accomplish specific goals including controlling or simulating physical systems; ▪ solve problems by decomposing 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; ▪ to create and debug an algorithm create a procedure; that uses steps to draw shapes; with different colours; fill areas with colour; draw arcs; produce text (Write text using the label command). | ▪ Logo ▪ Twinkl ~ Programming Turtle Logo www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y4/planit-computing-primary-teaching-resources-y4-programming-logo |
| **Autumn 2** | | **Computer Science:** 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.  **Target Tracker**: **coding** To break program into smaller parts. To use logical thinking to identify and solve potential bugs during coding. To use other programs as I code.  ▪ design, write and debug programs that accomplish specific goals including controlling or simulating physical systems; ▪ solve problems by decomposing into smaller parts; ▪ use sequence, selection, and repetition in programs; work with variables and various forms of input and output; ▪ design, write and debug my own program by selecting appropriate visual block commands to create a sequence. | ▪ Scratch ▪ Twinkl ~ Scratch: Questions and Quizzes www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y4/planit-computing-primary-teaching-resources-y4-scratch |
| **Spring 1** | | **Information Technology:** Use search technologies effectively | ▪ Word (links to Topic) ▪ Twinkl ~ word processing |

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| | | 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.<br><br>**Target Tracker: using computer**<br>I can use more complicated input devices.<br>I can use different types of software programs and different types of hardware.<br>To use a range of programs to complete a task.<br><br> ▪ select, edit and manipulate text in different ways;<br> ▪ insert an image into a document;<br> ▪ format an image;<br> ▪ use formatting tools to improve the layout;<br> ▪ use the spellcheck tool;<br> ▪ insert a simple table;<br> ▪ change the size of the page;<br> ▪ create hyperlinks within a word document. | www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y4/planit-computing-primary-teaching-resources-y4-word-processing |
| **Spring 2** | | **Information Technology:**<br>Use search technologies effectively<br>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.<br><br>**Target Tracker:**<br>I can use more complicated input devices.<br>I can use different types of software programs and different types of hardware.<br>To use a range of programs to complete a task.<br><br> ▪ analyse, evaluate and present data and information in the context of understanding the history of animation;<br> ▪ explain what is meant by animation;<br> ▪ Create a series of linked frames that can be played as a short animation.;<br> ▪ Control and adjust a time slider to locate a different point in a film clip;<br> ▪ Insert images to create a simple stop-motion animation short film clip;<br> ▪ Evaluate animation software. | ▪ Twinkl ~ Animation<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y4/planit-computing-primary-teaching-resources-y4-animation |
| **Summer 1** | | **Digital Literacy:**<br>Understand the opportunities [networks] offer for communication and collaboration.<br>Be discerning in evaluating digital content.<br><br>**Target Tracker**:<br>To understand that some computers on a network serve particular functions, such as controlling printers or sharing files.<br>To use different software programs and different types of hardware.<br><br> ▪ excel spreadsheet<br> ▪ set up their own spreadsheet and collect data.<br> ▪ use simple formulas like sum of.<br> ▪ present the data in a bar chart. | ▪ Excel |
| **Summer 2** | | **Digital Literacy:**<br>Understand the opportunities [networks] offer for communication and collaboration.<br>Be discerning in evaluating digital content.<br>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.<br><br>**Target Tracker:**<br>Understand that what I say may be copied, shared, and stored by others. To know what to do if I see something worrying online. | ▪ Suni's Email Problem.<br>▪ Twinkl ~ online safety<br> www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y4/e-safety-y4-computing-planit |

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| | | ▪ social media and how to stay safe online;<br>▪ sending emails – how to forward;<br>▪ use technology safely, respectfully and responsibly;<br>▪ how to recognise acceptable and unacceptable behaviour;<br>▪ how to identify a range of ways to report concerns about content and contact. | |

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## YEAR 5

| | E -Safety | Knowledge & Key Questions | Specific Resources |
|---|---|---|---|
| **E-Safety:**<br>E-Safety should be throughout each term. This can be done when different apps or programs are used and looking at the safety implications, or as part of a standalone lesson. These sites are useful and please let me know of others you find:<br>• Childnet<br>• Think U Know<br>• Scarf PSHCE | | | |
| **Autumn 1** | *identify a range of ways to* | **Digital Literacy:**<br>Understand the opportunities [networks] offer for communication and collaboration<br>Be discerning in evaluating digital content<br>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.<br><br>**Target Tracker: network**<br>To use the internet to allow me to share data with another person.<br>To select appropriate software for the given task.<br><br>▪ understand computer networks including the Internet;<br>▪ how computer networks can provide multiple services, such as the world wide web;<br>▪ the opportunities computer networks offer for communication and collaboration.<br>▪ What is meant by a network? | ▪ How does the internet work ~ https://thekidshouldseethis.com/post/26674356049<br>▪ Network link ~ see below |
| | | Network ~<br>www.ictvideohelp.co.uk/internet/internetpackages/internetpackages.html | |
| **Autumn 2** | *National Curriculum: use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; recognise acceptable/unacceptable behaviour; report concerns about content and contact.* — *Target Tracker: Understand how to choose online content for my age group.* | **Computer Science:**<br>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.<br>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.<br>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.<br><br>**Target Tracker: coding**<br>To write increasingly complex programs.<br>To use loops to repeat tasks within a program.<br>To use IF statements to alter the way the programs run.<br>To explain how increasingly complex algorithms, solve a given problem.<br><br>▪ design and program a character game;<br>▪ design an original character or backdrop for a game;<br>▪ features or effects to enhance a game (move and edit blocks as part of an algorithm);<br>▪ create an original animated game with a specific goal;<br>▪ program costume changes for a sprite;<br>▪ add point-scoring and levels to game code. | ▪ Scratch 3<br>▪ Twinkl ~ Scratch – Developing Games<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y5/planit-computing-primary-teaching-resources-y5-scratch |
| **Spring 1** | | **Computer Science:**<br>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.<br>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. | ▪ Flowol ~ http://www.flowol.com/Flowol4.aspx<br>▪ Twinkl ~ Controlling Devices: Flowol<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y5/planit-computing-primary-teaching-resources-y5-controlling-devices-flowol |

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| | | **Target Tracker**: **coding**<br>To write increasingly complex programs.<br>To use loops to repeat tasks within a program.<br>To use IF statements to alter the way the programs run.<br>To explain how increasingly complex algorithms, solve a given problem.<br>To use a range of search tools to find what I am looking for.<br>To use the internet to allow me to share data with another person.<br><br>▪ follow written instructions to draw a simple flowchart;<br>▪ insert symbols into a flowchart;<br>▪ add inputs into a flowchart (containing a subroutine);<br>▪ create and edit a flowchart to control a simulated device.<br>▪ identify conventional symbols, understanding the process of each stage;<br>▪ control multiple outputs at the same time;<br>▪ use a decision symbol based on the status of an input;<br>▪ design, write and debug my own flowchart program for a given task. | |
| **Spring 2** | | **Information Technology:**<br>Select, use and combine a variety of software on a range of digital devices to create content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.<br><br>**Target Tracker**: **using computer**<br>To can select appropriate software for the given task.<br>To confidently use a range of software tools.<br>To understand how to choose appropriate online content for my age group.<br><br>▪ record and play their own sounds in recording software (recording, editing and playing);<br>▪ import an existing sound file into recording software to play;<br>▪ research and plan digital content for a radio podcast;<br>▪ choose appropriate software for sound recording;<br>▪ combine audio effects to create an original radio jingle;<br>▪ plan and record a radio advert;<br>▪ present and evaluate audio content. | ▪ Twinkl ~ radio station<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y5/planit-computing-primary-teaching-resources-y5-radio-show |
| **Summer 1** | | **Information Technology:**<br>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.<br>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.<br><br>**Target Tracker ~ net searching**<br>To use filter in search technologies effectively.<br>To appreciate how results are selected and ranked.<br>Independently select, use and combine a variety of software to design and create content for a given audience.<br><br>▪  comment on the features and layout of a webpage (evaluate);<br>▪ create a new webpage with a chosen layout and format text in the webpage (including add text, images and hyperlinks); | ▪ Twinkl ~ Internet Research and Webpage Design<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y5/planit-computing-primary-teaching-resources-y5-internet-research-and-webpage-design |

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| | | ▪ independently search for images that can be used in documents. | |
| **Summer 2** | | **Digital Literacy:**<br>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.<br><br>**Target Tracker**:<br>To can select appropriate software for the given task.<br>To confidently use a range of software tools.<br>To understand how to choose appropriate online content for my age group.<br><br>▪ draw 2D shapes or lines;<br>▪ draw (and add detail) simple 3D models;<br>▪ manipulate 2D shapes into 3D shapes;<br>▪ import 3D models from the 3D warehouse<br>▪ use a range of tools (SketchUp) including: shape, push, pull, orbit, pan, zoom, erase and fill. | ▪ Sketch up<br>www.sketchup.com/plans-and-pricing/sketchup-free<br>▪ Twinkl ~ 3D Modelling: SketchUp<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y5/planit-computing-primary-teaching-resources-y5-3d-modelling |

# Computing   LONG TERM PLAN

**LABURNUM**
PRIMARY SCHOOL & NURSERY
CHALLENGE • ACHIEVE • RESPECT • EFFORT

## YEAR 6

| | E – safety | Knowledge & Key Questions | Specific Resources |
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| **E-Safety:** E-Safety should be throughout each term. This can be done when different apps or programs are used and looking at the safety implications, or as part of a standalone lesson. These sites are useful and please let me know of others you find:<br>• Childnet<br>• Think U Know<br>• Scarf PSHCE | | | |

| | | Knowledge & Key Questions | Specific Resources |
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| **Autumn 1** | *(rotated text, left column:)* Identify a range of ways to report concerns about content and contact in and out | **Digital Literacy:**<br>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.<br>Use technology safely, respectfully and responsibly. Be discerning in evaluating digital content.<br><br>**Target Tracker: E safety**<br>To use technology respectfully and responsibly.<br>To understand how to protect my computer or device from harm on the internet.<br>To understand how to report concerns about content and contact in and out of school.<br><br>▪ to say what bullying and cyberbullying are;<br>▪ say how people should deal with cyberbullying;<br>▪ understand why I should ask an adult if I am unsure;<br>▪ identify warning signs that a website might not be secure;<br>▪ identify personal information;<br>▪ explain what to do if I am asked or told something online which makes me uncomfortable;<br>▪ explain some of the dangers of revealing personal information to an online friend;<br>▪ choose an appropriate action online to stay safe;<br>▪ identify a situation I should be careful in online;<br>▪ understand how a stereotype can be harmful. | ▪ Twinkl ~ E safety<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y6/e-safety-y6-computing-planit |
| **Autumn 2** | *(rotated text spanning, left columns:)* National Curriculum: use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.<br>Target Tracker: to use technology respectfully and responsibly. Identify a range of ways to report concerns about content and contact in and out of school. / to report concerns about content and contact. | **Computer Science:**<br>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.<br>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.<br>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.<br><br>**Target Tracker: coding**<br>To include use of sequences, selection and repetition with the hardware used to explore real world systems.<br>To solve problems by composing them into smaller parts.<br>Create programs which use variables.<br>To use variables, sequence, selection and repetition in programs<br>To use logical reasoning to explain how increasingly complex algorithms work and to detect and correct errors in algorithms efficiently.<br><br>▪ select appropriate characters to match a scene;<br>▪ animate characters with movement and speech in a story scene;<br>▪ use broadcast and receive blocks correctly in code;<br>▪ use show and hide blocks correctly in code;<br>▪ create a sequence (timing) of story scenes with added audio;<br>▪ structure and sequence the animation of characters in each scene<br>▪ use the repeat command to create animation effect; | ▪ Twinkl ~ Scratch: Animated Stories<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y6/planit-computing-primary-teaching-resources-y6-scratch-animated-stories |

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| | | ▪ make a character visible or invisible at the correct times. | |
| **Spring 1** | | **Information Technology:**<br>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.<br><br>**Target Tracker: using computer**<br>To independently select, use and combine a variety of software to collect, analyse, evaluate and present data and information.<br><br>▪ enter text and numbers into a spreadsheet;<br>▪ identify and refer to cells by row and column;<br>▪ begin to enter formulae with the **SUM** function;<br>▪ be able to enter **formulae** into cells;<br>▪ edit data and discuss the effect on results;<br>▪ use further functions including **Average**, M**in** and M**ax**;<br>▪ create graphs;<br>▪ design their own spreadsheet for a specific purpose. | ▪ Excel spreadsheet<br>▪ Twinkl ~ spreadsheets<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y6/planit-computing-primary-teaching-resources-y6-spreadsheets |
| **Spring 2** | | **Computer Science:**<br>Select, use and combine a variety of software, including evaluating and presenting data and information. use logical reasoning to explain how some simple algorithms work. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Solve problems by decomposing them into smaller parts. Use logical reasoning to explain how some simple algorithms work.<br>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output<br><br>**Target Tracker**: **coding**<br>To include use of sequences, selection and repetition with the hardware used to explore real world systems.<br>To solve problems by composing them into smaller parts.<br>Create programs which use variables.<br>To use variables, sequence, selection and repetition in programs<br>To use logical reasoning to explain how increasingly complex algorithms work and to detect and correct errors in algorithms efficiently.<br><br>▪ open programme (Kodu) and navigate the programming environment using keyboard or mouse;<br>▪ add objects to a world and program them using When and Do instructions;<br>▪ plan and design the features of an original virtual environment;<br>▪ program a character to move around a track;<br>▪ decompose code into smaller parts and explain it in their own words;<br>▪ Use tools to change the size of the ground and raise or lower the landscape;<br>▪ create a path for a character to follow. | ▪ Kudo ~ Game lab<br>https://www.kodugamelab.com/<br>▪ Twinkl ~ Kodu Programming<br>www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary-teaching-resources-y6/planit-computing-primary-teaching-resources-y6-kodu |
| **Summer 1 & 2** | | **Information Technology:**<br>Select, use and combine a variety of software to design and create a range of programs, systems and content that accomplish given goals. | ▪ Windows movie maker<br>▪ Twinkl ~ film making<br>▪ www.twinkl.co.uk/resources/planit-computing-primary-teaching-resources/planit-computing-primary- |

| | | Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.<br>Understand computer networks including the internet and the opportunities they offer for communication and collaboration. Use a variety of software on a range of digital devices to design and create a range of content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.<br><br>**Target Tracker: using computer / networks**<br>Independently select, use and combine a variety of software to design and create content for a given audience.<br>Design and create a range of programs, systems and content for a given audience.<br>Independently select, use and combine a variety of software to collect, analyse, evaluate and present data and information. Begin to use internet services within own creations to share and transfer data to a third party.<br><br>• plan (locations and props) and write a script using appropriate software;<br>• search for relevant information using appropriate websites;<br>• evaluate whether information is reliable or not; • speak clearly into the camera when being recorded;<br>• use a digital video camera (or similar device) to record;<br>• plan suitable questions to ask an interviewee;<br>• import video files into video editing software<br>• frame an appropriate filming shot when interviewing;<br>• arrange video files to form a complete film. | teaching-resources-y6/planit-computing-primary-teaching-resources-y6-film-making<br><br>• Junior librarian<br>• Survey Monkey<br>• Goggle<br>• Excel |