



Curriculum Long Term Plan

Computing

| | Autumn | Spring | Summer |
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| <p>Nursery During Nursery and Reception planned opportunities and provision will enable children to...</p> | <p>Through <i>Personal, Social and Emotional Development</i> pupils should remember rules without needing an adult to remind them; show resilience and perseverance in the face of a challenge; and know and talk about the different factors that support their overall health and wellbeing, such as sensible amounts of 'screen time'. During <i>Physical Development</i> pupils will be able to match their developing physical skills to tasks and activities in the setting; and develop their small motor skills so that they can use a range of tools competently, safely and confidently. In <i>Understanding the World</i> pupils will explore how things work and listen to a broad selection of stories non-fiction, rhymes and poems will foster their understanding of our technologically diverse world.</p> | | |
| <p>Reception</p> | <p>Digital Literacy Networks and systems 1: Using a computer</p> <p>Key End Points: By the end of this unit children will be able to:</p> <ul style="list-style-type: none"> • learn what a keyboard is and how to locate relevant keys. • learn what a mouse is and developing control when using a mouse. • develop basic mouse skills, including moving and clicking and using an online paint tool. • develop basic mouse skills, including moving and clicking and using an online paint tool. | <p>Computer Science Unit 2 Programming 1: All about instructions</p> <p>Key End Points: By the end of this unit children will be able to:</p> <ul style="list-style-type: none"> • follow class instructions as part of practical activities and games. • learn to give simple instructions. • follow instructions as part of a dressing up game and learn to give simple instructions. • begin to learn that an algorithm is a set of instructions to carry out a task, in a specific order. They use logical reasoning to read simple instructions and predict the outcome. <p>Digital Literacy Unit 3 Computing systems and networks 2: Exploring hardware</p> <p>Key End Points: By the end of this unit children will be able to:</p> <ul style="list-style-type: none"> • explore and tinker with different hardware and are introduced to the relevant vocabulary. • explore and tinker with hardware and identify where technology is used in places | <p>Computer Science Unit 4 Programming 2: Programming Bee-Bots</p> <p>Key End Points: By the end of this unit children will be able to:</p> <ul style="list-style-type: none"> • learn the meaning of directional arrows and follow a simple sequence of instructions. • experiment with programming a Bee-Bot/Blue-Bot and tinker with hardware to develop familiarity and introduce relevant vocabulary. • experiment with programming a Bee-bot/Blue-bot and to learn how to give simple commands. • begin to follow an algorithm as part of an unplugged game and begin to learn how to debug instructions, with the help of an adult, when things go wrong. <p>Information Technology Unit 5 Data handling: Introduction to data</p> <p>Key End Points: By the end of this unit children will be able to:</p> <ul style="list-style-type: none"> • sort and categorise objects. |

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| | | <p>that they are familiar with, such as homes and school.</p> <ul style="list-style-type: none"> • learn to operate a basic camera to take photographs of their independent play. • respond to yes/no questions as an introduction to branching databases. • learn branching databases through physical sorting and categorising. • learn to interpret a basic pictogram. | <ul style="list-style-type: none"> • sort themselves into groups based upon given categories and then independently. • respond to yes/no questions as an introduction to branching databases. • learn branching databases through physical sorting and categorising. • learn to interpret a basic pictogram. <p>Digital Literacy Networks and systems 1: Using a computer</p> <p>Key End Points: By the end of this unit children will be able to: (as autumn)</p> <ul style="list-style-type: none"> • learn to log in and out. |
| Year 1 | <p>Digital Literacy Unit 1.1 Online Safety and Exploring Purple Mash</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To log in safely. • To learn how to find saved work in the Online Work area and find teacher comments. • To learn how to search Purple Mash to find resources. • To become familiar with the icons and types of resources available in the Topics section. • To start to add pictures and text to work. • To explore the Tools and Games section of Purple Mash. • To learn how to open, save and print. • To understand the importance of logging out. <p>Information Technology Unit 1.2 Grouping & Sorting</p> | <p>Computer Science Unit 1.4 Lego Builders</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To compare the effects of adhering strictly to instructions to completing tasks without complete instructions. • To follow and create simple instructions on the computer. • To consider how the order of instructions affects the result. <p>Computer Science Unit 1.5 Maze Explorers</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To understand the functionality of the direction keys. • To understand how to create and debug a set of instructions (algorithm). • To use the additional direction keys as part of an algorithm. • To understand how to change and | <p>Computer Science Unit 1.7 Coding</p> <p>Key End Points: By the end of this unit children will be able :</p> <ul style="list-style-type: none"> • To understand what instructions are and predict what might happen when they are followed. • To use code to make a computer program. • To understand what object and actions are. • To understand what an event is. • To use an event to control an object. • To begin to understand how code executes when a program is run. • To understand what backgrounds and objects are. • To plan and make a computer program. <p>Information Technology Unit 1.6 Spreadsheets</p> |

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| | <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To sort items using a range of criteria. • To sort items on the computer using the 'Grouping' activities in Purple Mash. <p>Information Technology Unit 1.3 Pictograms</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To understand that data can be represented in picture format. • To contribute to a class pictogram. • To use a pictogram to record the results of an experiment. | <p>extend the algorithm list.</p> <ul style="list-style-type: none"> • To create a longer algorithm for an activity. • To set challenges for peers. • To access peer challenges set by the teacher as 2Dos. <p>Information Technology Unit 1.6 Animated Story Books</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To introduce e-books and the 2Create a Story tool. • To add animation to a story. • To add sound to a story, including voice recording and music the children have composed. • To work on a more complex story, including adding backgrounds and copying and pasting pages. • To share e-books on a class display board. | <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To know what a spreadsheet program looks like. • To locate 2Calculate in Purple Mash. • To enter data into spreadsheet cells. • To use 2Calculate image tools to add clipart to cells. • To use 2Calculate control tools: lock, move cell, speak and count. <p>Information Technology Unit 1.9 Technology outside school</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To walk around the local community and find examples of where technology is used. • To record examples of technology outside school. |
| <p>Year 2</p> | <p>Computer Science Unit 2.1 Coding</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To understand what an algorithm is. • To create a computer program using an algorithm. • To create a program using a given design. • To understand the collision detection event. • To understand that algorithms follow a sequence. • To design an algorithm that follows a timed sequence. • To understand that different objects have different properties. • To understand what different events do in code. • To understand the function of buttons in | <p>Information Technology Unit 2.4 Questioning</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To learn about data handling tools that can give more information than pictograms. • To use yes/no questions to separate information. • To construct a binary tree to identify items. • To use 2Question (a binary tree database) to answer questions. • To use a database to answer more complex search questions. • To use the Search tool to find information. <p>Digital Literacy Unit 2.5 Effective Searching</p> | <p>Information Technology Unit 2.6 Creating Pictures Continued)</p> <p>Information Technology Unit 2.7 Making Music</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To make music digitally using 2Sequence. • To explore, edit and combine sounds using 2Sequence. • To edit and refine composed music. • To think about how music can be used to express feelings and create tunes which depict feelings. • To upload a sound from a bank of sounds into the Sounds section. • To record and upload environmental sounds into Purple Mash. |

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| | <p>a program.</p> <ul style="list-style-type: none"> • To understand and debug simple programs. <p>Digital Literacy Unit 2.2 Online Safety</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To know how to refine searches using the Search tool. • To use digital technology to share work on Purple Mash to communicate and connect with others locally. • To have some knowledge and understanding about sharing more globally on the Internet. • To introduce Email as a communication tool using 2Respond simulations. • To understand how we should talk to others in an online situation. • To open and send simple online communications in the form of email. • To understand that information put online leaves a digital footprint or trail. • To identify the steps that can be taken to keep personal data and hardware secure. <p>Information Technology Unit 2.3 Spreadsheets</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine. • To learn how to copy and paste in 2Calculate. • To use the totalling tools. • To use a spreadsheet for money calculations. • To use the 2Calculate equals tool to check calculations. | <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To understand the terminology associated with searching. • To gain a better understanding of searching on the Internet. • To create a leaflet to help someone search for information on the Internet. <p>Information Technology Unit 2.6 Creating Pictures</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To learn the functions of the 2Paint a Picture tool. • To learn about and recreate the Impressionist style of art (Monet, Degas, Renoir). • To recreate Pointillist art and look at the work of pointillist artists such as Seurat. • To learn about the work of Piet Mondrian and recreate the style using the lines template. • To learn about the work of William Morris and recreate the style using the patterns template. • To explore surrealism and eCollage | <ul style="list-style-type: none"> • To use these sounds to create tunes in 2Sequence. <p>Information Technology Unit 2.8 Presenting Ideas</p> <p>Key End Points: By the end of this unit children will be able:</p> <ul style="list-style-type: none"> • To explore how a story can be presented in different ways. • To make a quiz about a story or class topic. • To make a fact file on a non-fiction topic. • To make a presentation to the class. |
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| | <ul style="list-style-type: none">• To use 2Calculate to collect data and produce a graph. | | |
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Key Texts:

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| <p>Troll Stinks By Jeanne Willis & Tony Willis (cyberbullying)</p> |  | <p>Webster's bedtime by Hannah Whaley (reminder to younger children about the need to switch off technology)</p> |  |
| <p>Goldilocks By Jeanne Willis & Tony Willis (internet safety)</p> |  | <p>Webster's email by Hannah Whaley (an introduction To the issue of over sharing online)</p> |  |
| <p>Clicking Chicken By Jeanne Willis & Tony Willis (online shopping)</p> |  | <p>Tek: the Modern Cave Boy by Patrick McDonnell (reminding young children to 'unplug' and take time out)</p> |  |

Useful websites:

https://www.thinkuknow.co.uk/4_7/

<https://www.childnet.com/resources/smartie-the-penguin/>

<https://www.internetmatters.org/>

<https://www.nspcc.org.uk/keeping-children-safe/online-safety/talking-child-online-safety/>