

Year 1- 6 Programme of Study

Year One

e-Safety- planned within PSHE / Citizenship using Somerset BYTE Awards

I am kind and responsible

Agree class internet rules based on personal responsibilities. Include cyberbullying messages in Anti-bullying week.

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I am safe

Keep personal details private, consider who you are talking to online and make sure a trusted adult knows what you are doing online. Use Safer Internet Day to focus on use of the internet and different technologies.

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I am healthy

Consider age-appropriate and healthy use of technology. Include consideration of time spent using technology and recognition of appropriate websites and games in Health week.



Basic Skills

(to support my learning across the curriculum)

- Use passcode on a tablet and log in on laptop/PC.
- Use home button on a tablet.
- Develop coordination and motor skills in operation a mouse or roller pad on a laptop or PC.
- Open a document or other file on a laptop/PC.
- Open appropriate App or Home screen link on a tablet.
- Take a photo and open camera roll on a tablet.
- Follow a hyperlinked image to a website using a laptop or PC.
- Follow links to find information
- Use keyboard to find the letters of your name or basic spellings. (Encourage use of left and right hands.)
- Use uppercase key for a capital letter.
- Use space bar between words.

Programming 1 – CORE

Year 1 Move My Bee-Bot

3 sessions

Give instructions to partners

- Use counters to investigate Bee-Bot movement
- Draw 'town' in pairs
- 'Write' programs to move around town

Multimedia 1 – CORE

Year 1 Describing My Toys

3-5 sessions

- Use online activity to add text to an image
- Record an image; upload it to a computer / check it is on camera roll of tablet
- Use software or app to label photo
- Create an interactive story

TIOL 1 - CORE

Year 1 Discovering My Technology 2 sessions

- Play I Spy of technology
- Work in groups to search out technology around the school and discuss purposes
- Search for technology at home
- Discuss who uses technology and why
- Play I Spy of technology at home

TIOL 3 - CHOICE

Year 1 Sharing My Learning

3 sessions

- Use Skype as a whole class or in small groups
- Use Google Earth
- Talk about how technology has helped them share their learning
- Talk about benefits of technology and when best to use something

Multimedia 4 – Choice
Year 1 My Soundscapes

3 sessions

- Listen and identify digitally recorded sounds
- Record own sounds and voices
- Make musical phrases
- Make and record a musical soundscape

Programming 2 – CHOICE

Year 1 More than My Bee-Bot

4 sessions

- Give instructions to Bee-Bot to find different toys
- Build a sequence of instructions
- Debug Bee-Bot program
- Use online route activity

Multimedia 4 – Choice
Year 1 My Soundscapes

3 sessions

- Listen and identify digitally recorded sounds
- Record own sounds and voices
- Make musical phrases
- Make and record a musical soundscape

Open Ended Challenge

Identify an appropriate challenge to allow children to

- Use computational thinking to plan, develop and evaluate their use of technology
- Have a differentiated learning experience including developing mastery
- Demonstrate attainment in computing

Programming 4 – CHOICE

Year 1 Debug My Programs in JIT 3 sessions

- Explore JIT programming
- Build and debug sequences
- Complete 'Three Little Pigs' challenge
- Draw initial of name

Additional activities to develop computational thinking

Simon Says (10 minutes)

- Play Simon Says with the class.
- Discuss how this activity is dependent on properly being able to give and follow instructions.
- Explain how providing clear instructions is critical to computer programming.

https://www.scratchjr.org/te_ach.html

Crazy Character Algorithm (30 minutes)

- Create a set of instructions on how to draw a crazy character.
- Start to understand what algorithms are.

Year Two

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TIOL 1 - CORE

Year 2 Technology in My Life

2 sessions

- Think about technology
- Present the technology as a day timeline
- Talk about the benefits of using technology
- Look at a map of a town and talk about the different technologies that are used

Handling Data 1 – CORE

Year 2 Sorting My Birds

5 sessions

- Investigate and sort bird pictures
- Talk about types of data and how it can be collected
- Make a decision tree
- Generate questions
- Collect, record & present data
- Compare different ways to present information

TIOL 2 – CORE

Year 2 Do I Trust My Internet Search? 2/3 sessions

- Think about 'What is the internet?'
- Look at the validity of Tomato Spider website
- Consider where the information on school website comes from
- Make own creature and information on a 'website'

Programming 1 OR 5 - CORE

Year 2 Moving Around to Fix My Factory 3 sessions

- Follow instructions to move through obstacle course
- Talk through algorithms
- Work through levels of tasks
- 'Write' programs with cards
- Predict and debug sequences

Programming 4 – CHOICE

Year 2 Making My Moves with Scratch Jr 4 sessions

- Use blue programming blocks to make cat move
- Use trigger blocks to start a sequence
- Investigate speed block and create a race
- Add hide, show and tell blocks
- Create a wizard scene

Multimedia 1 – CORE

Year 2 Present My Information 4+1 sessions

- Explore ways in which we can present information
- Present information we have researched
- Develop key board skills
- Share the information with others using a class blog, school website, etc

Open Ended Challenge

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Basic Skills

(to support my learning across the curriculum)

- Use personal log in for online resources
- Open Apps and software
- Save and Open files and images
- Insert images within apps and software
- Use simple children's search engine eg Kiddle
- Use keyboard to enter text (index fingers left and right hand)
- Know when and how to use the RETURN/ENTER key.
- Use SHIFT and CAPS LOCK to enter capital letters
- Use DELETE and BACKSPACE buttons to correct text

Additional unplugged activities to reinforce computational thinking

Program the teacher (10 minutes)

- Give instructions to the teacher to move to a particular destination in the classroom OR [make a sandwich](#) or other activity
- Explain how providing clear instructions is critical to computer programming.

<https://www.scratchjr.org/teach.html>

[Tut, clap or jive](#) (30 minutes)

- Create sequences of movements including hand clapping, hand tutting or hand jive
- Start to think about breaking problems down or decomposing

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Year Three



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Use Safer Internet Day to

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Basic Skills

(to support my learning across the curriculum)

- Navigate public drive to save and retrieve files
- Connect peripheral devices using USB lead
- Use images saved to camera roll within a variety of Apps
- Use Save and Save As on laptops and PCs
- Copy and rename files to edit on tablets
- Use safe search engine eg Primary ICT / Swiggle
- Use individual fingers to input text and use SHIFT key to type characters.
- Amend text by highlighting and using SELECT/DELETE and COPY/PASTE
- Swap between letters and symbol input on a tablet
- Add shapes and word art to documents and presentations

Multimedia 1 – CORE

Year 3 Make My eBook

2 sessions

- Look at a selection of eBooks
- Learn how to create own eBook adding text, images, sound and hyperlinks
- Add a narration to eBook
- Share eBook with classmates and others

TIOL 1 - CORE

Year 3 My Safe Searching

3 sessions

- Search for information online and discuss the best ways to find answers
- Learn about the World Wide Web as part of the internet
- Search for copyright safe picture and edit

Handling Data 1 – CORE

Year 3

Showing My Device Time
3 sessions

- Collect and show data on time spent playing games with 2Simple 2Graph or Easychart

Programming 3 – CHOICE

A Year 3 Explore My LegoWeDo software 4–6 sessions

- Explore Lego WeDo software
- Use tilt sensor and motor
- Make a bird turn
- Make own moving model

OR B Year 3 Spin my Scratch LegoWeDo Bird 5 sessions

- Control Lego WeDo with Scratch

Programming 2 – CHOICE

Year 3 Making My Kodu Move 4 sessions

- Create algorithm and program to move a character in Kodu
- Add objects to Kodu
- Create simple game and give feedback to others

Programming 5 – Choice

Year 3 Make My Crumble Buggy

3 sessions

- Set rules for working together
- Build a buggy
- Explore Crumble software
- Plan algorithm and program to solve challenge

Additional unplugged activities to reinforce computational thinking Marvellous Machines

(30 - 40 minutes)

- Use [machine parts](#) to build a machine. What is it called?
- What does it do?
- How does it do it? What is the algorithm?

Instruction Stations

<https://www.scratchjr.org>
(30 - 40 minutes)

- Set up 4 – 6 'stations' each with a different exercise (e.g. clap hands, stomp feet, jump up and down).
- Raise green flag card, children follow the instruction at their station.
- Raise red stop sign card. Children stop and rotate to a different station.
- Repeat until children have moved through each station.
- Children work in groups to combine instructions to make their own sequence.

Handling Data 2 – CHOICE

Year 3 My Top Trump Database 2 sessions

- Play animal top trumps
- Collect and sort data and information about animals
- Use branching database to sort animals (optional)
- Use 2investigate to record and interpret graph about animals

Handling Data 3 – CHOICE

Year 3 Helping My Plants Grow 2 sessions

- Use datalogger or app to test amount of light in different parts of the school
- Take photographs and measurements of plants
- Present data to others

Multimedia 2 – CHOICE

Year 3 My Art in Different Styles 3 sessions

- Explore the effects that can add to a photo to create in the style of a famous artist
- Create music in the style of a particular mood or to create an atmosphere
- Combine image, sound and greenscreening video

Year Four

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TIOL 1 - CORE

Year 4 Check My Facts

2 sessions

- Use an online tool (Padlet) to share ideas.
- Discuss what is 'true' online and how we can check for reliable information
- Research a topic and begin to consider

Multimedia 1 – CORE

Year 4 My Comic Book

5 sessions (choose from Comic Life / PowerPoint units)

- Explore the conventions of comic books
- Create their own comic book about their school
- Share their comic books with classmates and provide feedback
- Create a comic book to support Science

Programming 1 - CORE

Year 4 My Scratch Games

5 sessions

- Make the Scratch cat move and change
- Use Scratch to program keys and use them to 'draw'
- Create a car racing game using their knowledge of 'if...then' commands in Scratch
- Create their own game

Basic Skills

(to support my learning across the curriculum)

- Securely log on to tablet, laptop and PC devices
- Rename documents and other files
- Browse to a specified website
- Create hyperlink to a website
- Recognise appropriate online sources for clipart and images
- Acknowledge source of information / images
- Use a keyboard effectively, including the use of numbers
- Know how to use a spellcheck
- Be aware of keyboard shortcuts on laptops and PCs.
- Change font sizes and colour of text
- Use appropriate screen capture and insert in document or presentation

Handling Data 1 – CORE

Year 4 Investigating My Sounds 3 sessions

- Consider difference between data and information
- Measure sound levels in the classroom using a datalogger (discrete data)
- Record outside noise and create a line graph to show the changing levels (continuous data)
- Investigate insulators of sound

Multimedia 3 – CHOICE

Year 4 My Mystery iMovie

3 sessions

- Discuss video showing a mystery object and how they could make their own video
- Decide on the success criteria for their video
- Create own mystery object video, iMovie
- Edit, improve and share their video
- Create a timelapse film

Programming 4 – CHOICE

Year 4 'Getting to Know My Micro:Bit 3 sessions

- Discover basic blocks in micro:bit block editor
- Create short sequences to solve simple challenges
- Download programs to micro:bit
- Think through the algorithm required to solve simple challenges
- Discover some of the input, loop and logic blocks

Programming 3 – CHOICE

Year 4 Knowing My Times Tables with Kodu 4 sessions

- Create a terrain in Kodu and program an object to move on the terrain
- Talk through the algorithm needed to make an object move around their terrain
- Program an object to solve multiplication questions and collect points
- Create a game for others

Open Ended Challenge

[Identify an appropriate challenge](#) to allow children to

- Use computational thinking to plan, develop and evaluate their use of technology
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TIOL 3 - CHOICE

Year 4 Blog My Technology

3 sessions

- Discuss how technology has changed over time
- Talk about their favourite gadget and what it can do
- Research information about gadgets

Additional unplugged activities to reinforce computational thinking

[Graph Paper Programming](#) (30 - 40 minutes)

- Guide each other to make images on graph paper
- Agree algorithm for different images in a pair
- Swap algorithm with another pair. Do they make the image?

Create a Face (30 - 40 minutes)

- Program a 'robot' to show an emotion using [templates in resource](#).
- Talk about 'if' and 'then'

Year Five

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Basic Skills

(to support my learning across the curriculum)

- Use a secure personal log in for a variety of online resources
- Combine appropriate apps through the use of the camera roll on a tablet
- Combine software to achieve effective outcomes.
- Work collaboratively on documents and presentations
- Create hyperlinks within and between documents
- Identify three online sources to check information
- Use keyboard to confidently input text, characters and numbers
- Use bullet points
- Add text boxes
- Move, resize and rotate shapes, text and pictures
- Use common keyboard shortcuts on laptops and PCs

Programming 1 – CORE

Year 5 Scratch My Roman Numerals 5 sessions

- Review knowledge of Scratch
- Use Scratch to help count in number sequences
- Create a program that counts in number sequences
- Record voices to add to Scratch counting program
- Create a program to count in Roman numerals

Programming 4 – CHOICE

Year 5 Ping My Scratch Game 6 sessions

- Make sprite move using a limited number of blocks
- Make a Maths Cat that solves number puzzles
- Use Scratch to create a Ping Pong game, controlling two sprites and including variables and sounds in their program

Programming 6 - Choice

Year 5 Sparkling with My Crumble

2 or 3 sessions

- Review knowledge of Crumble software
- Make flashing lights that change colour
- Use a variable to control the number and brightness of flashes
- Make a set of traffic lights
- Coordinate traffic lights
- Create a musical light show

Handling Data 1 – CORE

Year 5 Discovering My Solar System 4 sessions

- Collect, record and analyse data about planets using 2Investigate
- Interrogate each other's databases
- Compare with online database

Multimedia 2 – CHOICE

Year 5 My Weather Forecast 3 sessions

- Look at TV weather forecasts
- Use data from weather websites to make prediction
- Write a script for a weather forecast
- Film using Greenscreen software/app
- Record weather forecast as a sound file for podcasting

TIOL 1 - CORE

Year 5 Improve My Web Detective Skills 3 sessions

- Consider the difference between the Internet and the World Wide Web and how they are linked
- Discuss how information online may not be accurate or reliable
- Create a checklist to ensure that the information they are using is accurate

TIOL 2 – CHOICE

Year 5 Exploring My World

2 sessions

- Explore the world using Google Earth and look at the layers of information contained in the tool
- Create and record a virtual tour from their home to school and another destination
- Create a presentation about their dream destination

Open Ended Challenge

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Multimedia 4 – Choice
Year 5 Making My Building

3 sessions

- Discuss skills for designing a building and how CAD can improve the process
- Use SketchUp to create cuboid and then a detailed building
- Create a room using SketchUp tools considering the materials and internal features

Additional unplugged activities to reinforce computational thinking

2D Shape Drawing (40 minutes)

- Follow an algorithm to draw pictures constructed from 2D shapes.
- The algorithms they follow will include errors and children will use logical reasoning to detect and correct these.

Sign up free to [Barefoot Computing](#).

Robotic Paper Cups (50 minutes)

- Children split into groups
- 'Robot' from each group set a different task outside classroom
- Groups create algorithm

Year Six

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Programming 1 - CORE

Year 6 Test My Topic with Scratch 8 sessions

- Create a Times Table quiz
- Plan a game adapting Times Table quiz for a quiz game
- Collect/create sound and image files to use Plan an algorithm for a game
- Program the game in Scratch using variables to add a score
- Continue to test game while making it

Programming 4 – CHOICE

Year 6 Rock My Microbit!

4 sessions

- Create an A / B / C response system to show answer to questions
- Use a variable to create a score board as a class for the teacher to show on the screen
- Create a counter to keep score or to count

Programming 6 - Choice

Year 6 My Branching Scratch

4 sessions

- Design branching database
- Deconstruct requirements for younger learners
- Plan an algorithm for each part of the solution
- Implement the algorithm to achieve branch database
- Trial and improve
- Provide resource to support learning of younger children

Multimedia 1 – CORE

Year 6 Sell My School

2 sessions

- Look another school's promotional video to attract parents, children and staff
- Discuss how they can promote their own school
- Form a production team to create a promotional video for their school
- Use a range of multimedia techniques in their video

Handling Data 4 – CHOICE

Year 6 Visualise My Superhero

6 sessions

- Play Top Trumps to analyse characteristics of superheroes and present these as doughnut charts
- Create an Incredibles infographic
- Use Scratch to provide a data visualisation for Incredibles data
- Create, collect data and present a class superhero
- Create, collect data and present 'My Superhero'

Multimedia 2 – CHOICE

Year 6 My Non-Linear Presentation 4 sessions

- Complete a basic skills checklist of skills
- Discuss non-linear presentations Plan a non-linear presentation based on a class topic
- Choose images for a topic and apply to a master slide
- Add internal hyperlinks, weblinks, animation, sound and transitions

TIOL 2 – CORE

Year 6 Using My Information

4 sessions

- Use resources to build children's understanding of search engines
- Search the internet to find information
- Children discover how to check reliability
- Make sure sources of information are acknowledged

Open Ended Challenge

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Basic Skills

(to support my learning across the curriculum)

- Securely access a variety of devices and online resources
- Store documents and videos online where they can be accessed by themselves and shared with others
- Use knowledge of software and apps to combine technologies to support my learning
- Recognise file types for text, image and video files
- Use a range of search filters e.g. +, -, or, info: advanced searching, file type
- Effectively use right click menu within documents and presentations
- Save as a particular file type
- Select menu options within a variety of apps
- Create tables
- Use find and replace when editing documents

Additional unplugged activities to reinforce computational thinking

Prinigma Machine

(2 x 45 minutes)

- Make a Prinigma machine
- Decipher and send a message
- Understand how the Enigma machine worked

Logical Number Sequences

(45 minutes)

- Explain the rule for a number sequence and predict which number(s) comes next
- Use logical reasoning as they work out and explain their algorithms.