# Concernsions Concernsions

St. Peter's Catholic Primary School

Christ is at the heart of our school community; through loving, living and learning together, we all grow as the person God calls us to be.

World War-

# Intent

At St. Peter's we know technology has become an indispensable and an integral part of society. As a consequence, we believe that 'Computational Thinking', across all three strands of the Computing Curriculum: Digital Literacy, Computer Science and Information Technology, are an essential skill set that must be taught to prepare our children for tomorrow's world. This is so the children of St. Peter's can not only participate but flourish; thriving and leading in a world which becomes more digitised.

In a time of artificial intelligence, we have to consider what makes us human and as such, not only shall our children thrive but do so with wisdom and compassion. Ensuring that they become thoughtful contributors to an ever evolving world.

Our use of technology in the classroom and the Computing Curriculum is designed to educate our children for their future, not our past.



The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

# Implementation

At St. Peter's, our children experience 6 half terms of computing each year. These designated lessons provides time to become fluent in their knowledge and skills which then are woven seamlessly across the curriculum to enhance all areas of learning.

This is supported by a close working partnership with KRCS and the Apple Learning Specialist: Chris Smith.









# Impact

After the implementation of our Computing Curriculum, at St. Peter's, our children will be equipped to prosper in the world we live in today.

They will have the skills to use technology safely and effectively and as such be confident to grow into a world which is unimaginable today.

# **National Curriculum**

# Key Stage 1

Pupils should be taught to:

- O understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- O create and debug simple programs
- O use logical reasoning to predict the behaviour of simple programs
- O use technology purposefully to create, organise, store, manipulate and retrieve digital content
- O recognise common uses of information technology beyond school
- O 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.



# **National Curriculum**

# Key Stage 2

Pupils should be taught to:

- O design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- O use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- O use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- O 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
- O use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

- O 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
- O use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.



# **Curriculum Overview**

From September 2021, the Apple Teacher Guides (Everyone Can Code and Create) will be used to plan and deliver the Information Technology and Computer Science strands of the curriculum. As a consequence, this will enable progression between year groups.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	Photography		Thinkuknow Internet Safety Day	Video	Coding Safari Bee bot	Sphero Challenge linked to Seaside e.g. Create a boat
Year 1	Photography	Computing systems and networks – Technology around us	Thinkuknow Internet Safety Day	Video	Getting Started with Coding BeeBot/BlueBot	Sphero Challenge linked to Recounts e.g. Create your own Robot Dog
Year 2	Photography	Computer systems and networks - IT around us	Thinkuknow Internet Safety Day	Video	Getting Started with Coding BlueBot/LightBot/Alex	Sphero Challenge linked to Buckets and Spades e.g. Create a maze at the seaside.
Year 3	Photography	Computer systems and networks - Connecting computers	Google Be Internet Legends. Internet Safety Day	Video	Learn to Code 1 Lightbot/Scratch Jr	Sphero Challenge linked to How does your garden grow e.g. Create a lawn mower
Year 4	Photography	Computing systems and networks - The Internet	Google Be Internet Legends. Internet Safety Day	Video	Learn to Code 1 Scratch Jr/Hopscotch	Sphero Challenge linked to Ancient Egypt e.g. create a chariot
Year 5	Photography	Computing systems and networks - Sharing information	Google Be Internet Legends. Internet Safety Day	Video	Learn to Code 2 Hopscotch	Sphero Challenge linked to Amazon Basin e.g. Create a maze through jungle.
Year 6	Photography	Computing systems and networks - Communication	Google Be Internet Legends. Internet Safety Day	Video	Learn to Code 2 Hopscotch	Sphero Challenge linked to Railways e.g. create a train.

# Photography



# **Photography**

# https://books.apple.com/gb/book/everyone-can-create-teacher-guidefor-early-learners/id1479892110

# https://books.apple.com/gb/book/everyone-can-create-photo/ id1440211371

# **Reception**

- Improve photos by choosing simple, uncluttered backgrounds.
- Take sharper pictures by holding iPads steady while tapping the shutter button.
- Evaluate the quality of their photos and delete ons they don't want.

Everyone Can Create Teachers Guide Early Learners, Photo, 1 People and Things

# <u>Year 1</u>

- Locate the primary light source.
- Incorporate shadows into photos.
- Create different moods by changing the direction of light sources.
- Crop photos to make the subject of each shot stand out more.
- Change colour photos to black and white.
- Use Markup to draw on a photo and add text.

# Everyone Can Create Teachers Guide Early Learners, Photo, 2 Light and Shadow, 3 Edit Photos

# <u>Year 2</u>

- Take photos in a variety of lighting conditions.
- Straighten, rotate, and crop photos.
- Adjust focus and exposure before taking a photo.

Everyone Can Create Photo, 1 Everyday Objects.



# Year 3

- Backlight your subject for a silhouette effect.
- Apply filters to enhance the mood.
- Use markup tools to retouch photos.

# Everyone Can Create Photo, 2 Portraits

# Year 4

- Use leading lines and the rule of thirds to draw attention toward a focal point.
- Apply filters to establish mood. Take horizontal and vertical panoramic photos.

Everyone Can Create Photo, 3 Scenes

# Year 5

- Take and select photos using Burst mode.
- Apply the long exposure effect.
- Animate your photos.

Everyone Can Create Photo, 4 Action

# Year 6

- Tell a story with a series of photos
- Rearrange and add transitions to slides.
- Layer text on top of photos in Keynote.
- Compile and share your best work,
- Use the drawing tools in Pages to personalise books.
- Create an ePub portfolio book.

Everyone Can Create Photo, 6 and 7 Photo Journalism and Publishing.

# **Computer Systems and Networks**









# **Computer Systems and Networks**

#### Year 1

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

https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networkstechnology-around-us

## Year 2

- To recognise the uses and features of information technology
- To identify information technology in the home
- To identify information technology beyond school
- To explain how information to technology benefits us
- To show how to use information technology safely
- To recognise the choices are made when using information technology

https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networksit-around-us

## Year 3

- To explain how digital devices function
- Identify input and output devices
- To recognise some digital devices can change the way we work
- Explain how computer network can be used to share information
- To explore how digital devices can be connected
- To recognise the physical component of a network

https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networksconnecting-computers

## Year 4

- To describe how networks physically connect to other networks
- Recognise how networked devices make up Internet
- Outlined how websites can be shared via the World Wide Web
- To describe how content can be added and accessed on the World Wide Web
- To recognise how the content of the World Wide Web is created by people
- To evaluate the consequences of unreliable content

https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networksthe-internet

## Year 5

- To explain that computers can be connected together to form systems
- To recognise the role of computer systems in our lives
- To recognise how information is transferred over the Internet
- To explain how sharing information online that people in different places work together
- Contribute to a shared project online
- To evaluate different ways of working together online

https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networkssharing-information

## Year 6

- To identify how to use a search engine
- To describe how search engine select results
- To explain how search results are ranked
- To recognise one order of results important and to whom
- To recognise how we communicate using technology
- Evaluate different methods of online communication

https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networkscommunication



# **Internet Safety**

Google Oparentzone

Sharp Alert Secure Kind Brave



Be Internet Legends.

# Year 3 and 4

Be Internet Sharp & Be Internet Alert (Page 52)

- Demonstrate ways of protecting their online reputation.
- Identify ways of working out whether information online is reliable.

Be Internet Secure & Be Internet Kind (Page 56)

- Identify ways in which they can secure their information online by creating strong passwords.
- Identify what they can do to be kind online.

Google Be Internet Legends Sharp Alert Secure Kind Brave <u>https://storage.googleapis.com/gweb-interland.appspot.com/en-gb-all/hub/pdfs/</u> <u>Google\_InternetLegends\_Scheme%20of%20Work.pdf</u>



Be Internet Sharp (page 62)

- Explain what it means to have a positive digital footprint, and why this is important.
- • Explain things someone can do to build a positive digital footprint.

Be internet Alert(Page 65)

- Describe ways to critically evaluate what we see on social media.
- Explain how social media can mislead or misrepresent reality.
- Identify different types of online scams people our age may experience, including 'phishing'.
   Identify sources of support for someone who is worried about anything online.

Be internet Secure (Page 68)

- Ways to develop safe habits online, including the importance of protecting personal information.
- How to respect online privacy boundaries for themselves and others. Ways to seek or ask for help if they or others feel unsafe online.

Bd internet Kind (Page 72)

- How to develop respectful, empathetic and healthy online relationships.
- Ways to manage and respond in a healthy and safe way to hurtful online behaviour.

Google Be Internet Legends Sharp Alert Secure Kind Brave <u>https://storage.googleapis.com/gweb-interland.appspot.com/en-gb-all/hub/pdfs/</u> <u>Google\_InternetLegends\_Scheme%20of%20Work.pdf</u>



Scheme of Work

# Year 5 and 6

#### Be Internet Legends.

Being an Internet Legend means being sharp, alert, secure, kind, and brave. To demonstrate these qualities, I plan to stick to the following guidelines:

#### Think Before You Share

I will thoughtfully consider what I share and with whom, and keep extra-sensitive information to myself (i.e., home address, current location, other people's business).

## Check it's For Real

I will watch out for phishing and scams, and report questionable activity every time.

## Protect Your Stuff

I will take responsibility for protecting important information by crafting strong and unique passwords with characters, numbers, and symbols.

## Respect Each Other

I will spread positivity and use the skills I have learned to block and report negative behaviours.

## When in Doubt, Discuss

I will use my voice when I notice inappropriate behavior and seek out a trusted adult to discuss situations that make me uncomfortable. Because that's what it takes to be a safe and fearless explorer of the online world.

Signed,





# Video



Everyone Can Create

On iPad

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## <u>Video</u>

https://books.apple.com/gb/book/everyone-can-create-teacher-guidefor-early-learners/id1479892110

https://books.apple.com/gb/book/everyone-can-create-video/ id1440214280

# **Reception**

- Record, play and delete individual clips.
- Improve videos by choosing simple, uncluttered backgrounds.
- Make videos sound better by speaking clearly and recording in quiet locations.
- Use the front-facing camera to record a selfie video.

Everyone Can Create Teachers Guide Early Learners, Video, 1 Introduce Yourself

# Year 1

- Record slow-motion video of an action.
- Experiment with different camera angles.
- Trim and edit slo-mo clips.

Everyone Can Create Teachers Guide Early Learners, Video, 2 Slow Motion.

# <u>Year 2</u>

- Use the Clips App to capture videos of the objects, people and places around them.
- Arrange clips in a logical sequence.
- Add titles and graphics to enhance their movies.

Everyone Can Create Teachers Guide Early Learners, Video, 3 Tell a Story.

# Year 3

- Trim and arrange clips.
- Add posters, stickers, emoji, and your own photos.
- Use filters and music to enhance mood.

Everyone Can Create Video, 1 Your First Movie

# Year 4

- Frame a shot with the right amount of head room and nose room.
- Identify and capture multiple shot types.
- Add a grind in the Camera app to guide shot composition.

# Everyone Can Create Video, 2 Silent Movies

- Edit a trailer in iMovie.
- Create a storyboard to previsualize a scene.
- Animate drawings and objects.

# Everyone Can Create Video, 3 Animatics Year 5

- Set up and use a teleprompter.
- Slit a clip and take out a part you don't want.
- Fix jumps cuts with B-roll by adding and adjusting inserts and cutaways.

Everyone Can Create Video, 4 Tutorials

# <u>Year 6</u>

- Use your camera's manual controls to change focus and exposure.
- Create split-screen and picture in picture overly effect in iMovie.
- Add transition effects and lower third titles.

Everyone Can Create Video, 5 Documentaries

Extra Resources in use for Everyone Can Create Video which aren't being used.

6. Mobile Reports

- Record a time laps shot in Camera.
- Use freeze frame effects in iMovie.
- Add motion to photos.
- 7. Short Film Production.
- Write a story in screenplay format.
- Design a floor plan for camera placement.
- Add and control audio and sound effects in iMovie



# Coding



# Year 1

# Commands



## **Overview**

#### Lesson 1: Daily Routines

- · Explore: Discussion relating baking to commands
- Discover: Daily Routines activity
- · Play: Issuing Commands and Adding a New Command

#### Lesson 2: Story Order

- · Explore: Discussion relating the order of story plot points to commands
- · Discover: Story Order activity
- · Play: Floor puzzle game

#### Lesson 3: Dance Moves

- Explore: Discussion relating dance moves to commands
- Discover: Dance Moves activity
- Play: Hello MeeBot and Basic Moves

## Learners Will Be Able To:

- · Use everyday examples to describe step-by-step instructions
- Put instructions in order so they make sense
- · Test and debug instructions and code

#### Vocabulary

- Sequence: The order in which things har pen
- · Step: One action in a larger process
- Modify: To change
- · Command: Code that tells an application to perform a specific action

Everyone Can Code

Teacher Guide

Sarly Learners

- · Bug: An error in code
- · Debug: To find and fix errors in code

Everyone Can Code Early Learners (page 8)

**Teachers Guide** 

https://www.apple.com/uk/education/docs/everyone-can-code-earlylearners.pdf

# Revisit Year 1 **Try**

# Watch and Learn

The "Try" sections recommend a core set of Swift Playgrounds lessons for practising a concept. The puzzles are all in Learn to Code 1, however, sometimes chapter content relies on different playground books. Though the student guide includes walkthroughs of these puzzles, encourage your students to attempt the puzzles before looking at the solutions.

For the puzzles below, open Learn to Code 1 in the Swift Playgrounds app and, as a class, watch the introduction of the "Commands" chapter.

# **Practise with These Puzzles**

**Issuing Commands:** To call a command means to give the computer an instruction. Students will use commands to solve this short puzzle, either typing the command or choosing the correct code from the Shortcut Bar.

Adding a New Command: Your students will notice that a new command, turnLeft(), has been added to their options. Of course, it's easy to know what turnLeft() will do because it's named very well. Naming commands is an important part of this course.

**Toggling a Switch:** In this practice activity, Byte has learnt a new command, toggleSwitch(). In this puzzle, the switch is off, but Byte needs it on. The only way to solve this is to reach the switch and toggle it. Students need to make sure Byte collects the gem on the way.

Everyone Can Code Puzzies (page 14	Everyone	Can	Code	Puzzles	(page	14)
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TeacherGuide



# Year 2

# Functions



## **Overview**

#### Lesson 1: Paper Gem

- Explore: Discussion about step-by-step instructions
- Discover: Paper Gem activity
- Play: Composing a New Behaviour and Creating a New Function

#### Lesson 2: Songfest

- · Explore: Discussion about how to name a function
- Discover: Songfest activity
- Play: Floor puzzle game

## Lesson 3: My Calming Function

- Explore: Discussion about solving problems in multiple ways
- Discover: My Calming Function activity
- Play: Collect, Toggle, Repeat

## Learners Will Be Able To:

- · Deconstruct a large problem or task into smaller steps
- Create a series of steps to solve a problem or complete a task
- Name functions
- Test and debug code

## Vocabulary

Function: A named set of commands that can be run whenever needed

Everyone Can Code Early Learners

Toggle: To switch on or off

Everyone Can Code Early Learners (page 15)

**Teachers Guide** 

https://www.apple.com/uk/education/docs/everyone-can-code-early-learners.pdf

# Revisit Year 2

# Try

# Watch and Learn

It's great to be able to write commands and know how to sequence them. Functions save time by allowing a series of commands to be used over and over again. Open Learn to Code 1 in the Swift Playgrounds app and, as a class, watch the introduction of the "Functions" chapter. Then get students to practise the following puzzles to try defining their own functions.

# **Practise with These Puzzles**

**Composing a New Behaviour:** The first step students can take towards understanding what a function is could be to find a behaviour they need to reuse. In this puzzle, students will identify a series of commands that perform a new task that could be named.

**Creating a New Function:** Students will take the idea for a new behaviour from the previous puzzle and formally define it as a function.

**Nesting Patterns:** Sometimes a function will use code that's present in another function. This is called nesting functions. Get students to try to complete the solveStair() function definition by calling the turnAround() function they've already written.

Learn to Co	ode 1
Functions	
Introduction	0
Composing a New B	ehaviour 📀
Creating a New Fund	tion 🕜
Collect, Toggle, Repe	eat
Across the Board	
Nesting Patterns	
Slotted Stairways	Caren
Treasure Hunt	AUZ CODE
00000	

Everyone Can Code Puzzles (page 37)

TeacherGuide

# Year 3

# Loops



#### Overview

#### Lesson 1: Repeating Petals

- · Explore: Discussion relating repeating steps in code to real life
- Discover: Repeating Petals activity
- · Play: Using Loops and Looping All the Sides

#### Lesson 2: Obstacle Course

- · Explore: Discussion about stopping points in a loop
- · Discover: Obstacle Course activity
- · Play: Floor puzzle game

## Lesson 3: Drumming Patterns

- Explore: Discussion about loops in music
- Discover: Drumming Patterns activity
- · Play: To the Edge and Back and Dance Loops

# Learners Will Be Able To:

- · Identify a loop in code
- · Deconstruct a large problem or task into smaller steps
- Create a sequence of commands and repeat that sequence using a loop

Everyone Can Code

Teacher Guide

Early Learners

Test and debug instructions and code

# Vocabulary

• Loop: A block of code that repeats a certain number of times

Everyone Can Code Early Learners (page 22)

**Teachers Guide** 

https://www.apple.com/uk/education/docs/everyone-can-code-early-learners.pdf

# Revisit Year 3 **Try**

# Watch and Learn

A for loop runs a block of code a set number of times. You can think of a for loop as a loop that tells the computer to repeat something over and over again. Open Learn to Code 1 in Swift Playgrounds and, as a class, watch the introduction of the "For Loops" chapter. Get students to try the following puzzles to help them understand how a for loop works.

# **Practise with These Puzzles**

**Using Loops:** Students will identify the number of times Byte has to navigate the loop to collect all of the gems.

**Looping All the Sides:** This map requires Byte to travel around in a loop. Encourage students to think about how to deconstruct the map into a more familiar form. For an extra challenge, get students to traverse the map backwards.

Everyone Can Code Puzzles (page 62)

TeacherGuide



# Year 4

# Variables



## **Overview**

#### Lesson 1: Sink or Float

- · Explore: Discussion about updating a variable
- Discover: Sink or Float activity
- Play: Keeping Track and Sample Game

## Lesson 2: Word Game

- · Explore: Discussion about the types of answers that can be given to questions
- Discover: Word Game activity
- · Play: Floor puzzle game

## Lesson 3: All About Me

- Explore: Discussion about answering questions with lists
- Discover: All About Me activity
- · Play: Using a Loop

# Learners Will Be Able To:

- Associate a variable name with a given value
- Change the value assigned to a variable
- · Understand the different Swift types you can assign to a variable, including true/false (Booleans), numbers (Ints), words (Strings), colours (colour literals) and images (image literals)
- · Test and debug instructions and code

## Vocabulary

· Variable: A named container that stores a value and can be changed

Everyone Can Code

Teacher Guide

Early Learners

- · Data: Information
- Boolean: A type that has a value of either true or false

Everyone Can Code Early Learners (page 29)

**Teachers Guide** 

https://www.apple.com/uk/education/docs/everyone-can-code-early-learners.pdf

# **Revisit Year 4**

# Try

The structure of this chapter differs a bit from the previous ones. Instead of focusing on solving puzzles, we'll start introducing students to other materials in Swift Playgrounds. We'll use a puzzle, the Answers Starting Point and the Spirals Playground to demonstrate different types of values that can be used with variables. Open Learn to Code 2 and, as a class, watch the introduction of the "Variables" chapter.

# **Practise with These**



Everyone Can Code Puzzles (page 84)

TeacherGuide



# Teacher Conditional Code

We make choices every day, and the often depend on the circumstances of our environments. Many decisions are determined by whether a condition is true or false. In coding terms, this is called Boolean logic. In this chapter, students will learn about conditional code with Boolean logic.

#### Students will be able to:

- Describe what conditionals are.
- Demonstrate the use of conditions in an everyday situation.
- Code using conditions.

#### **Key Vocabulary**

- Boolean logic
- Condition
- Conditional code
- Control flow
- Else/if statements
- Execute
- If statements

Everyone Can Code Puzzles (page 107)

TeacherGuide

# Teacher Types and Initialisation

Types are a way that the Swift language organises data. When parts of code need their own properties and behaviours, coders turn the parts into types. Think of types as objects, which you can describe and use. A definition describes an object's characteristics or the way it functions. After you've defined a type, you can use it. When you select an item from a vending machine, you expect an object with specific properties to come out. Everyone who selects that item expects the same thing. This is how initialisation works. Each item is a separate item, but it may have several instances or copies of itself. When programmers create a copy of a type to use in code, they're initialising a type.

## Students will be able to:

- Describe what types and initialisation are.
- Demonstrate the use of types and initialisation in an everyday situation.
- Code using types and initialisation.

## Key Vocabulary

BooleanDot notation

Initialisation

Instance

- Method
  - Property

Integer

Type

Everyone Can Code Puzzles (page 126)

TeacherGuide



# <u>Code</u>

# **Reception**

# <u>Year 1</u>

- $\hfill\square$  Introduce the concepts of coding
- u Using everyday examples, describe what sequences are.
- Construct a sequence based on a familiar story.
- $\hfill\square$  Code using sequences.
- Build a step by step sequence.
- $\ensuremath{\scriptstyle \Box}$  Understand the importance of order when sequences

Get Started with Code 1, Lessons 0-2 <u>https://itunes.apple.com/WebObjects/MZStore.woa/wa/viewBook?</u> <u>id=1226776727</u>

# Year 2

- Understand that some steps within a sequence can be recorded and still achieve the same outcome.
- □ Construct a flexible sequence and compare it with a partners work.
- Identify which parts of the sequences are step by step and which are flexible.
- □ Code using different sequences to achieve the same outcome.
- Understand what a loop is
- Identify where a loop can make an instruction more efficient
- Code with loops
- Describe what debugging is
- $\hfill\square$  Demonstrate the use of debugging in an everyday situation
- Debug code
- Understand that an event is an action that causes something to happen
- Recognize that events give us options in coding—they cause things to happen only when the event occurs
- Express an event in words and symbols
- $\ensuremath{\scriptstyle \Box}$  Code using events and actions

Get Started with Code 1, Lessons 3-6. https://itunes.apple.com/WebObjects/MZStore.woa/wa/viewBook? id=1226776727



**Everyone Can Code** 

Get Started with Code 1 Teacher Guide

# Year 3

- Describe what commands and sequences are
- Demonstrate the use of commands and sequences in an everyday situation
- □ Code using commands and sequences
- Describe what debugging is
- Demonstrate the use of debugging in an everyday situation
- Debug with code
- $\ensuremath{\scriptstyle \Box}$  Describe what functions and for loops are
- Demonstrate the use of functions and for loops in an everyday situation
- $\hfill\square$  Code using functions and for loops

Learn to Code 1, Lessons 0-3 & Review and Reflect https://itunes.apple.com/WebObjects/MZStore.woa/wa/viewBook?id=1118578018

# Year 4

- Describe what conditional code, Booleans, and logical operators are
- Demonstrate the use of conditional code, Booleans, and logical operators in an everyday situation
- Code using conditional code, Booleans, and logical operators
- Describe what while loops are
- $\hfill\square$  Demonstrate the use of while loops in an everyday situation
- $\hfill\square$  Code using while loops
- Describe what algorithms are
- Demonstrate the use of algorithms
- in an everyday situation

Code using algorithms

Learn to Code 1, Lessons 4-6 & Review and Reflect https://itunes.apple.com/WebObjects/MZStore.woa/wa/viewBook?id=1118578018





# <u>Year 5</u>

- Describe what variables are
- $\hfill\square$  Demonstrate the use of variables in an everyday situation
- Code using variables
- Describe what types and initialization are
- Demonstrate the use of types and initialization in an everyday situation
- Code using types and initialization

Learn to Code 2, Lessons 7-8 https://itunes.apple.com/WebObjects/MZStore.woa/wa/viewBook?id=111857801

# Year 6

- $\hfill\square$  Describe what parameters are
- Demonstrate the use of parameters in an everyday situation
- $\square$  Code using parameters
- Describe what arrays are
- $\hfill\square$  Demonstrate the use of arrays in an everyday situation
- $\square$  Code using arrays

Learn to Code 2, Lessons 9-10 & Milestone Project https://itunes.apple.com/WebObjects/MZStore.woa/wa/viewBook?id=1118578018





			Year 2	Year 3	Year 4	Year 5	Year 6
Information Technology	Improve photos and videos by choosing simple, uncluttered backgrounds. Take sharper pictures by holding iPads steady while tapping the shutter button. Evaluate the quality of their photos and delete ones they don't want. Record, play and delete individual clips. Make videos sound better by speaking clearly and recording in quiet locations. Use the front-facing camera to record a selfie video.	<ul> <li>Locate the primary light source.</li> <li>Incorporate shadows into photos.</li> <li>Create different moods by changing the direction of light sources.</li> <li>Crop photos to make the subject of each shot stand out more.</li> <li>Change colour photos to black and white.</li> <li>Use Markup to draw on a photo and add text.</li> <li>Record slow-motion video of an action.</li> <li>Experiment with different camera angles.</li> <li>Trim and edit slo-mo clips.</li> </ul>	<ul> <li>Take photos in a variety of lighting conditions.</li> <li>Straighten, rotate, and crop photos.</li> <li>Adjust focus and exposure before taking a photo.</li> <li>Use the Clips App to capture videos of the objects, people and places around them.</li> <li>Arrange clips in a logical sequence.</li> <li>Add titles and graphics to enhance their movies.</li> </ul>	<ul> <li>Backlight your subject for a silhouette effect.</li> <li>Apply filters to enhance the mood.</li> <li>Use markup tools to retouch photos.</li> <li>Trim and arrange clips.</li> <li>Add posters, stickers, emoji, and your own photos.</li> <li>Use filters and music to enhance mood.</li> </ul>	<ul> <li>Use leading lines and the rule of thirds to draw attention toward a focal point.</li> <li>Apply filters to establish mood.</li> <li>Take horizontal and vertical panoramic photos.</li> <li>Frame a shot with the right amount of head room and nose room.</li> <li>Identify and capture multiple shot types.</li> <li>Add a grind in the Camera app to guide shot composition.</li> </ul>	<ul> <li>Take and select photos using Burst mode.</li> <li>Apply the long exposure effect.</li> <li>Animate your photos.</li> <li>Set up and use a teleprompter.</li> <li>Slit a clip and take out a part you don't want.</li> <li>Fix jumps cuts with Broll by adding and adjusting inserts and cutaways.</li> </ul>	<ul> <li>Tell a story with a series of photos</li> <li>Rearrange and add transitions to slides.</li> <li>Layer text on top of photos in Keynote.</li> <li>Compile and share your best work,</li> <li>Use the drawing tools in Pages to personalise books.</li> <li>Create an ePub portfolio book.</li> <li>Use your camera's manual controls to change focus and exposure.</li> <li>Create split-screen and picture in picture overly effect in iMovie.</li> <li>Add transition effects and lower third titles.</li> </ul>
National Curriculum		O use technology purposefully to create, organise, store, manipulate and retrieve digital content		O select, use and combine a design and create a rang collecting, analysing, eval	a variety of software (includi e of programs, systems and uating and presenting data	ing internet services) on a r content that accomplish gi and information	ange of digital devices to ven goals, including

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Computer Science		<ul> <li>Introduce the concepts of coding</li> <li>Using everyday examples, describe what sequences are.</li> <li>Construct a sequence based on a familiar story.</li> <li>Code using sequences.</li> <li>Build a step by step sequence.</li> <li>Understand the importance of order when sequences</li> </ul>	<ul> <li>Understand that some steps within a sequence can be recorded and still achieve the same outcome.</li> <li>Construct a flexible sequence and compare it with a partners work.</li> <li>Identify which parts of the sequences are step by step and which are flexible.</li> <li>Code using different sequences to achieve the same outcome.</li> <li>Understand what a loop is</li> <li>Identify where a loop can make an instruction more efficient</li> <li>Code with loops</li> <li>Describe what debugging is</li> <li>Demonstrate the use of debugging in an everyday situation</li> <li>Debug code</li> <li>Understand that an event is an action that causes something to happen</li> <li>Recognize that events give us options in coding —they cause things to happen only when the event in words and symbols</li> <li>Code using events and actions</li> </ul>	<ul> <li>Describe what commands and sequences are</li> <li>Demonstrate the use of commands and sequences in an everyday situation</li> <li>Code using commands and sequences</li> <li>Describe what debugging is</li> <li>Demonstrate the use of debugging in an everyday situation</li> <li>Debug with code</li> <li>Describe what functions and for loops are</li> <li>Demonstrate the use of functions and for loops in an everyday situation</li> <li>Code using functions and for loops</li> </ul>	<ul> <li>Describe what conditional code, Booleans, and logical operators are</li> <li>Demonstrate the use of conditional code, Booleans, and logical operators in an everyday situation</li> <li>Code using conditional code, Booleans, and logical operators</li> <li>Describe what while loops are</li> <li>Demonstrate the use of while loops in an everyday situation</li> <li>Code using while loops</li> <li>Describe what algorithms are</li> <li>Demonstrate the use of algorithms in an everyday situation</li> <li>Code using algorithms</li> </ul>	<ul> <li>Describe what variables are</li> <li>Demonstrate the use of variables in an everyday situation</li> <li>Code using variables</li> <li>Describe what types and initialization are</li> <li>Demonstrate the use of types and initialization in an everyday situation</li> <li>Code using types and initialization</li> </ul>	<ul> <li>Describe what parameters are</li> <li>Demonstrate the use of parameters in an everyday situation</li> <li>Code using parameters</li> <li>Describe what arrays are</li> <li>Demonstrate the use of arrays in an everyday situation</li> <li>Code using arrays</li> </ul>
National Curriculum		O understand what algorith implemented as program that programs execute by unambiguous instructions	ims are; how they are s on digital devices; and y following precise and s	O design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts O use sequence, selection, and repetition in programs; work with variables and various forms of input and output			
	O create and debug simple programs O use logical reasoning to predict the behaviour of simple programs		O use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs				

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Digital Literacy		<ul> <li>To identify technology</li> <li>To identify the computer and its main parts</li> <li>To use a mouse in different ways</li> <li>To use the keyboard to to type</li> <li>To use a keyboard to edit text</li> <li>To create rules for using technology responsibly</li> </ul>	<ul> <li>To recognise the uses and features of information technology</li> <li>To identify information technology in the home</li> <li>To identify information technology beyond school</li> <li>To explain how information to technology benefits us</li> <li>To show how to use information technology safely</li> <li>To recognise the choices are made when using information technology</li> </ul>	<ul> <li>To explain how digital devices function</li> <li>Identify input and output devices</li> <li>To recognise some digital devices can change the way we work</li> <li>Explain how computer network can be used to share information</li> <li>To explore how digital devices can be connected</li> <li>To recognise the physical component of a network</li> </ul>	<ul> <li>To describe how networks physically connect to other networks</li> <li>Recognise how networked devices make up Internet</li> <li>Outlined how websites can be shared via the World Wide Web</li> <li>To describe how content can be added and accessed on the World Wide Web</li> <li>To recognise how the content of the World Wide Web is created by people</li> <li>To evaluate the consequences of unreliable content</li> </ul>	<ul> <li>To explain that computers can be connected together to form systems</li> <li>To recognise the role of computer systems in our lives</li> <li>To recognise how information is transferred over the Internet</li> <li>To explain how sharing information online that people in different places work together</li> <li>Contribute to a shared project online</li> <li>To evaluate different ways of working together online</li> </ul>	<ul> <li>To identify how to use a search engine</li> <li>To describe how search engine select results</li> <li>To explain how search results are ranked</li> <li>To recognise one order of results important and to whom</li> <li>To recognise how we communicate using technology</li> <li>Evaluate different methods of online communication</li> </ul>
National Curriculum		O 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.		<ul> <li>O use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>O use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>			