

Term: Autumn Term	Subject: Computing	
NC Objectives	Key knowledge	Vocabulary
<p>Year 1</p> <p><u>Programming</u></p> <ul style="list-style-type: none"> understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. create and debug simple programs. use logical reasoning to predict the behaviour of simple programs. <p><u>E-safety</u></p> <ul style="list-style-type: none"> 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. 	<p><u>Programming units 1 and 4</u></p> <p>To understand and follow instructions from my friends e.g. left, right, forwards, backwards, stop and go.</p> <p>To understand that I can press buttons in the right order to make my Bee Bot do what I want.</p> <p>To know that there is a correct order in which to press the buttons and that this can be called an algorithm</p> <p>To know that a program can be used to instruct a floor robot to move from one location to another location.</p> <p>Know what to change in a program to fix a faulty command and that it is called debugging.</p> <p>Understand how to predict what will happen for a short sequence of instructions</p> <p>OUTCOME – To move a BeeBot around the floor using a simple program.</p> <p><u>E-safety</u></p> <p><u>Autumn 1</u></p> <p>Know that I need to tell a trusted adult what I want to use a device for.</p> <p>Know how to use links to websites to find information.</p> <p>Know to show a trusted adult when something worrying or unexpected happens when using a device.</p> <p>Know to be careful about the icons I click or tap on.</p> <p><u>Autumn 2</u></p> <p>Know why it is important to be kind and polite.</p> <p>Know and use sensible rules to keep me safe when I use technology.</p>	<p><u>Programming</u></p> <p>program, instructions, buttons, floor robot, left, right, forwards, backwards, stop, go, command, code, predict, debugging, sequence</p> <p><u>E-safety</u></p> <p>Hyperlink, icons, pop-ups, animate, animation, links, trusted, device.</p>

Year 2

TIOL

- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school.

E-safety

- 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.

TIOL units 1 and 3

Understand how **technology** is used in my home and community.

Understand the benefits of using technology.

Know how to find **information** by **navigating search engines** (Google/Bing) and **web browsers (Google Chrome/Safari)**

Know there is a difference between **World Wide Web and the Internet**.

Outcome – Look at the map of a town and identify different kinds of technology.

E-safety

Autumn 1

Know to show a trusted adult when something worrying or unexpected happens when using a device.

Know and use sensible rules to keep me safe when I use technology.

Know that not all information online is true.

Autumn 2

Know why it is important to be kind and polite online and in real life.

Know to talk to a trusted adult about how to keep safe online.

TIOL

Technology, home, community, information, communicating, search engine (Google/Bing), navigate, menu, search, website, Web browser Google Chrome/Safari) World Wide Web/Internet

E-safety

Rules, safety, trust, device, sensible, information.

Year 3

Programming

- Use logical reasoning to explain how some algorithms work and to detect and correct errors in algorithms and programs.

Programming 3

Know the order I need to do things to make something happen.

Know how to program a robot or software to do a particular task.

Understand how to use programming software to make things move.

Know how to spot where it goes wrong so that I can debug it.

Know how to put programming commands into a sequence.

Know how to execute my program,

Know how to describe an algorithm

Understand that 'if' and 'then' commands will select what the sprite does.

OUTCOME – Plan to tell a knock knock joke or simple story.

E-safety

Autumn A

To know about and contribute to shared online safety rules and use them to make good choices.

Know about the safety features of apps, games and websites as well as reporting concerns to an adult

Autumn B

To know why it is important to be kind and polite online and in real life.

Know to how to keep myself safe on line and tell a trusted adult if I have concerns about online activity.

Use terms like **cyberbullying, social media, gaming.**

Programming

internet, world wide web, webpage, website, communication, communicate, images, digitally altered, advertising, email, send, technology, tool, program, input, output, rotation, algorithm, model, sprite, blocks.

E-safety

- Online Safety – Use technology safely, respectfully and responsibly, recognise acceptable/unacceptable behaviour; identify, a range of ways to report concerns about content and contact.

E-safety

Safe, cyberbullying, social media, gaming, respect, respectfully, acceptable, unacceptable, concern,

<p><u>Handling Data</u></p> <ul style="list-style-type: none"> Select, use and combine a variety of software (inc internet services) on a range of digital devices to design and create a range of programs systems and content that accomplish given goals, inc collecting analysing, evaluating and presenting data and information. 	<p><u>Handling Data – Showing my device</u></p> <ul style="list-style-type: none"> Know how to use data to help me answer a question. Understand how we can arrange data in tallies, databases, dataloggers, charts. Know how to search a database. Know how to add to a database. Know how to use a data logger to monitor changes. Understand what a spreadsheet is and how we can use it to enter information. <p>OUTCOME – Present class data for using electronic devices</p>	<p><u>Handling Data</u></p> <p>Collect, data, time, database, data logger, arrange tallies, charts, spreadsheets</p>

<p>Year 4</p> <p>Programming-Scratch</p> <ul style="list-style-type: none"> • I can put programming commands into a sequence to achieve a specific outcome • I can solve an open-ended problem <i>e.g. adding sound to a model or object</i> • I can describe the algorithm I will need for a simple task • I can use repeat commands • I keep testing my program and recognise when I need to debug it <p>E-safety</p> <ul style="list-style-type: none"> • use technology safely, respectfully and responsibly; • recognise acceptable/unacceptable behaviour • identify a range of ways to report concerns about content and contact. <p>TIOL – Where is My Information?</p> <ul style="list-style-type: none"> • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content <p>Multimedia – My Mystery Movie</p> <ul style="list-style-type: none"> • 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 	<p><u>Programming - Scratch</u></p> <p>Know how to create a sequence of commands, using an algorithm.</p> <p>Understand when a program is not working and how to debug it.</p> <p>Use a repeat loop and forever loop to keep the sprite moving.</p> <p>Outcome – Create a car racing game.</p> <p><u>E-safety</u></p> <p><u>Autumn</u></p> <p>Understand how to use e-safety rules to make good choices</p> <p>Know how to report concerns and who to.</p> <p>Know how to comment positively and respectfully.</p> <p>Understand key words to use safely online</p> <p>Understand how to check for reliability</p> <p>TIOL</p> <ul style="list-style-type: none"> • Understand where my resources come from and where they are saved. • Know how to use key words to search safely. • Know how to create a hyperlink (outcome) <p><u>MULTIMEDIA</u></p> <ul style="list-style-type: none"> • Understand how to explore new media • Know how to give constructive feedback • Understand how to use videos, photos and sounds to create an atmosphere. • Know how to use an appropriate tool such as iMovie, Photos and Microsoft Powerpoint to share my Mystery Movie and collaborate online. (Outcome) 	<p><u>Programming</u></p> <p>sequence, commands, algorithm, program, debug, repeat loop, forever loop</p> <p><u>E-safety</u></p> <p>Choices, report, positively, respectfully, reliability, communicate, downloading, digital footprint, appropriate.</p> <p>TIOL</p> <p>Hyperlink, key words, resources</p> <p>Multimedia</p> <p>Edit, insert, presentation software, collaborate</p>

<p>Year 5</p> <p><u>Programming</u></p> <ul style="list-style-type: none"> • 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. • 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. <p><u>E-safety</u></p> <ul style="list-style-type: none"> • Use technology safely, respectfully and responsibly • Recognise acceptable/unacceptable behaviour • Identify a range of ways to report concerns about content and contact. 	<p><u>Programming – Scratch</u></p> <p>Know how to use a variable to increase programming possibilities.</p> <p>Know how to use ‘if’ and ‘then’ commands to select an action.</p> <p>Understand how to decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program.</p> <p>Know how to use logical reasoning to detect and debug mistakes in a program.</p> <p>Know how to change an input to a program to achieve a different output.</p> <p>Understand and define repetition and variable.</p> <p>Outcome – Scratch program for Roman Numerals</p> <p><u>E-safety</u></p> <p><u>Autumn A:</u></p> <p>Know how to use a search engine to find and evaluate different types of information</p> <p>Know how to contribute to shared rules and use them to support myself and others when we use technology</p> <p><u>Autumn B:</u></p> <p>Know how to communicate kindly and respectfully and describe the impact where this does not happen</p> <p>Know how to contribute to shared rules and use them to support myself and others when we use technology</p> <p>Know why I need to protect myself and my friends and the best ways to do this, including reporting concerns to a trusted adult</p>	<p><u>Programming</u></p> <p>Input, output, repetition, variable, ‘if’ ‘then’, decompose.</p> <p><u>E-safety</u></p> <p>Search engine, respect, kindness, contribute, bullying, reporting concerns, unsafe internet</p>

<p>Year 6</p> <p><u>Programming</u></p> <ul style="list-style-type: none"> • 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. • 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 <p><u>E-safety</u></p> <p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	<p><u>Programming 1 and 3</u></p> <p>Know how to deconstruct a problem into smaller steps. Know how to explain and program each of the steps in my algorithm to achieve a planned outcome. Know how to evaluate the effectiveness of my algorithm. Know how to use logical reasoning to detect and correct errors in algorithms and programs. Understand how to design an efficient program through the use of repeat procedures. Know how to use different inputs to control an onscreen action and predict what will happen. Know how to use a variable to achieve a required output including stopping a program.</p> <p>OUTCOMES - Make a quiz with scratch and use Logo to teach the computer to draw polygons with different colours and a spider web.</p> <p><u>Autumn A</u></p> <p>To know how to identify what is fact and what is an opinion. To know how to check the reliability of websites. To know the importance of forming their own opinions. To know how a search engine selects and ranks results. To know the consequences of anti-social and aggressive behaviour online. To know how to communicate kindly and respectfully online. To know what a responsible digital citizen is.</p> <p><u>Autumn B</u></p> <p>Know ways to avoid becoming involved in cyberbullying Know what to do to report concerns of cyberbullying. Know how to communicate kindly and respectfully and work with others to help everyone enjoy their use of technology.</p>	<p><u>Programming</u></p> <p>Reasoning, deconstruct, solutions, algorithm, backgrounds, characters, objects, logical, efficient, variables, plan, adapt, collect, create.</p> <p><u>E-safety</u></p> <p>Fact. Opinion. Reliability. Search engine. Rank. Responsible digital citizen.</p>
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