Sandon Primary Academy – Computing: Year 1

Curriculum Definition: Where we improve our knowledge and understanding of technology in a safe way.		
Autumn Term	**Spring Term**	**Summer Term**
Computer Science: Programming Developing early programming skills using either the Bee:Bot or virtual Bee:Bot.	**Computer Science: Computer Systems and Networks** Knowing how to log in and navigate around a computer, developing mouse skills, learning how to drag, drop, click and control a cursor to create works of art inspired by Kandinsky and self-portraits.	**Information Technology: Data Handling** Learning what data is and the different ways that it can be represented as well as developing an understanding of why data is useful, how it can be used and ways in which it can be gathered and recorded both by humans and computers.

Key Objectives:

Autumn Term

Lesson 1: Online Safety: Health and Wellbeing
- I can explain rules to keep myself safe when using technology both in and beyond the home.

Lesson 2: To Explore a New Device: Getting to know a Bee-Bot
- I can 'tinker' (predict, explore, explain) with the buttons of a Bee-Bot to see what they do
- I can complete a number of challenges by predicting, exploring and explaining.

Lesson 3: Making a Bee-Bot Video/To Create a Demonstration Video
- I can create a video to explain how to use a Bee-Bot.
- I can explain what the buttons of a Bee-Bot do
- I can show how the Bee-Bot moves when you press the different buttons

Lesson 4: To Plan and Follow a Set of Instructions Precisely: Precise Instructions
- I can take on the roles of bee-bot (following instructions given by the controller), controller (giving instructions to the Bee-Bot) and judge (checking the instructions given by the controller are correct)

Lesson 5: To program a Device: Bee-Bot World
- I can personalise my Bee-Bot world
- I can consider how the Bee-Bot can move from one place to another
- I can plan a Bee-Bot route
- I can program a Bee-Bot to follow my planned route

Lesson 6: To Create a Program: Three Little Pigs
- I know I should not pick up the Bee-Bot
- I know how to use programming to give the Bee-Bot clear instructions
- I can debug my instructions if they go wrong by identifying and correcting the mistake

Spring Term

Lesson 1: Online Safety: Online Bullying
- I can describe how to behave online in ways that do not upset others and can give examples.

Lesson 2: To Login and Access a Website: Logging In
- I can recognise what we mean by a computer
- I understand why we need to log in to a computer
- I can log in and out of a computer account

Lesson 3: To Develop Mouse Skills: Click and Drag
- I can navigate a computer using a mouse
- I understand what we mean by 'click' and 'drag'
- I can use the fill and stamp tools in Sketchpad

Lesson 4: To Use Mouse Skills to Draw and Edit Shapes: Drawing Shapes
- I can click and drag objects to change their size or position
- I can use a mouse to carefully position shapes
- I can move shapes in front of or behind each other

Lesson 5: To Draw a Scene from a Story Using Digital Tools: Drawing a Story/Setting
- I can identify key parts of a story
- I can use drag and drop to move and resize images
- I can use a variety of tools to create different effects

Lesson 6: To Create a Self-Portrait Using Digital Techniques: Self-Portrait
- I can identify different facial features
- I can use click and drag to create and layer shapes
- I can resize, move and change the order of shapes

Summer Term

Lesson 1: Online Safety: Online Reputation
- I can describe what information I should not put online without asking a trusted adult first.

Lesson 2: To Represent Data in Different Ways: Zoo Data
- I know that data can be shown in different ways
- I can represent data in different ways
- I can answer questions about the data using my representation

Lesson 3: To Use Technology to Represent Data in Different Ways: Picture Data
- I can navigate a computer using a mouse
- I can type using a keyboard
- I understand that data can be shown in different ways
- I can represent data in different ways

Lesson 4: To Collect and Record Data: Minibeast Hunt
- I can identify different minibeasts
- I can record the number of different minibeasts I see
- I can represent this data digitally

Lesson 5: To Sort Data: Animal Guess Who (Part 1)
- I can identify and categorise different animals
- I can click and drag objects
- I can identify questions to sort data in the most efficient way

Lesson 6: To Sort Data: Animal Guess Who (Part 2)
- I can create a branching database

Key Vocabulary:

Autumn Term
- **Algorithm** – clear set of instructions to carry out a task.
- **Bee-Bot** – programmable floor robot with 7 buttons.
- **Computing code** – words, numbers and symbols that make a computer language.
- **Computer program (apps)** – instructions written for a computer to follow.
- **Explain** – clear information about something to someone.
- **Explore** – look at something new to learn more about it.
- **Instructions** – list of commands and directions on how to do something.
- **Predict** – make a guess.
- **Tinker** – explore and play with something to discover what it can do.
- **Video** – moving pictures that make up a film/cartoon.

Spring Term
- **Account** – where information can be stored and seen safely using a username and password.
- **Clipart** – collection of images that can be used on the computer.
- **Log on** – access to your personal account using your username and password.
- **Log off** – to lock your account.
- **Mouse** – handheld device that is used to move things around on the computer screen.
- **Password** – a secret word made up of letters, numbers and symbols.
- **Resize** – change the height and width of an object
- **Screen/Monitor** – shows what is happening on the computer such as videos, pictures and words
- **Software (apps)** – instructions written for a computer to follow.
- **Tool** – helps us with a task.
- **Username** – unique name for your account

Summer Term
- **Branching Database** – yes/no questions to organise data.
- **Categories** – put into groups that have same/similar properties.
- **Chart** – information displayed on a graph/tally/diagram.
- **Computer** – electronic machine that accepts and processes information to produce an output. It stores the results.
- **Data** – information used for a specific purpose.
- **Information** – facts.
- **Label** – information attached to something to tell you about it.
- **Pictogram** – a chart which used pictures.
- **Record** – to store information about something.
- **Sort** – arrange items by an order/category.
- **Table** – chart which stores data in columns and rows.
- **Text** – written/typed letter and words.

Resources (IT):

Autumn Term
- Online Safety: https://projectevolve.co.uk/sign-in/
  Username: lcolclough@sandonprimary.org.uk
  Password: Sandon123456! (Lesson 1)
- Beebot / Beebot App (Lesson 2-6)
- Website: https://video.link/w/XxiKb (Lesson 3)
- iPads (Lesson 3)

Spring Term
- Online Safety: https://projectevolve.co.uk/sign-in/
  Username: lcolclough@sandonprimary.org.uk
  Password: Sandon123456! (Lesson 1)
- Laptops (Lesson 2-6)
- Website: https://sketch.io/sketchpad/ (Lesson 2-6)

Summer Term
- Online Safety: https://projectevolve.co.uk/sign-in/
  Username: lcolclough@sandonprimary.org.uk
  Password: Sandon123456! (Lesson 1)
- iPads
- Laptops
- Website: https://video.link/w/35oKb (Lesson 2)
- Website: https://www.j2e.com/jit5 (Lesson 3-6)

Cross-Curricular Links:

Autumn: Maths: Position and Direction
Geography: Compass Directions
Literacy: Instructions
  :Speaking and Listening

Spring: RSHE: Online Safety
Maths: 2D shapes
  :Position and Direction
Art: Kadinsky

Summer: Maths: Numbers to 100
  : Data Handling
Science: Animals inc. Humans
  :Identifying/Classifying

Enrichment:

Autumn: Role play input and output of bee-bot.

Spring: Set up an art gallery using self-portraits which are produced.

Summer: Going on a mini-beast hunt.

Key Computing Skills which can be revisited throughout other Subject Areas:
- Information Technology: logging in and out, using a mouse/mouse pad and typing using upper and lower case.
- Digital Literacy: e-safety, collaboration, creativity.

Online Safety:

Autumn: Health and Wellbeing

Spring: Online Bullying

Summer: Online Reputation

Key Computing Days:
- National Coding Week - September
- Safer Internet Day – February

National Curriculum: By the end of KS1, pupils will be able to:

- 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
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content
- 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.