COMPUTING

St Peter's East Bridgford Academy Curriculum 2022/23

EAST BRIDGFORD
ST. PETER'S ACADEMY

The Intent of Computing at St Peter's.

To be active and safe participants in a digital world with skills which enable them to learn, create and work in the modern and future world.
Our curriculum exposes pupils to arrange of software and technologies which enable them to build their skills and knowledge to a level which prepares them for the modern world. As well as developing their Computing skills within the Computing Curriculum stipulated by the National Curriculum, we are fiercely ambitious about the capacity for computing to support pupils to achieve high quality learning in other curriculum areas. We see Computing and our Digital Offer as an aspect of school life which exits both as a curriculum subject but also as a powerful and motivating vehicle for high quality education.

How do we design our Science Curriculum?

The Computing Curriculum at St Peter's draws upon two schemes of work to ensure an effective curriculum is designed and delivered. The National Curriculum Programs of Study are delivered through the use of the PurpleMash Scheme of Work in Key Stage 1 and the TeachComputing Curriculum in Key Stage 2.

Leaders have made the decision to use these two separate schemes of work for a number of reasons:

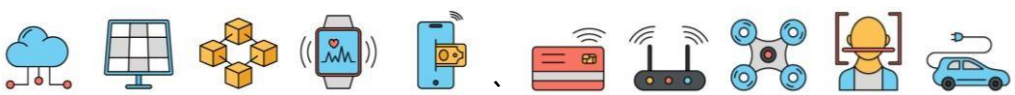
- Pupils begin Key Stage One by navigating the 2Simple/PurpleMash scheme. We believe this pupils with an effective, high-quality, child-friendly platform of apps which we believe to be age appropriate and suited to the needs of our pupils in Key Stage One. This enables them to focus on applying their ongoing disciplinary and declarative knowledge.
- Pupils In Key Stage 2 progress into The TeachComputing Scheme which moves beyond the 2Simple suite of apps to expose pupils to a range of 'real-world' software and applications. Progression is not only in the skills and knowledge pupils are taught to acquire but also in the contexts and applications through which they apply their developing skills.
- Both schemes are progressively planned and the school has synthesised the two to provide a clear progression map through the computing curriculum.
- The Curriculum is designed with principles of revisiting and recall both in the skills pupils apply and in the software which is used.
- Although the subject of Computing sits discretely within our curriculum, where meaningful cross-curricular links outcomes can be achieved, some application of skills in lessons may be linked to the learning project. An example of this is in Year 6 where, as part of creating a Mayan Hot Chocolate 'brand' pupils design and publish a website for their business.
- E-Safety learning is embedded within units but is also the focus of a Safer Internet focus unit aligned to Safer Internet Day. The school is committed to equipping pupils to operate proficiently, confidently and safely in the digital world.

Key documentation from Ofsted and the support of external advisors including the LA and Curriculum Consultants has also informed the overall design. The subject leader conducts a coverage check to ensure all National Curriculum objectives are met.

The 2simple Curriculum States:

"shows clear alignment of key learning from the National Curriculum. The progression of skills documentation aids in understanding how the learning sequence suitably revisits what the school has identified as important content.

The skills have been mapped against the National Curriculum and the Purple Mash Scheme of Work. We have provided helpful reference codes to each statement and the unit(s) this most explicitly relates to. [it] has been separated into year groups containing a skills progression overview for teachers and

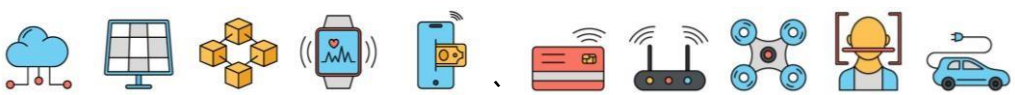


individual child friendly 'I can' statements for each computing strand."

The Teach Computing Curriculum States:

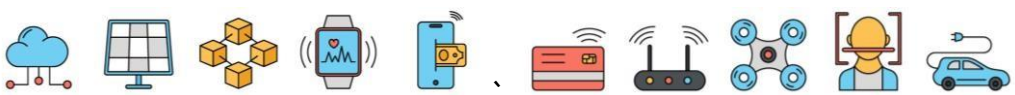
- "Resources include lesson plans, slides, activity sheets, homework, and assessments
- Each key stage has a teacher guide and curriculum map to help you get started
- Built around an innovative progression framework where computing content has been organised into interconnected networks we call learning graphs
- Created by subject experts, using the latest pedagogical research and teacher feedback" - Why use our Teach Computing Curriculum?
- Resources include lesson plans, slides, activity sheets, homework, and assessments
- Each key stage has a teacher guide and curriculum map to help you get started
- Built around an innovative progression framework where computing content has been organised into interconnected networks we call learning graphs
- Created by subject experts, using the latest pedagogical research and teacher feedback
- All of the content is free for you to use, and in formats that make it easy for you to adapt it to meet the needs of your learners

Our Big Ideas in Computing are:



Features of effective Computing teaching and learning

Teachers have an effective level of specialist knowledge of the resources and curriculum content	Lessons offer active learning in computing, which ensure pupils' achievement.
Teachers plan imaginative and creative lessons using a range of age appropriate hardware and software resources.	Lessons use a range of contexts so children understand the value of digital and it's impact on society and how it relates to their lives
Effective dialogue and feedback linked to technology vocabulary is given.	Lessons address pupils' misconceptions very effectively
Pupils have opportunities to investigate, ask and answer questions and working collaboratively	Lessons have high expectations and promote positive values and attitudes.



Cross-Curricular links to Computing

YEAR 1

- 1.3 Pictograms: To show things we like doing locally
- 1.6 Animated Storybook: To retell a familiar tale in our reading

YEAR 2

- 2.5 Effective Searching: To grow our knowledge of our SLP

YEAR 3

- 3.2 Stop-Frame Animation: A Tudor Voyage journey
- 3.5 Desktop Publishing: The history of our local coal mining industry leaflet.

YEAR 4

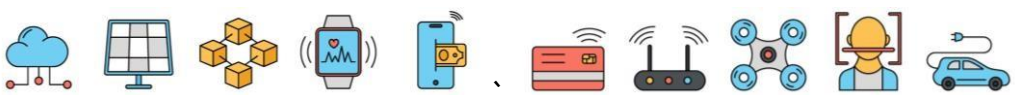
- 4.2 Audio Production: A Spanish Soundscape
- 4.5 Photo Editing: Editing images to show their Roman origins and the modern day

YEAR 5

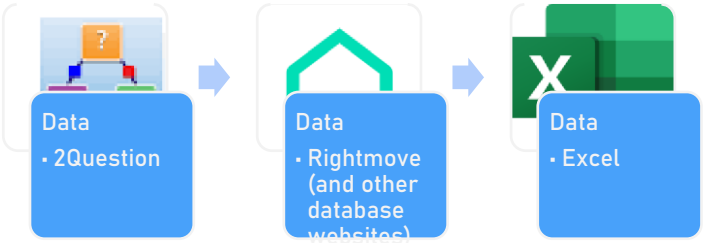
- 5.4 Databases: Information about climate and the environment
- 5.6 Quizzes: Groovy Greek Quiz creation.

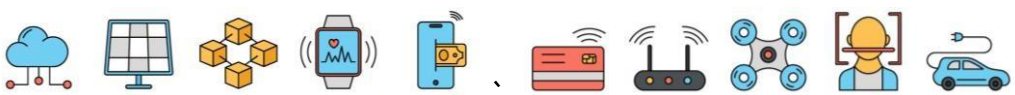
YEAR 6

- 6.2 Creating Web Pages: Hot Chocolate Business Website
- 6.4 Spreadsheets: Statistics from WW2
- 6.5 3D Modelling: Ancient Egyptian Pyramids and Landmarks



Progression in our Software Suite





Our COMPUTING Curriculum Plans

Year 1

Unit 1.1 – Online Safety & Exploring Purple Mash

Lesson	Title	Aims (Objectives)	Success Criteria
1	Safe Logins	• To log in safely and understand why that is important. • To create an avatar and to understand what this is and how it is used. • To be able to create a picture and add their own name to it. • To start to understand the idea of 'ownership' of creative work. • To save work to the My Work area and understand that this is private space.	• Children can log in to Purple Mash using their own login. • Children have created their own avatar and understand why they are used. • Children can add their name to a picture they created on the computer. • Children are beginning to develop an understanding of ownership of work online. • Children can save work into the My Work folder in Purple Mash and understand that this is a private saving space just for their work.
2	My Work Area	• To learn how to find saved work in the Online Work area. • To learn about what the teacher has access to in Purple Mash. • To learn how to see messages left by the teacher on their work. • To learn how to search Purple Mash to find resources.	• Children can find their saved work in the Online Work area of Purple Mash. • Children can find messages that their teacher has left for them on Purple Mash. • Children can search Purple Mash to find resources.
3	Purple Mash Topics	• To become familiar with the types of resources available in the Topics section. • To become more familiar with the icons used in the resources in the Topics section. • To start to add pictures and text to work.	• Children will be able to use the different types of topic templates in the Topics section confidently. • Children will be confident with the functionality of the icons in the topic templates. • Children will know how to use the different icons and writing cues to add pictures and text to their work.
4	Purple Mash Tools	• To explore the Tools area of Purple Mash and to learn about the common icons used in Purple Mash for Save, Print, Open, New. • To explore the Games area on Purple Mash. • To understand the importance of logging out when they have finished.	• Children have explored the Tools section on Purple Mash and become familiar with some of the key icons: Save, Print, Open and New. • Children have explored the Games section and looked at Table Toons (2x tables). • Children can log out of Purple Mash when they have finished using it and know why that is important.

Unit 1.2 – Grouping & Sorting

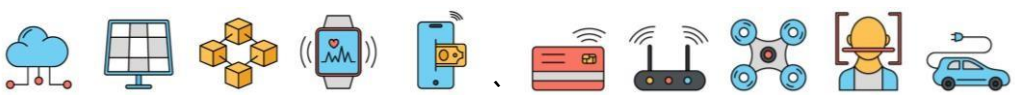
Lesson	Title	Aims (Objectives)	Success Criteria
1	Sorting Away from the Computer	• To sort items using a range of criteria.	• Children can sort various items offline using a variety of criteria.
2	Sorting on the Computer	• To sort items on the computer using the 'Grouping' activities in Purple Mash.	• Children have used Purple Mash activities to sort various items online using a variety of criteria.

Unit 1.3 – Pictograms

Lesson	Title	Aims (Objectives)	Success Criteria
1	Data in Pictures	• To understand that data can be represented in picture format.	• Children can discuss and illustrate the transport used to travel to school. • Children can contribute to the collection of class data. • Children have used these illustrations to create a simple pictogram.
2	Class Pictogram	• To contribute to a class pictogram.	• Children can contribute to a class pictogram. • Children can discuss what the pictogram shows.
3	Recording Results	• To use a pictogram to record the results of an experiment.	• Children can collect data from rolling a die 20 times and recording the results. • Children can represent the results as a pictogram.

Unit 1.4 – Lego Builders

Lesson	Title	Aims (Objectives)	Success Criteria
1	Following Instructions	• To emphasise the importance of following instructions.	• Children know that to achieve the effect they want when building something, they need to follow accurate instructions. • Children know that by following the instructions correctly, they will get the correct result. • Children know that an algorithm is a precise, step-by-step set of instructions used to solve a problem or achieve an objective.
2	Following and Creating Simple Instructions on the Computer.	• To follow and create simple instructions on the computer.	• Children can follow instructions in a computer program. • Children can explain the effect of carrying out a task with no instructions. • Children know that computers need precise instructions to follow. • Children know that an algorithm written for a computer to follow is called a program.
3	To consider how the order of instructions affects the result.	• To consider how the order of instructions affects the result.	• Children understand how the order in which the steps of a recipe are presented affects the outcome. • Children can organise instructions for a simple recipe. • Children know that correcting errors in an algorithm or program is called 'debugging'.

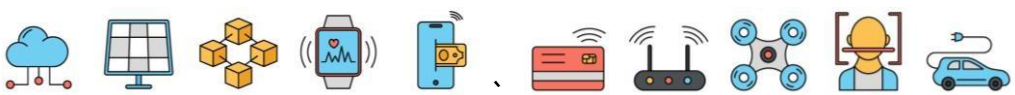


Unit 1.5 – Maze Explorers

Lesson	Title	Aims (Objectives)	Success Criteria
1	Challenges 1 and 2	• To understand the functionality of the basic direction keys in Challenges 1 and 2. • To be able to use the direction keys to complete the challenges successfully.	• Children 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 Challenge 2. • Children know how to undo their last move. • Children know how to move their character back to the starting point.
2	Challenges 3 and 4	• To understand the functionality of the basic direction keys in Challenges 3 and 4. • To understand how to create and debug a set of instructions (algorithm).	• Children can use diagonal direction keys to move the characters in the right direction. • Children know how to create a simple algorithm. • Children know how to debug their algorithm.
3	Challenges 5 and 6	• To use the additional direction keys as part of their algorithm. • To understand how to change and extend the algorithm list.	• Children can use the additional direction keys to create a new algorithm. • Children can challenge themselves by using the longer algorithm to complete challenges.

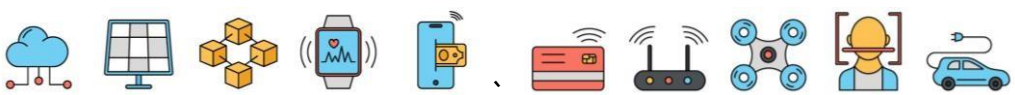
Unit 1.6 – Animated Story Books

Lesson	Title	Aims (Objectives)	Success Criteria
1	Drawing and Creating	• To understand the differences between traditional books and e-books. • To explore the tools of 2Create a Story's My Simple Story level. • To save the page they have created.	• 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. • Children can add text to a page.
2	Animation	• To add animation to a picture. • To play the pages created so far. • To save the additional changes and overwrite the file.	• Children can open previously saved work. • Children can add an animation to a page. • Children can play the pages created. • Children can save changes and overwrite the file.
3	Sounds and More!	• To add a sound effect to a picture. • To add a voice recording to the picture. • To add created music to the picture.	• Children can add a sound to the page. • Children can add voice recording to the page. • Children can create music for a page.
4	Making a Story	• To add a background to the story. • To demonstrate a good understanding of all the tools they have used in 2Create a Story and use these successfully to create their own story.	• Children can add a background to the page. • Children can use the additional drawing tools on My Story mode. • Children can change the font style and size.
5	Copy and Paste	• To use the copy and paste feature to create additional pages. • To continue and complete an animated story. • To create a class display board of the story books created by the class.	• Children can use the copy and paste function to add more pages to their animated e-book. • Children can share their e-books on a class story book display board.



Unit 1.7 – Coding

Lesson	Title		Success Criteria
1	Instructions	• To understand what instructions are. • To predict what will happen when instructions are followed. • To understand that computer programs work by following instructions called code.	• Children can give and follow instructions. • Children can draw symbols to represent instructions. • Children can arrange code blocks to create a set of instructions.
2	Objects and Actions	• To use code to make a computer program. • To understand what objects and actions are.	• Children can create a program using code blocks. • Children can use object and action code blocks.
3	Events	• To understand what an event is. • To use an event to control an object.	• Children can create a simple program using code blocks. • Children can use event, object and action code blocks.
4	When Code Executes	• To understand what an event is. • To begin to understand how code executes when a program is run.	• Children can create a simple program using code blocks. • Children can use event, object and action code blocks. • Children can notice when their code executes when their program is run.
5	Setting the Scene	• To understand what backgrounds and objects are. • To understand how to use the scale property.	• Children can edit a scene by adding, deleting and moving objects. • Children can change the size of objects using the properties table.
6	Using a Plan	• To plan a computer program. • To make a computer program.	• Children can create a design plan for their Free Code Scene program. • Children can use code to make the program they have designed work.

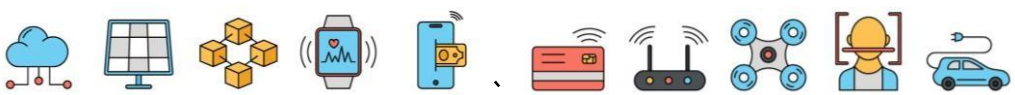


Unit 1.8 – Spreadsheets

Lesson	Title		Success Criteria
1	Introduction to Spreadsheets	• To understand what a spreadsheet looks like. • To be able to navigate around a spread sheet and enter data. • To learn new vocabulary related to spreadsheets.	• Children can navigate around a spreadsheet. • Children can explain what rows and columns are. • Children can save and open sheets. • Children can enter data into cells.
2	Adding Images to a Spreadsheet and Using the Image Toolbox	• To add clipart images to a spreadsheet. • To use the 'move cell' and 'lock' tools.	• Children can open the Image toolbox and find and add clipart. • Children can use the 'move cell' tool so that images can be dragged around the spreadsheet. • Children can use the 'lock' tool to prevent changes to cells.
3	Using the 'Speak' and 'Count' Tools in 2Calculate to Count Items	• To use the 'speak' and 'count' tools in 2Calculate to count items.	• Children can give images a value that the spreadsheet can use to count them. • Children can add the count tool to count items. • Children can add the speak tool so that the items are counted out loud. • Children can use a spreadsheet to help work out a fair way to share items (Extension)

Unit 1.9 – Technology outside school

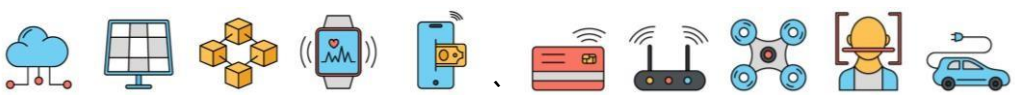
Lesson	Title	Aims (Objectives)	Success Criteria
1	What is Technology?	• To find and understand examples of where technology is used in the local community	• Children understand what is meant by 'technology'. • Children have considered types of technology used in school and out of school.
2	Technology outside school.	• To record examples of technology outside school.	• Children have recorded 4 examples of where technology is used away from school.



Year Two

Unit 2.1 – Coding

Lesson	Title	Aims (Objectives)	Success Criteria
1	Algorithms	• To understand what an algorithm is. • To create a computer program using an algorithm.	• Children can explain that an algorithm is a set of instructions. • Children can describe the algorithms they created. • Children can explain that for the computer to make something happen, it needs to follow clear instructions.
2	Collision Detection	• To create a program using a given design. • To understand the collision detection event.	• Children can plan an algorithm that includes collision detection. • Children can create a program using collision detection. • Children read blocks of code and predict what will happen when it is run.
3	Using a Timer	• To understand that algorithms follow a sequence. • To design an algorithm that follows a timed sequence.	• Children can create a program that uses a timer-after command. • Children can explain what the timer-after command does in their program. • Children can predict what will happen in a program that includes a timer-after command.
4	Different Object Types	• To understand that different objects have different properties. • To understand what different events do in code.	• Children can create a computer program that includes different object types. • Children can modify the properties of an object. • Children can use different events in their program to make objects move.
5	Buttons	• To create a program using a given design. • To understand the function of buttons in a program.	• Children can create a computer program that includes a button object. • Children can explain what a button does in their program. • Children can modify the properties of a button to fit their program design.
6	'Smelly Code' Debugging	• To know what debugging means. • To understand the need to test and debug a program repeatedly. • To debug simple programs.	• Children can explain what debug (debugging) means. • Children can use a design document to start debugging a program. • Children can debug simple programs.

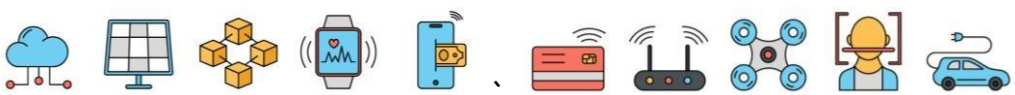


Unit 2.2 – Online Safety

Lesson	Title	Aims (Objectives)	Success Criteria
1	Searching and Sharing	• To know how to refine searches using the Search tool. • To know how to share work electronically using the display boards. • To use digital technology to share work on Purple Mash to communicate and connect with others locally. • To have some knowledge and understanding about sharing more globally on the Internet.	• Children can use the search facility to refine searches on Purple Mash by year group and subject. • Children can share the work they have created to a display board. • Children understand that the teacher approves work before it is displayed. • Children are beginning to understand how things can be shared electronically for others to see both on Purple Mash and the Internet.
2	Email Using 2Respond	• To introduce Email as a communication tool using 2Respond simulations. • To understand how we talk to others when they are not there in front of us. • To open and send simple online communications in the form of email.	• Children know that Email is a form of digital communication. • Children understand how 2Repond can teach them how to use email. • Children can open and send an email to a 2Respond character. • Children have discussed their own experiences and understanding of what email is used for. • Children have discussed what makes us feel happy and what makes us feel sad.
3	Digital Footprint	• To understand that information put online leaves a digital footprint or trail. • To begin to think critically about the information they leave online. • To identify the steps that can be taken to keep personal data and hardware secure	• Children can explain what a digital footprint is. • Children can give examples of things that they would not want to be in their digital footprint.

Unit 2.3 – Spreadsheets

Lesson	Title	Aims (Objectives)	Success Criteria
1	Reviewing prior use of spreadsheets	• To review the work done in 2Calculate in year 1. • To revise spreadsheet related vocabulary. • To use some 2Calculate tools that were introduced in year 1.	• Children can explain what rows and columns are in a spreadsheet. • Children can open, save and edit a spreadsheet. • Children can add images from the image toolbox and allocate them a value. • Children can add the count tool to count items.
2	Copying and Pasting Totalling tools	• To use copying, cutting and pasting shortcuts in 2Calculate. • To use 2Calcuate totalling tools. • To use 2Calculate to solve a simple puzzle	• Children can use copying, cutting and pasting to help make spreadsheets. • Children can use tools in a spreadsheet to automatically total rows and columns. • Children can use a spreadsheet to solve a mathematical puzzle.
3	Using a spreadsheet to add amounts	• To explore the capabilities of a spreadsheet in adding up coins to match the prices of objects	• Children can use images in a spreadsheet. • Children can work out how much they need to pay using coins by using a spreadsheet to help calculate.
4	Creating a table and block graph	• To add and edit data in a table layout. • To use the data to manually create a block graph.	• Children can create a table of data on a spreadsheet. • Children can use the data to create a block graph manually.

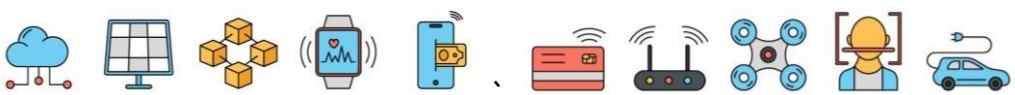


Unit 2.4 – Questioning

Lesson	Title	Aims (Objectives)	Success Criteria
1	Using and Creating Pictograms	• To show that the information provided on pictograms is of limited use beyond answering simple questions	• Children understand that the information on pictograms cannot be used to answer more complicated questions.
2	Asking Yes / No Questions	• To use yes/no questions to separate information	• Children have used a range of yes/no questions to separate different items.
3	Binary Trees	• To construct a binary tree to separate different items.	• Children understand what is meant by a binary tree. • Children have designed a binary tree to sort pictures of children.
4	Using 2Question - a Computer-Based Binary Tree Program	• Use 2Question (a binary tree) to answer questions	• Children understand that questions are limited to 'yes' and 'no' in a binary tree. • Children understand that the user cannot use 2Question to find out answers to more complicated questions. • Children have matched 2Simple item pictures to names using a binary tree.
5	Using 2Investigate: a Non-Binary Database.	• To use a database to answer more complex search questions. • To use the Search tool to find information.	• Children understand what is meant by a database. • Children have used a database to answer simple and more complex search questions.

Unit 2.5 – Effective Searching

Lesson	Title	Aims (Objectives)	Success Criteria
1	Understanding the Internet and Searching	• To understand the terminology associated with the Internet and searching.	• Children can recall the meaning of key Internet and searching terms. • Children have completed a quiz about the Internet.
2	Searching the Internet	• To gain a better understanding of searching the Internet.	• Children can identify the basic parts of a web search engine search page. • Children have learnt to read a web search results page. • Children can search the Internet for answers to a quiz.
3	Sharing Knowledge of the Internet and Effective Searching	• To create a leaflet to help someone search for information on the Internet.	• Children have created a leaflet to consolidate knowledge of effective Internet searching.

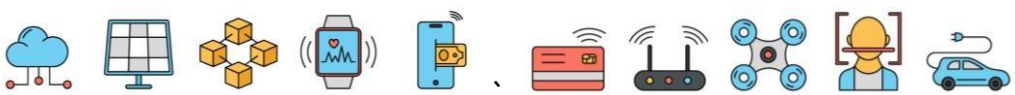


Unit 2.6 – Creating Pictures

Lesson	Title	Aims (Objectives)	Success Criteria
1	Introduction and Impressionism	• To explore 2Paint A Picture. • To look at the work of Impressionist artists and recreate them using the Impressionism template.	• Children can describe the main features of impressionist art. • Children can use 2Paint a Picture to create art based upon this style.
2	Pointillist Art	• To look at the work of pointillist artists such as Seurat. • To recreate pointillist art using the Pointillism template.	• Children can explain what pointillism is. • Children can use 2Paint a Picture to create art based upon this style.
3	Piet Mondrian	• To look at the work of Piet Mondrian and recreate it using the Lines template.	• Children can describe the main features of Piet Mondrian's work. • Children can use 2Paint a Picture to art based upon his style.
4	William Morris and Pattern	• To look at the work of William Morris and recreate it using the Patterns template.	• Children can describe the main features of art that uses repeating patterns. • Children can use 2Paint a Picture to create art by repeating patterns in a variety of ways. • Children can combine more than one effect in 2Paint a Picture to enhance patterns.
5	Surrealism and eCollage	• To look at some surrealist art and create your own using the eCollage function in 2Paint A Picture.	• Children can describe surrealist art. • Children can use the eCollage function in 2Paint a Picture to create surrealist art using drawing and clipart.

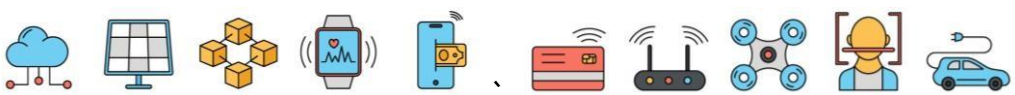
Unit 2.7 – Making Music

Lesson	Title	Aims (Objectives)	Success Criteria
1	Introducing 2Sequence	• To be introduced to making music digitally using 2Sequence. • To explore, edit and combine sounds using 2Sequence.	• Children understand what 2Sequence is and how it works. • Children have used the different sounds within 2Sequence to create a tune. • Children have explored how to speed up and slow down tunes. • Children understand what happens to the tune when sounds are moved.
2	Making Music	• To add sounds to a tune to improve it. • To think about how music can be used to express feelings and create tunes which depict feelings.	• Children have added sounds to a tune they have already created to change it. • Children have considered how music can be used to express feelings. • Children can change the volume of the background sounds. • Children have created two tunes which depict two feelings.
3	Soundtracks	• To upload a sound from a bank of sounds into the Sounds section. • To record their own sound and upload it into the Sounds section. • To create their own tune using the sounds which they have added to the Sounds section.	• Children have uploaded and used their own sound chosen from a bank of sounds. • Children have created, uploaded and used their own recorded sound. • Children have created their own tune using some of the chosen sounds.



Unit 2.8 – Presenting Ideas

Lesson	Title	Aims (Objectives)	Success Criteria
1	Presenting a Story Three Ways	• To explore how a story can be presented in different ways.	• Children have examined a traditional tale presented as a mind map, as a quiz, as an e-book and as a fact file. • Children know that digital content can be represented in many forms.
2	Presenting Ideas as a Quiz	• To make a quiz about a story or class topic.	• Children have made a quiz about a story using 2Quiz. • Children can talk about their work and make improvements to solutions based on feedback received.
3	Making a Non-Fiction Fact File	• To make a fact file on a non-fiction topic.	• Children have extracted information from a 2Connect file to make a publisher fact file on a non-fiction topic. • Children have added appropriate clipart. • Children have added an appropriate photo. • Children know that data can be structured in tables to make it useful.
4	Making a Presentation	• To make a presentation to the class.	• Children can use a variety of software to manipulate and present digital content and information. • Children can collect, organise and present data and information in digital content. • Children can create digital content to achieve a given goal by combining software packages.



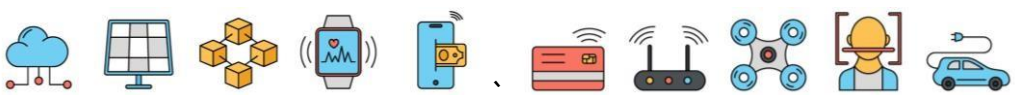
Year THREE

Computing systems and networks – Connecting computers

Lesson	Title	Learning Intention	Success Criteria
1	Computing systems and networks – Connecting computers	-To explain how digital devices function	-I can explain that digital devices accept inputs - I can explain that digital devices produce outputs - I can follow a process
2		-To identify input and output devices	-I can classify input and output devices - I can describe a simple process - I can design a digital device
3		-To recognise how digital devices can change the way we work	-I can explain how I use digital devices for different activities - I can recognise similarities between using digital devices and non-digital tools - I can suggest differences between using digital devices and non-digital tools
4		-To explain how a computer network can be used to share information	-I can discuss why we need a network switch - I can explain how messages are passed through multiple connections - I can recognise different connections
5		-To explore how digital devices can be connected	-I can demonstrate how information can be passed between devices - I can explain the role of a switch, server, and wireless access point in a network - I can recognise that a computer network is made up of a number of devices
6		-To recognise the physical components of a network	-I can identify how devices in a network are connected together - I can identify networked devices around me - I can identify the benefits of computer networks

Creating media - Stop-frame animation

Lesson	Title	Learning Intention	Success Criteria
1	Creating media - Stop-frame animation	-To explain that animation is a sequence of drawings or photographs	-I can create an effective flip book—style animation - I can draw a sequence of pictures - I can explain how an animation/flip book works
2		-To relate animated movement with a sequence of images	-I can create an effective stop-frame animation - I can explain why little changes are needed for each frame - I can predict what an animation will look like
3		-To plan an animation	-I can break down a story into settings, characters and events - I can create a storyboard - I can describe an animation that is achievable on screen
4		-To identify the need to work consistently and carefully	-I can evaluate the quality of my animation - I can review a sequence of frames to check my work - I can use onion skinning to help me make small changes between frames
5		-To review and improve an animation	-I can evaluate another learner's animation - I can explain ways to make my animation better - I can improve my animation based on feedback
6		-To evaluate the impact of adding other media to an animation	-I can add other media to my animation - I can evaluate my final film - I can explain why I added other media to my animation

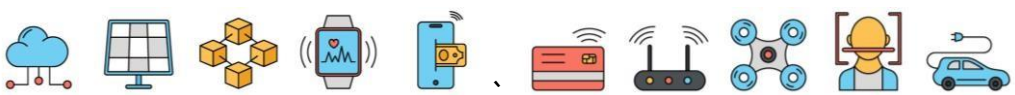


Programming A - Sequencing sounds

Lesson		Title	Learning Intention	Success Criteria
1		Programming A - Sequencing sounds	-To explore a new programming environment	-I can explain that objects in Scratch have attributes (linked to) - I can identify the objects in a Scratch project (sprites, backdrops) - I can recognise that commands in Scratch are represented as blocks
2			-To identify that commands have an outcome	-I can choose a word which describes an onscreen action for my plan - I can create a program following a design - I can identify that each sprite is controlled by the commands I choose
3			-To explain that a program has a start	-I can create a sequence of connected commands - I can explain that the objects in my project will respond exactly to the code - I can start a program in different ways
4			-To recognise that a sequence of commands can have an order	-I can combine sound commands - I can explain what a sequence is - I can order notes into a sequence
5			-To change the appearance of my project	-I can build a sequence of commands - I can decide the actions for each sprite in a program - I can make design choices for my artwork
6			-To create a project from a task description	-I can identify and name the objects I will need for a project - I can implement my algorithm as code - I can relate a task description to a design

Data and information – Branching databases

Lesson	Title	Learning Intention	Success Criteria
1	Data and information – Branching databases	-To create questions with yes/no answers	-I can create two groups of objects separated by one attribute - I can investigate questions with yes/no answers - I can make up a yes/no question about a collection of objects
2		-To identify the attributes needed to collect data about an object	-I can arrange objects into a tree structure - I can create a group of objects within an existing group - I can select an attribute to separate objects into groups
3		-To create a branching database	-I can group objects using my own yes/no questions - I can select objects to arrange in a branching database - I can test my branching database to see if it works
4		-To explain why it is helpful for a database to be well structured	-I can compare two branching database structures - I can create yes/no questions using given attributes - I can explain that questions need to be ordered carefully to split objects into similarly sized groups



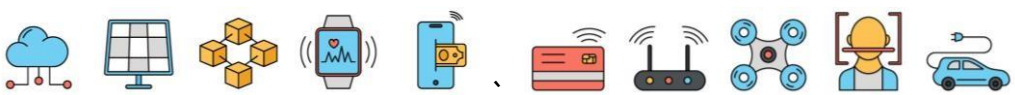
5		-To plan the structure of a branching database	-I can create a physical version of a branching database - I can create questions that will enable objects to be uniquely identified - I can independently create questions to use in a branching database
6		-To independently create an identification tool	-I can create a branching database that reflects my plan - I can suggest real-world uses for branching databases - I can work with a partner to test my identification tool

Creating media – Desktop publishing

Lesson	Title	Learning Intention	Success Criteria
1	Creating media – Desktop publishing	-To recognise how text and images convey information	-I can explain the difference between text and images - I can identify the advantages and disadvantages of using text and images - I can recognise that text and images can communicate messages clearly
2		-To recognise that text and layout can be edited	-I can change font style, size, and colours for a given purpose - I can edit text - I can explain that text can be changed to communicate more clearly
3		-To choose appropriate page settings	-I can create a template for a particular purpose - I can define the term 'page orientation' - I can recognise placeholders and say why they are important
4		-To add content to a desktop publishing publication	-I can choose the best locations for my content - I can make changes to content after I've added it - I can paste text and images to create a magazine cover
5		-To consider how different layouts can suit different purposes	-I can choose a suitable layout for a given purpose - I can identify different layouts - I can match a layout to a purpose
6		-To consider the benefits of desktop publishing	-I can compare work made on desktop publishing to work created by hand - I can identify the uses of desktop publishing in the real world - I can say why desktop publishing might be helpful

Programming B - Events and actions in programs

Lesson	Title	Learning Intention	Success Criteria
1	Programming B - Events and actions in programs	-To explain how a sprite moves in an existing project	-I can choose which keys to use for actions and explain my choices - I can explain the relationship between an event and an action - I can identify a way to improve a program
2		-To create a program to move a sprite in four directions	-I can choose a character for my project - I can choose a suitable size for a character in a maze - I can program movement
3		-To adapt a program to a new context	-I can choose blocks to set up my program - I can consider the real world when making design choices - I can use a programming extension



4		-To develop my program by adding features	-I can build more sequences of commands to make my design work - I can choose suitable keys to turn on additional features - I can identify additional features (from a given set of blocks)
5		-To identify and fix bugs in a program	-I can match a piece of code to an outcome - I can modify a program using a design - I can test a program against a given design
6		-To design and create a maze-based challenge	-I can evaluate my project - I can implement my design - I can make design choices and justify them

FOUR Year

Computing systems and networks – The Internet

Lesson	Title	Learning Intention	Success Criteria
1	Computing systems and networks – The Internet	-To describe how networks physically connect to other networks	-I can demonstrate how information is shared across the internet - I can describe the internet as a network of networks - I can discuss why a network needs protecting
2		-To recognise how networked devices make up the internet	-I can describe networked devices and how they connect - I can explain that the internet is used to provide many services - I can recognise that the World Wide Web contains websites and web pages
3		-To outline how websites can be shared via the World Wide Web (WWW)	-I can describe how to access websites on the WWW - I can describe where websites are stored when uploaded to the WWW - I can explain the types of media that can be shared on the WWW
4		-To describe how content can be added and accessed on the World Wide Web (WWW)	-I can explain that internet services can be used to create content online - I can explain what media can be found on websites - I can recognise that I can add content to the WWW
5		-To recognise how the content of the WWW is created by people	-I can explain that there are rules to protect content - I can explain that websites and their content are created by people - I can suggest who owns the content on websites
6		-To evaluate the consequences of unreliable content	-I can explain that not everything on the World Wide Web is true - I can explain why I need to think carefully before I share or reshare content - I can explain why some information I find online may not be honest, accurate, or legal

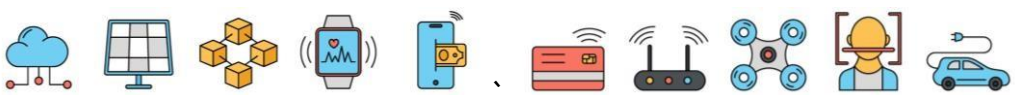
Creating media - Audio production

Lesson	Title	Learning Intention	Success Criteria

1	Creating media - Audio production	-To identify that sound can be recorded	-I can explain that the person who records the sound can say who is allowed to use it - I can identify the input and output devices used to record and play sound - I can use a computer to record audio
2		-To explain that audio recordings can be edited	-I can discuss what sounds can be added to a podcast - I can inspect the soundwave view to know where to trim my recording - I can re-record my voice to improve my recording
3		-To recognise the different parts of creating a podcast project	-I can explain how sounds can be combined to make a podcast more engaging - I can plan appropriate content for a podcast - I can save my project so the different parts remain editable
4		-To apply audio editing skills independently	-I can improve my voice recordings - I can record content following my plan - I can review the quality of my recordings
5		-To combine audio to enhance my podcast project	-I can arrange multiple sounds to create the effect I want - I can explain the difference between saving a project and exporting an audio file - I can open my project to continue working on it
6		-To evaluate the effective use of audio	-I can choose appropriate edits to improve my podcast - I can listen to an audio recording to identify its strengths - I can suggest improvements to an audio recording

Programming A – Repetition in shapes

Lesson	Title	Learning Intention	Success Criteria
1	Programming A – Repetition in shapes	-To identify that accuracy in programming is important	-I can create a code snippet for a given purpose - I can explain the effect of changing a value of a command - I can program a computer by typing commands
2		-To create a program in a text-based language	-I can test my algorithm in a text-based language - I can use a template to create a design for my program - I can write an algorithm to produce a given outcome
3		-To explain what 'repeat' means	-I can identify everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves - I can identify patterns in a sequence - I can use a count-controlled loop to produce a given outcome
4		-To modify a count controlled loop to produce a given outcome	-I can choose which values to change in a loop - I can identify the effect of changing the number of times a task is repeated - I can predict the outcome of a program containing a count-controlled loop
5		-To decompose a task into small steps	-I can explain that a computer can repeatedly call a procedure - I can identify 'chunks' of actions in the real world - I can use a procedure in a program
6		-To create a program that uses count controlled loops to produce a given outcome	-I can design a program that includes count-controlled loops - I can develop my program by debugging it - I can make use of my design to write a program



Data and information – Data logging

Lesson	Title	Learning Intention	Success Criteria
1	Data and information – Data Logging	-To explain that data gathered over time can be used to answer questions	-I can choose a data set to answer a given question - I can identify data that can be gathered over time - I can suggest questions that can be answered using a given data set
2		-To use a digital device to collect data automatically	-I can explain what data can be collected using sensors - I can identify that data from sensors can be recorded - I can use data from a sensor to answer a given question
3		-To explain that a data logger collects 'data points' from sensors over time	-I can identify the intervals used to collect data - I can recognise that a data logger collects data at given points - I can talk about the data that I have captured
4		-To recognise how a computer can help us analyse data	-I can explain that there are different ways to view data - I can sort data to find information - I can view data at different levels of detail
5		-To identify the data needed to answer questions	-I can plan how to collect data using a data logger - I can propose a question that can be answered using logged data - I can use a data logger to collect data
6		-To use data from sensors to answer questions	-I can draw conclusions from the data that I have collected - I can explain the benefits of using a data logger - I can interpret data that has been collected using a data logger

Creating media – Photo editing

Lesson	Title	Learning Intention	Success Criteria
1	Creating media – Photo editing	-To explain that the composition of digital images can be changed	-I can explain why I might crop an image - I can improve an image by rotating it - I can use photo editing software to crop an image
2		-To explain that colours can be changed in digital images	-I can experiment with different colour effects - I can explain that different colour effects make you think and feel different things - I can explain why I chose certain colour effects
3		-To explain how cloning can be used in photo editing	-I can add to the composition of an image by cloning - I can identify how a photo edit can be improved - I can remove parts of an image using cloning
4		-To explain that images can be combined	-I can experiment with tools to select and copy part of an image - I can explain why photos might be edited - I can use a range of tools to copy between images
5		-To combine images for a purpose	-I can choose suitable images for my project - I can create a project that is a combination of other images - I can describe the image I want to create
6		-To evaluate how changes can improve an image	-I can combine text and my image to complete the project - I can review images against a given criteria - I can use feedback to guide making changes

Programming B – Repetition in games

Lesson	Title	Learning Intention	Success Criteria

1	Programming B – Repetition in games	-To develop the use of count-controlled loops in a different programming environment	-I can list an everyday task as a set of instructions including repetition - I can modify a snippet of code to create a given outcome - I can predict the outcome of a snippet of code
2		-To explain that in programming there are infinite loops and count controlled loops	-I can choose when to use a count-controlled and an infinite loop - I can modify loops to produce a given outcome - I can recognise that some programming languages enable more than one process to be run at once
3		-To develop a design that includes two or more loops which run at the same time	-I can choose which action will be repeated for each object - I can evaluate the effectiveness of the repeated sequences used in my program - I can explain what the outcome of the repeated action should be
4		-To modify an infinite loop in a given program	-I can explain the effect of my changes - I can identify which parts of a loop can be changed - I can re-use existing code snippets on new sprites
5		-To design a project that includes repetition	-I can develop my own design explaining what my project will do - I can evaluate the use of repetition in a project - I can select key parts of a given project to use in my own design
6		-To create a project that includes repetition	-I can build a program that follows my design - I can evaluate the steps I followed when building my project - I can refine the algorithm in my design

Year FIVE

Computing systems and networks - Systems and searching

Lesson	Title	Learning Intention	Success Criteria
1	Computing systems and networks - Systems and searching	-To explain that computers can be connected together to form systems	-I can describe that a computer system features inputs, processes, and outputs - I can explain that computer systems communicate with other devices - I can explain that systems are built using a number of parts
2		-To recognise the role of computer systems in our lives	-I can explain the benefits of a given computer system - I can identify tasks that are managed by computer systems - I can identify the human elements of a computer system
3		-To experiment with search engines	-I can compare results from different search engines - I can make use of a web search to find specific information - I can refine my web search
4		-To describe how search engines select results	-I can explain why we need tools to find things online - I can recognise the role of web crawlers in creating an index - I can relate a search term to the search engine's index

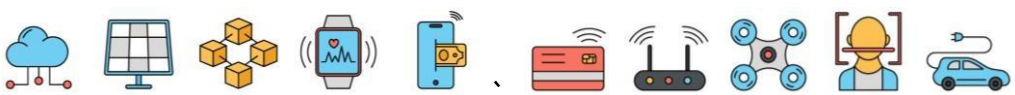
5		-To explain how search results are ranked	-I can explain that a search engine follows rules to rank results - I can give examples of criteria used by search engines to rank results - I can order a list by rank
6		-To recognise why the order of results is important, and to whom	-I can describe some of the ways that search results can be influenced - I can explain how search engines make money - I can recognise some of the limitations of search engines

Creating media - Video production

Lesson	Title	Learning Intention	Success Criteria
1	Creating media - Video production	-To explain what makes a video effective	-I can compare features in different videos - I can explain that video is a visual media format - I can identify features of videos
2		-To identify digital devices that can record video	-I can experiment with different camera angles - I can identify and find features on a digital video recording device - I can make use of a microphone
3		-To capture video using a range of techniques	-I can capture video using a range of filming techniques - I can review how effective my video is - I can suggest filming techniques for a given purpose
4		-To create a storyboard	-I can create and save video content - I can decide which filming techniques I will use - I can outline the scenes of my video
5		-To identify that video can be improved through reshooting and editing	-I can explain how to improve a video by reshooting and editing - I can select the correct tools to make edits to my video - I can store, retrieve, and export my recording to a computer
6		-To consider the impact of the choices made when making and sharing a video	-I can evaluate my video and share my opinions - I can make edits to my video and improve the final outcome - I can recognise that my choices when making a video will impact on the quality of the final outcome

Programming A – Selection in physical computing

Lesson	Title	Learning Intention	Success Criteria
1	Programming A – Repetition in shapes	-To control a simple circuit connected to a computer	-I can create a simple circuit and connect it to a microcontroller - I can explain what an infinite loop does - I can program a microcontroller to make an LED switch on
2		-To write a program that includes count controlled loops	-I can connect more than one output component to a microcontroller - I can design sequences that use count-controlled loops - I can use a count-controlled loop to control outputs
3		-To explain that a loop can stop when a condition is met	-I can design a conditional loop - I can explain that a condition is either true or false - I can program a microcontroller to respond to an input



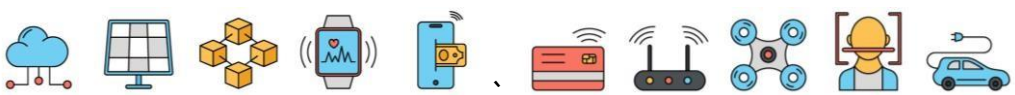
4		-To explain that a loop can be used to repeatedly check whether a condition has been met	-I can explain that a condition being met can start an action - I can identify a condition and an action in my project - I can use selection (an 'if…then…' statement) to direct the flow of a program
5		-To design a physical project that includes selection	-I can create a detailed drawing of my project - I can describe what my project will do - I can identify a real-world example of a condition starting an action
6		-To create a program that controls a physical computing project	-I can test and debug my project - I can use selection to produce an intended outcome - I can write an algorithm that describes what my model will do

Data and information – Flat-file databases

Lesson	Title	Learning Intention	Success Criteria
1	Data and information – Flat-file databases	-To use a form to record information	-I can create a database using cards - I can explain how information can be recorded - I can order, sort, and group my data cards
2		-To compare paper and computer-based databases	-I can choose which field to sort data by to answer a given question - I can explain what a field and a record is in a database - I can navigate a flat-file database to compare different views of information
3		-To outline how you can answer questions by grouping and then sorting data	-I can combine grouping and sorting to answer specific questions - I can explain that data can be grouped using chosen values - I can group information using a database
4		-To explain that tools can be used to select specific data	-I can choose multiple criteria to answer a given question - I can choose which field and value are required to answer a given question - I can outline how 'AND' and 'OR' can be used to refine data selection
5		-To explain that computer programs can be used to compare data visually	-I can explain the benefits of using a computer to create charts - I can refine a chart by selecting a particular filter - I can select an appropriate chart to visually compare data
6		-To use a real-world database to answer questions	-I can ask questions that will need more than one field to answer - I can present my findings to a group - I can refine a search in a real-world context

Creating media – Introduction to vector graphics

Lesson	Title	Learning Intention	Success Criteria
1	Creating media – Introduction to vector graphics	-To identify that drawing tools can be used to produce different outcomes	-I can discuss how vector drawings are different from paper-based drawings - I can experiment with the shape and line tools - I can recognise that vector drawings are made using shapes
2		-To create a vector drawing by combining shapes	-I can explain that each element added to a vector drawing is an object - I can identify the shapes used to make a vector drawing - I can move, resize, and rotate objects I have duplicated



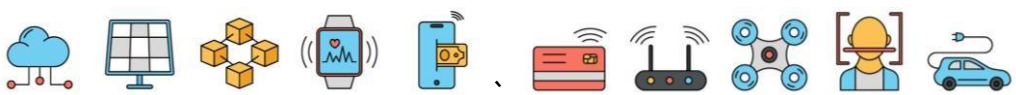
3		-To use tools to achieve a desired effect	-I can explain how alignment grids and resize handles can be used to improve consistency - I can modify objects to create a new image - I can use the zoom tool to help me add detail to my drawings
4		-To recognise that vector drawings consist of layers	-I can change the order of layers in a vector drawing - I can identify that each added object creates a new layer in the drawing - I can use layering to create an image
5		-To group objects to make them easier to work with	-I can copy part of a drawing by duplicating several objects - I can recognise when I need to group and ungroup objects - I can reuse a group of objects to further develop my vector drawing
6		-To apply what I have learned about vector drawings	-I can compare vector drawings to freehand paint drawings - I can create a vector drawing for a specific purpose - I can reflect on the skills I have used and why I have used them

Programming B – Selection in quizzes

Lesson	Title	Learning Intention	Success Criteria
1	Programming B – Selection in quizzes	-To explain how selection is used in computer programs	-I can identify conditions in a program - I can modify a condition in a program - I can recall how conditions are used in selection
2		-To relate that a conditional statement connects a condition to an outcome	-I can create a program with different outcomes using selection - I can identify the condition and outcomes in an 'if... then... else...' statement - I can use selection in an infinite loop to check a condition
3		-To explain how selection directs the flow of a program	-I can design the flow of a program which contains 'if... then... else...' - I can explain that program flow can branch according to a condition - I can show that a condition can direct program flow in one of two ways
4		-To design a program which uses selection	-I can identify the outcome of user input in an algorithm - I can outline a given task - I can use a design format to outline my project
5		-To create a program which uses selection	-I can implement my algorithm to create the first section of my program - I can share my program with others - I can test my program
6		-To evaluate my program	-I can extend my program further - I can identify the setup code I need in my program - I can identify ways the program could be improved

Year SIX

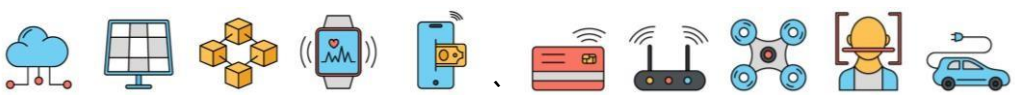
Computing systems and networks - Communication and collaboration



Lesson	Title	Learning Intention	Success Criteria
1	Computing systems and networks – Communication and collaboration	-To explain the importance of internet addresses	-I can describe how computers use addresses to access websites - I can explain that internet devices have addresses - I can recognise that data is transferred using agreed methods
2		-To recognise how data is transferred across the internet	-I can explain that all data transferred over the internet is in packets - I can explain that data is transferred over networks in packets - I can identify and explain the main parts of a data packet
3		-To explain how sharing information online can help people to work together	-I can explain that the internet allows different media to be shared - I can recognise how to access shared files stored online - I can send information over the internet in different ways
4		-To evaluate different ways of working together online	-I can explain how the internet enables effective collaboration - I can identify different ways of working together online – I can recognise that working together on the internet can be public or private
5		-To recognise how we communicate using technology	-I can choose methods of communication to suit particular purposes - I can explain the different ways in which people communicate - I can identify that there are a variety of ways to communicate over the internet
6		-To evaluate different methods of online communication	-I can compare different methods of communicating on the internet - I can decide when I should and should not share information online - I can explain that communication on the internet may not be private

Creating media – Web page creation

Lesson	Title	Learning Intention	Success Criteria
1	Creating media – Web page creation	-To review an existing website and consider its structure	-I can discuss the different types of media used on websites - I can explore a website - I know that websites are written in HTML
2		-To plan the features of a web page	-I can draw a web page layout that suits my purpose - I can recognise the common features of a web page - I can suggest media to include on my page
3		-To consider the ownership and use of images (copyright)	-I can describe what is meant by the term 'fair use' - I can find copyright-free images - I can say why I should use copyright-free images
4		-To recognise the need to preview pages	-I can add content to my own web page - I can evaluate what my web page looks like on different devices and suggest/make edits - I can preview what my web page looks like
5		-To outline the need for a navigation path	-I can describe why navigation paths are useful - I can explain what a navigation path is - I can make multiple web pages and link them using hyperlinks



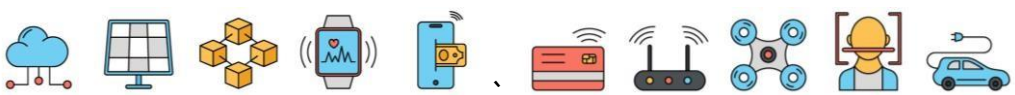
6		-To recognise the implications of linking to content owned by other people	-I can create hyperlinks to link to other people's work - I can evaluate the user experience of a website - I can explain the implication of linking to content owned by others

Programming A – Variables in games

Lesson	Title	Learning Intention	Success Criteria
1	Programming A – Variables in games	-To define a 'variable' as something that is changeable	-I can explain that the way a variable changes can be defined - I can identify examples of information that is variable - I can identify that variables can hold numbers or letters
2		-To explain why a variable is used in a program	-I can explain that a variable has a name and a value - I can identify a program variable as a placeholder in memory for a single value - I can recognise that the value of a variable can be changed
3		-To choose how to improve a game by using variables	-I can decide where in a program to change a variable - I can make use of an event in a program to set a variable - I can recognise that the value of a variable can be used by a program
4		-To design a project that builds on a given example	-I can choose the artwork for my project - I can create algorithms for my project - I can explain my design choices
5		-To use my design to create a project	-I can choose a name that identifies the role of a variable - I can create the artwork for my project - I can test the code that I have written
6		-To evaluate my project	-I can identify ways that my game could be improved - I can share my game with others - I can use variables to extend my game

Data and information – Spreadsheets

Lesson	Title	Learning Intention	Success Criteria
1	Data and information - Spreadsheets	-To create a data set in a spreadsheet	-I can collect data - I can enter data into a spreadsheet - I can suggest how to structure my data
2		-To build a data set in a spreadsheet	-I can apply an appropriate format to a cell - I can choose an appropriate format for a cell - I can explain what an item of data is
3		-To explain that formulas can be used to produce calculated data	-I can construct a formula in a spreadsheet - I can explain which data types can be used in calculations - I can identify that changing inputs changes outputs
4		-To apply formulas to data	-I can apply a formula to multiple cells by duplicating it - I can calculate data using different operations - I can create a formula which includes a range of cells



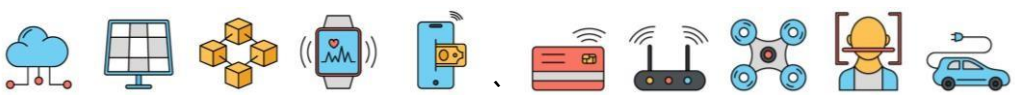
5		-To create a spreadsheet to plan an event	-I can apply a formula to calculate the data I need to answer questions - I can explain why data should be organised - I can use a spreadsheet to answer questions
6		-To choose suitable ways to present data	-I can produce a chart - I can suggest when to use a table or chart - I can use a chart to show the answer to questions

Creating media – 3D Modelling

Lesson	Title	Learning Intention	Success Criteria
1	Creating media – 3D Modelling	-To recognise that you can work in three dimensions on a computer	-I can add 3D shapes to a project - I can move 3D shapes relative to one another - I can view 3D shapes from different perspectives
2		-To identify that digital 3D objects can be modified	-I can lift/lower 3D objects - I can recolour a 3D object - I can resize an object in three dimensions
3		-To recognise that objects can be combined in a 3D model	-I can duplicate 3D objects - I can group 3D objects - I can rotate objects in three dimensions
4		-To create a 3D model for a given purpose	-I can accurately size 3D objects - I can combine a number of 3D objects - I can show that placeholders can create holes in 3D objects
5		-To plan my own 3D model	-I can analyse a 3D model - I can choose objects to use in a 3D model - I can combine objects in a design
6		-To create my own digital 3D model	-I can construct a 3D model based on a design - I can explain how my 3D model could be improved - I can modify my 3D model to improve it

Programming B - Sensing movement

Lesson	Title	Learning Intention	Success Criteria
1	Programming B - Sensing movement	-To create a program to run on a controllable device	-I can apply my knowledge of programming to a new environment - I can test my program on an emulator - I can transfer my program to a controllable device
2		-To explain that selection can control the flow of a program	-I can determine the flow of a program using selection - I can identify examples of conditions in the real world - I can use a variable in an if, then, else statement to select the flow of a program
3		-To update a variable with a user input	-I can experiment with different physical inputs - I can explain that checking a variable doesn't change its value - I can use a condition to change a variable
4		-To use a conditional statement to compare a variable to a value	-I can explain the importance of the order of conditions in else, if statements - I can modify a program to achieve a different outcome - I can use an operand (e.g. <>=) in an if, then statement
5		-To design a project that uses inputs and outputs on a controllable device	-I can decide what variables to include in a project - I can design the algorithm for my project - I can design the program flow for my project



6		-To develop a program to use inputs and outputs on a controllable device	-I can create a program based on my design - I can test my program against my design - I can use a range of approaches to find and fix bugs