Computing Learning Journey - EY

Physical Development

Develop their small motor skills so that they can use a range of tools competently, safely and confidently.

Use 2Handwrite to demonstrate, record and play back letter formation, handwriting joins and spelling patterns. Use the interactive whiteboard and 2Paint as part of continuous provision to encourage gross motor movements.

Expressive arts and Design

Explore, use and refine a variety of artistic effects to express their ideas and feelings.
A range of painting tools to help children to produce a masterpiece, experimenting with a range of textured paints, effects and colours (mini mash).
Children can choose and change the size of brush and import backgrounds, including photos, to their work.
Follow simple instructions to create a picture on iPad or whiteboard.

PSED

Show resilience and perseverance in the face of a challenge. Know and talk about the different factors that support their overall health and wellbeing such as sensible amounts of 'screen time'.
Use a range of activities, games and stories around the topic of food which can be used as a basis for discussion about the importance of making healthy food choices (mini mash).
Talk about the internet, online safety and using technology at home.

Reception

Understanding the world

Explore how things work. Children can visit the different areas within Simple City to find out more about people's roles and responsibilities in different areas of the community.

EYFS Statutory Educational Programme:
Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.
Explain the reasons for rules, know right from wrong and try to behave accordingly.
Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Nursery

PSED

Remember rules without needing an adult to remind them. Various resources including slide shows, jigsaws and paint. Projects on the topic of feelings. Children can discuss the different feelings that they experience, what can make them feel like that as well as any physical responses they might have with that feeling. Find a range of activities, games and stories around the topic of food which can be used as a basis for discussion about the importance of making healthy food choices.

Physical Development

Match their developing physical skills to tasks and activities in the setting. Give the children the opportunity to explore the resources in Purple Mash using a range of tools. Use the interactive whiteboard and 2Paint as part of continuous provision to encourage gross motor movements.

Computing Learning Journey - KS1

Summer Term

Computer Science:
Children give and follow instructions. Children can draw symbols to represent instructions. Children can create a program using coding blocks. (Unit 1.7)

Information Technology:
Children are introduced to spreadsheets. Children are able to add Images to a Spreadsheet and use the Image Toolbox. Children can use the 'Speak' and 'Count' Tools in 2Calculate to Count Items. (Unit 1.8)

Digital Literacy:
Children understand what is meant by 'technology'. Children consider types of technology used in school and out of school. Children have recorded 4 examples of where technology is used away from school. (Unit 1.9_

National Curriculum Objectives Key stage 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. Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs.

Information Technology:
Use technology purposefully to create, organise, store, manipulate and retrieve digital content

Digital Literacy:
Recognise common uses of information technology beyond school
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.

Spring Term

Computer Science:
Children use positional language and direction offline. Children use purple mash program to know how to use the direction keys in '2Go' to move forwards, backwards, left and right. Children know how to add a unit of measurement to the direction in '2Go'. (Unit 1.5)

Information Technology:
Children know the difference between a traditional book and an e-book. Children can use the different drawing tools to create a picture on the page and add text to a page. Children can save, edit and reopen previous work. Children add animation and sound, voice recordings and music to their e-book. Children use the copy and paste function to add more pages to their work. (Unit 1.6)

Year 1

Autumn Term

Digital Literacy:
Children log in to Purple Mash. Create their own avatar and understand why they are used. Explore tools and 'my work' area in purple mash and to understand that this is a private area to save work. Children begin to understand ownership of work online. (Unit 1:1)

Computer Science:
Children sort various items offline using a variety of criteria. 2 Sorting on the Computer. Children use Purple Mash activities to sort various items online using a variety of criteria. Children follow instructions offline and offline and understand what an algorithm is. (Unit 1.2 & 1.4)

Information Technology:
Children discuss, illustrate and contribute to the collection of class data. Children discuss what the pictogram shows. Children collect data and recording the results. Children represent the results as a pictogram. (Unit 1.3)

Computing Learning Journey – KS1

National Curriculum Objectives Key stage 1

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Information Technology:
Use technology purposefully to create, organise, store, manipulate and retrieve digital content

Digital Literacy:
Recognise common uses of information technology beyond school
 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.

Spring Term

Information Technology:
Children will use and Create Pictograms and understand that the information on pictograms cannot be used to answer more complicated questions. Children will have used a range of yes/no questions to separate different items. Children understand what is meant by a binary tree and design a binary tree. Children understand what is meant by a database. (Unit 2.4)

Digital Literacy:
Children recall the meaning of key Internet and searching terms. Children will complete a quiz about the Internet. Children identify the basic parts of a web search engine search page. Children search the Internet for answers to a quiz. Children will create a leaflet to consolidate knowledge of effective Internet searching. (Unit 2.5)

Summer Term

Information Technology:
Children describe and explain the main features of various types of Art. Children use 2Paint a Picture to create art based upon this style. Children explain what pointillism is and use 2Paint a Picture to create art based upon this style. Children describe the main features of Piet Mondrian's work. Children use 2Paint a Picture to create art by repeating patterns in a variety of ways. (Unit 2.6)
Children will use the different sounds within 2Sequence to create a tune and explore features such as, how to speed up and slow down tunes. Children consider how music can be used to express feelings. Children will create their own tune using some of the chosen sounds. (Unit 2.7)
Children present their ideas using a variety of software to manipulate and present digital content and information. (Unit 2.8)

Year 2

Autumn   Term

Computer Science:
Children explain that an algorithm is a set of instructions and that the computer needs precise instructions. Children plan an algorithm that includes collision detection. Children create their own program using different features such as a timer. (Unit 2.1)

Digital Literacy:
Children are beginning to understand how things can be shared electronically for others to see both on Purple Mash and the Internet.

Children explain what a digital footprint is. Children discuss what makes us feel happy and what makes us feel sad. (Unit 2.2)

Information Technology
Review previous knowledge of spreadsheets Children will copy and paste totalling tools. Children will use a spreadsheet to add amounts. Children can use images in a spreadsheet. Children create a table and block graph (Unit 1.3)

Computing Learning Journey – Lower KS2

National Curriculum Objectives Key stage 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 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.

Information Technology:
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.

Digital Literacy:
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Spring Term

Information Technology:
Children understand Touch-typing. Children understand what is meant by the home, bottom, and top rows. Children develop the ability to touch type the home, bottom, and top rows. 2 Home, Top and Bottom Row Keys (Consolidation) (Unit 3.4)

Digital Literacy:
Children list a range of different ways to communicate. Children learn about emails and how to appropriately open, respond and compose an email including attaching files. (Unit 3.5)

Summer Term

Information Technology:
Children understand how YES/NO questions are structured and answered. Children contribute to a class branching database about fruit and create one of their own. (Unit 3.6)
Children know that a computer simulation can represent real and imaginary situations and explore and use a simulation to try out different options and to test predictions and evaluate tests. (Unit 3.7)
Children are introduced to 2graph. Children will set up a graph with a given number of fields and enter data onto a graph.
Children will use 2Graph to solve a maths Investigation. (Unit 3.8)

Autumn Term

Computer Science:
Children will read, explain and create a flowchart. Children will create computer programs using prior knowledge. Children run, test and debug their programs. Children will design and make an Interactive Scene. (Unit 3.1)

Digital Literacy:
Children understand what makes a good password for use on the Internet. Children contribute to a class blog with clear and appropriate messages. Children understand that some information held on websites may not be accurate or true. Children identify some physical and emotional effects of playing/watching inappropriate content/games. Children relate cyberbullying to bullying in the real-world and have strategies for dealing with online bullying including screenshot and reporting. (Unit 3.2)

Information Technology:
Children use a spreadsheet program to automatically create pie charts and bar graphs from

Year 3

Computing Learning Journey – Lower KS2

National Curriculum Objectives Key stage 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 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.

Information Technology:
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.

Digital Literacy:
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Spring Term

Information Technology:
Children will use the number formatting tools within 2Calculate to appropriately format numbers. Children will combine tools to make fun ways to explore number. Children will use a series of data in a spreadsheet to create a line graph. (Unit 4.3)
Children will discuss a variety of written material where the font size and type are tailored to the purpose of the text and role- play the job of a journalist. Children can use these ideas to write a persuasive letter or poster as part of the campaign. (Unit 4.4)

Summer Term

Computer Science:
Children create 2Logo instructions to draw patterns of increasing complexity. Children follow 2Logo code to predict the outcome. Children create 'flowers' or 'crystals' using 2Logo. (Unit 4.5)

Information Technology:
Children put together a simple animation using paper to create a flick book. Children make a simple animation using 2Animate. Children use the Onion Skin tool to create an animated image. Children share their animations and comment on others' animations. (Unit 4.6)
Children structure search queries to locate specific information. Children use search to answer a series of questions. Children analyse the contents of a web page for clues about the credibility of the information. (Unit 4.7)
Children name the different parts of a desktop computer and know what the function of the different parts of a computer is. They create a leaflet to show functions of a computer parts. (Unit 4.8)

Autumn Term

Computer Science:
Children create a program that includes an IF statement. Children can interpret a flowchart that depicts an IF statement. Children make use of the X and Y properties of objects in their coding. Children make a playable game. (Unit 4.1)

Digital Literacy:
Children will know the meaning of the term 'phishing' and are aware of the existence of scam websites. Children will explain what a digital footprint is and how it relates to identity theft. Children will be able to give examples of things that they would not want to be in their digital footprint. Children learn that malware is software that is specifically designed to disrupt, damage, or gain access to a computer and what a computer virus is. Children determine whether activities that they undertake online, infringe another's' copyright. Children begin to 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 will be able to give reasons for limiting screen time. (Unit

Year 4

Computing Learning Journey – Upper KS2

National Curriculum Objectives Key stage 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 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.

Information Technology:
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.

Digital Literacy:
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Spring Term

Information Technology:
Children create a formula in a spreadsheet to convert m to cm and vice versa. Children use a spreadsheet to model a real-life situation and come up with solutions that can be practically applied. (Unit 5.3)
Children search a database to answer questions correctly. Children successfully enter information into a class database. Children create their own database on a chosen topic. (Unit 5.4)

Computer Science:
Children review and analyse a computer game. Children describe some of the elements that make a successful game. Children plan, design, create and edit their own game. Children write informative instructions for their game so that other people can play it. Children evaluate their own and peers' games to help improve their design for the future. (Unit 5.5)

Summer Term

Information Technology:
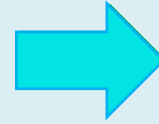Children explore the different viewpoints in 2Design and Make whilst designing a building. Children refine one of their designs to prepare it for printing. Children print their design as a 2D net and then created a 3D model. Children explore the possibilities of 3D printing (Unit 5.6)
Children understand what is meant by 'concept maps', 'stage', 'nodes' and 'connections.' Children create a basic concept map. Children used 2Connect Story Mode to create an informative text. Children use Presentation Mode to present their concept maps to an audience. (Unit 5.7)
Children know what a word processing tool is for, add and edit images to a word document. To add features to a document to enhance its look and usability (Unit 5.8)

Autumn Term

Computer Science:
Children use simplified code to make their programming more efficient and use variables in their code. Children plan an algorithm modelling the sequence of traffic lights. Children create a program which represents a physical system. Children create and use functions in their code to make their programming more efficient.
Children know some ways that text variables can be used in coding. (Unit 5.1)

Digital Literacy:
Children think critically about the information that they share online both about themselves and others. Children know who to tell if they are upset by something that happens online. Children use the SMART rules as a source of guidance when online. Children show an understanding of the advantages and disadvantages of different forms of communication and when it is appropriate to use each. (Unit 5.2)

Year 5

Computing Learning Journey – Upper KS2

National Curriculum Objectives Key stage 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 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.

Information Technology:
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.

Digital Literacy:
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Year 6

Spring Term

Information Technology:
Children understand how a blog can be used as an informative text and the key features of a blog. Children create a blog or blog post with a specific purpose. Children post comments and blog posts to an existing class blog. Children understand the approval process that their posts go through and demonstrate an awareness of the issues inappropriate posts and cyberbullying. (Unit 6.4)

Computer Science:
Children create their own text-based adventure based upon a map. Children use coding concepts of functions, two-way selection (if/else statements) and repetition in conjunction with one another to code their game. Children make logical attempts to debug their code when it does not work correctly. (Unit 6.5)

Summer Term

Computer Science:
Children know the difference between the World Wide Web and the internet. Children know about our school's network. Children research and find out about Tim Berners-Lee. Children consider some of the major changes in technology which have taken place during their lifetime and the lifetime of their teacher/another adult. (Unit 6.6)

Information Technology:
Children use the 2DIY activities to create their own quiz. Children consider the audience's ability level and interests when setting the quiz. Children share their quiz and responded to feedback. (Unit 6.7)
Children know what a spreadsheet looks like and is able to navigate and enter data into cells. Children use a spreadsheet to model a real-life situation including formulas they have leant.

Autumn Term

Computer Science:
Children follow their plans to create a program. Children debug when things do not run as expected. Children design their own text based adventure game based on one they have played. Children adapt an existing text adventure so it reflects their own ideas. (Unit 6.1)

Digital Literacy:
Children use the example game and further research to refresh their memories about risks online including sharing location, secure websites, spoof websites, phishing, and other email scams. Children understand how what they share impacts upon themselves and upon others in the long-term. Children know about the consequences of promoting inappropriate content online and how to put a stop to such behaviour when they experience it or witness it as a bystander. Children 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. (Unit 6.2)

Information Technology:
Children create a machine to help work out the price of different items in a sale. Children use the formula wizard to create formulae. Children make practical use of a spreadsheet to help plan actions. Children use a spreadsheet to model a real-life situation and come up with solutions that can be applied to real life. (Unit 6.3)