



Curriculum Coherence – Year 4 Computing

Term 1

Online Safety: positive and negative use of technology www.childenet.com

SMART rules

Programming – SCRATCH 2

Values: Respect, understanding, kindness, responsibility

Previous Learning: Chn can talk about what makes a secure password and why they are important. Chn can protect their personal information when they do different things online. Chn know that everything online may not always be true. Chn know how to have restrictions on their time online to support their wellbeing. Chn have programmed using block based code and created their own algorithms using Scratch Junior.

INTENT	IMPLEMENTATION	IMPACT
<p>KNOWLEDGE Online Safety</p> <ul style="list-style-type: none"> - To understand how children can protect themselves from online identity theft. • To understand that information put online leaves a digital footprint or trail and that this can aid identity theft. To identify the risks and benefits of installing software including apps. To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism. • To identify appropriate behaviour when participating or contributing to collaborative online projects for learning. To identify the positive and negative influences of technology on health and the environment. • To understand the importance of balancing game and screen time with other parts of their lives. <p>KNOWLEDGE Programming</p> <ul style="list-style-type: none"> -Chn will understand the language of block based code and the language of Scratch as a coding program - Use Scratch to create effective block based code projects with a specific goal - Understand the 'repeat' function to create algorithms efficiently. - understand the term 'debugging' and debug their own and others programs to overcome problems and find solutions. 	<p>ACTIVITIES Online Safety: positive and negative use of technology 4.2</p> <ul style="list-style-type: none"> • Use the 2Respond creator tool (within 2Email) to open the 2Respond Activity SPAM (use the search to find it). • All resources can be found on the main unit 4.2 page. From here, click on the icon to set a resource as a 2Do for your class. Use the links below to preview the resources; right-click on the link and 'open in new tab' so you do not lose this page. • Completed Writing Template about Tim Berners Lee. This file contains two pages, the first is plagiarised, the second is not. This will be used as a whiteboard resource. • Access to Wikipedia. • Plagiarism Quiz • Completed record cards handed out in the end of the last session. • Screen-Time 2Investigate Database. • Screen Time Study writing frame to be set as a 2Do <p>ACTIVITIES Creating an effective animation</p> <p>Lesson 1 – I will tinker. The chn will use Scratch, tinkering to learn the code-based language of Scratch and how it works as a program. Chn will follow simple instructions and code to program effectively to build on their primary skills with Scratch.</p> <p>Lesson 2 – I will manipulate sprites and costumes. The chn will learn how to make changes and edit their own and existing sprites. Chn will learn how to experiment with costume changes.</p> <p>Lesson 3 – I will create an efficient project. Chn will create their own projects limited to 10 blocks to allow them to create efficient projects and make use of blocks such as repeat and loop.</p> <p>Lesson 4 – I will add interaction. The chn will experiment with different procedures within Scratch to create a project that allows their sprites to interact with each other across a range of backgrounds.</p> <p>Lesson 5 I will debug – Chn will explore existing</p>	<p>OUTCOMES Online Safety PUPILS will know</p> <ul style="list-style-type: none"> - Children know that security symbols such as a padlock protect their identity online. • Children know the meaning of the term 'phishing' and are aware of the existence of scam websites. • Children can explain what a digital footprint is and how it relates to identity theft. • Children can give examples of things that they would not want to be in their digital footprint. Children can identify possible risks of installing free and paid for software. • Children know that malware is software that is specifically designed to disrupt, damage, or gain access to a computer. • Children know what a computer virus is. Children can determine whether activities that they undertake online, infringe another's' copyright. • Children know the difference between researching and using information and copying it. • Children know about citing sources that they have used. Children can take more informed ownership of the way that they choose to use their free time. They recognise a need to find a balance between being active and digital activities. • Children can give reasons for limiting screen time.
<p>CORE VOCABULARY Online Safety - Password, internet, blog, concept map, username, password</p> <p>Programming - Code, program, debug, algorithm, block based code, text based code, pen up, pen down, command, repeat, angles, degrees, Sprite, background, project, duplicate, forever</p> <p>HIGH LEVEL VOCABULARY Online Safety website, webpage, spoof website, PEGI rating</p> <p>Programming - properties, repeat, selection, timer, variable, decomposition</p>	<p>Lesson 2 – I will manipulate sprites and costumes. The chn will learn how to make changes and edit their own and existing sprites. Chn will learn how to experiment with costume changes.</p> <p>Lesson 3 – I will create an efficient project. Chn will create their own projects limited to 10 blocks to allow them to create efficient projects and make use of blocks such as repeat and loop.</p> <p>Lesson 4 – I will add interaction. The chn will experiment with different procedures within Scratch to create a project that allows their sprites to interact with each other across a range of backgrounds.</p> <p>Lesson 5 I will debug – Chn will explore existing</p>	<p>will be able to</p> <ul style="list-style-type: none"> -contribute to a concept map/class blog clearly and appropriately -think critically about the results returned from an internet search -create their own spoof web page and share it on an online display board -identify some physical and emotional effects of playing/watching inappropriate content -relate cyberbullying to real-world bullying and have strategies for dealing with online bullying <p>will understand</p> <ul style="list-style-type: none"> -I can talk about what makes a secure password and why they are important.

READING OPPORTUNITIES

E-Safety – www.childnet.com



projects and debug them looking for errors and finding solutions to them.

Lesson 6 I will use decomposition- Chn will develop their decomposition skills to break a larger problem down into small steps to create a new project.

NC OBJECTIVES:

Pupils should be taught to:

- ♣ 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
- ♣ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- ♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- ♣ 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
- ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

-I can protect my personal information when I do different things online.

OUTCOMES

Creating an block based project

PUPILS will know

- How to write a program to complete a specific goal
- Create a program that includes a logical sequence
- How to debug an error in a program

will be able to

- Use repetition and selection
- Work with variables and make adjustments
- Understand how to duplicate
- Understand how to incorporate a range of effects into their program

will understand

- How to experiment and innovate with their programming skills
- How to predict outcomes using code
- Successfully decompose problems
- Efficient ways to code using different functions and blocks

SKILLS

- Creating a safe password
- Not to share personal information
- How to report concerns Evaluate content and own work
- Collaborating appropriately online
- Identifying scam websites
- Using secure websites
- Identifying malware software
- **Logic** – to predict and analyse
- **Algorithms** - Make steps and rules for their algorithms
- **Evaluate** their own and others' code to help improve their design
- **Abstraction** – remove unnecessary detail to solve a problem
- **Patterns** – spotting patterns and similarities
- **Decomposition** – Breaking problems down into parts
- **Tinkering** – experimenting and playing
- **Creating** – design and make new patterns and designs
- **Debugging** – Find and fix errors
- **Persevering** – keep going and use resilience
- **Collaborating**- working together to solve a problem.

Key Questions

- How can we stay safe online?
- Who can we talk to if we have a problem?
- Who are my trusted adults?
- What does the padlock symbol represent?
- What does 'phishing' mean and what are scam websites?
- What makes a safe password?
- What is malware?
- What is an algorithm?
- How can you predict an outcome?
- What are variables and how are they used?
- How can problems be decomposed?

NEXT STEPS IN LEARNING

Chn will revisit coding and move into text based coding later in Year 4 Spring Term.

Year 5/6 Further coding development and project based learning with Scratch and other coding programs and software.

ASSESSMENT OPPORTUNITIES:

- Can the chn create a safe password?
- Can the chn tell you how they keep safe online?

CHALLENGE:

Create a Online Safety rules poster identifying the rules after listening to each chapter. That they use to inform Year 3 children. Think of own passwords

LINKS TO Curriculum Areas

- History – Roman character and setting link.
- Maths – Angles/Position and Direction

<p>Do you know what to do if a stranger asked them for personal information? Can the chn explain what the padlock symbol represents? Can the chn explain how to identify a scam website? Can they explain what malware software is?</p> <p>Can they explain that an algorithm is a set of instructions?</p> <p>Do they know how to predict an outcome?</p> <p>Can they explain what variables are and how to use them?</p> <p>Can they debug programs and decompose problems?</p>	<p>using criteria and make a online safety charter. Coding- Children can explain and give Children's designs show that they are thinking of the required task and how to accomplish this in code. Chn create complex code. Children can identify an error within a program that prevents it following the desired algorithm and then fix it. Children make intuitive attempts to debug their own programs as they increase in complexity.</p> <p>SUPPORT: With support identify the rules learnt from the story. Provide password scaffolds. Coding – With support, children can design and code a program that follows a simple sequence. They can make good attempts to 'read' code and predict what will happen in a program which can help them to correct errors.</p>	
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PREPARATION FOR ADULTHOOD:

- Chn will know how to keep themselves safe online
- Chn will know how to create safe passwords
- Chn will know how to keep personal information private
- Chn will know how to report concerns about online content
- Chn will know how to use secure websites
- Chn will know how to consider the truth of the content of websites
- Chn will know how the meaning of age restrictions on digital media
- Chn will know how to identify scam websites
- Chn will follow systematical steps in using online technologies and develop problem solving skills to solve problems and develop critical thinking

SMSC

Spiritual –By understanding the advantages and limitations of ICT. The power of technology in making the world a smaller place. Knowing what decisions to make to keep yourself safe online and how to make yourself safe online.

Moral –By considering the benefits and potential dangers of the online world e.g. campaigns for charities and injustice as a force for good. Cyberbullying as a danger. Limiting your time online for your well-being. What information should or should not be shared.

Social – Promoting the ways to stay safe when using online services and social media. Discussing the impact of ICT on the ways people communicate. Playing with others online to develop your social skills and using a blog to socialise.

Cultural - Promoting an understanding of the history and wonder of technology. Communicating with different regions, countries and cultures.