Claremont Primary and Nursery School Computing Curriculum

Year 1 – Computing Systems and Networks – Technology Around Us

Objectives:

- Be able to identify technology
- Be able to identify a computer and its main parts
- Be able to use a mouse in different ways
- Be able to use a keyboard to type on a computer
- Be able to use the keyboard to edit text
- Be able to create rules for using technology responsibly

Substantive Knowledge:

- I can explain how these technology examples help us
- I can explain technology as something that helps us
- I can locate examples of technology in the classroom
- I can discuss how we benefit from these rules
- I can give examples of some of these rules
- I can identify rules to keep us safe and healthy when we are using technology in and beyond the home

Disciplinary Knowledge (Think like a computer programmer):

- I can name the main parts of a computer
- I can switch on and log into a computer
- I can use a mouse to click and drag
- I can click and drag to make objects on a screen
- I can use a mouse to create a picture
- I can use a mouse to open a program
- I can save my work to a file
- I can say what a keyboard is for
- I can type my name on a computer
- I can delete letters
- I can open my work from a file
- I can use the arrow keys to move the cursor

Key Vocabulary:

technology, computer, mouse, trackpad, keyboard, screen, double-click, typing

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Year 1 – Creating Media – Digital Painting

Objectives:

- Be able to describe what different freehand tools do
- Be able to use the shape tool and the line tools
- Be able to make careful choices when painting a digital picture
- Be able to explain why I chose the tools I used
- Be able to use a computer on my own to paint a picture
- Be able to compare painting a picture on a computer and on paper

Substantive Knowledge:

- I can choose appropriate paint tools and colours to recreate the work of an artist
- I can say which tools were helpful and why
- I know that different paint tools do different jobs
- I can explain that pictures can be made in lots of different ways
- I can say whether I prefer painting using a computer or using paper
- I can spot the differences between painting on a computer and on paper

Disciplinary Knowledge (Think like a computer programmer):

- I can draw lines on a screen and explain which tools I used
- I can make marks on a screen and explain which tools I used
- I can use the paint tools to draw a picture
- I can make marks with the square and line tools
- I can use the shape and line tools effectively
- I can use the shape and line tools to recreate the work of an artist
- I can choose appropriate shapes
- I can create a picture in the style of an artist
- I can make appropriate colour choices
- I can change the colour and brush sizes
- I can make dots of colour on the page
- I can use dots of colour to create a picture in the style of an artist on my own

Key Vocabulary:

paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers

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Year 1 – Programming A – Moving a Robot

Objectives:

- Be able to explain what a given command will do
- Be able to act out a given word
- Be able to combine forwards and backwards commands to make a sequence
- Be able to combine four direction commands to make sequences
- Be able to plan a simple program
- Be able to find more than one solution to a problem

Substantive Knowledge:

- I can predict the outcome of a command on a device
- I can compare forwards and backwards movements
- I can predict the outcome of a sequence involving forwards and backwards commands
- I can recall words that can be acted out
- I can start a sequence from the same place
- I can compare left and right turns
- I can experiment with turn and move commands to move a robot
- I can predict the outcome of a sequence involving up to four commands
- I can explain what my program should do
- I can identify several possible solutions
- I can plan two programs
- I can use two different programs to get to the same place

Disciplinary Knowledge (Think like a computer programmer):

- I can match a command to an outcome
- I can run a command on a device
- I can follow an instruction
- I can give directions
- I can choose the order of commands in a sequence
- I can debug my program
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Key Vocabulary:

Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program

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Year 1 – Data and Information – Grouping Data

Objectives:

- Be able to label objects
- Be able to identify that objects can be counted
- Be able to describe objects in different ways
- Be able to count objects with the same properties
- Be able to compare groups of objects
- Be able to answer questions about groups of objects

Substantive Knowledge:

- I can describe objects using labels
- I can identify the label for a group of objects
- I can describe an object
- I can describe a property of an object
- I can find objects with similar properties
- I can describe groups of objects
- I can choose how to group objects
- I can record how many objects are in a group
- I can decide how to group objects to answer a question
- I can compare groups of objects
- I can record and share what I have found

Disciplinary Knowledge (Think like a computer programmer):

- I can match objects to groups
- I can count a group of objects
- I can count objects
- I can group objects
- I can count how many objects share a property
- I can group objects in more than one way
- I can group similar objects

Key Vocabulary:

object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the same

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Year 1 – Creating Media – Digital Writing

Objectives:

- Be able to use a computer to write
- Be able to add and remove text on a computer
- Be able to identify that the look of text can be changed on a computer
- Be able to make careful choices when changing text
- Be able to explain why I used the tools that I chose
- Be able to compare typing on a computer to writing on paper

Substantive Knowledge:

- I can identify and find keys on a keyboard
- I can explain what the keys that I have learnt about already do
- I can decide if my changes have improved my writing
- I can say what tool I used to change the text
- I can explain the differences between typing and writing
- I can make changes to text on a computer
- I can say why I prefer typing or writing

Disciplinary Knowledge (Think like a computer programmer):

- I can open a word processor
- I can recognise keys on a keyboard
- I can enter text into a computer
- I can use backspace to remove text
- I can use letter, number, and space keys
- I can identify the toolbar and use bold, italic, and underline
- I can type capital letters
- I can change the font
- I can select all of the text by clicking and dragging
- I can select a word by double-clicking
- I can use 'undo' to remove changes

Key Vocabulary:

word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing

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Year 1 – Programming – Programming Animations

Objectives:

- Be able to choose a command for a given purpose
- Be able to show that a series of commands can be joined together
- Be able to identify the effect of changing a value
- Be able to explain that each sprite has its own instructions
- Be able to design the parts of a project
- Be able to use my algorithm to create a program

Substantive Knowledge:

- I can compare different programming tools
- I can find which commands to move a sprite
- I can say what happens when I change a value

Disciplinary Knowledge (Think like a computer programmer):

- I can use commands to move a sprite
- I can run my program
- I can use a Start block in a program
- I can use more than one block by joining them together
- I can change the value
- I can find blocks that have numbers
- I can add blocks to each of my sprites
- I can delete a sprite
- I can show that a project can include more than one sprite
- I can choose appropriate artwork for my project
- I can create an algorithm for each sprite
- I can decide how each sprite will move
- I can add programming blocks based on my algorithm
- I can test the programs I have created
- I can use sprites that match my design

Key Vocabulary:

ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design