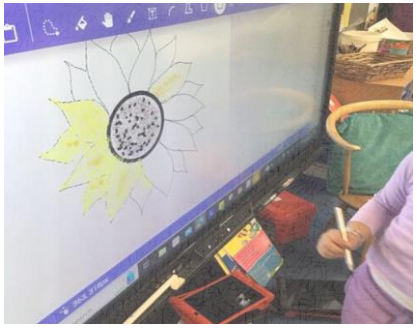
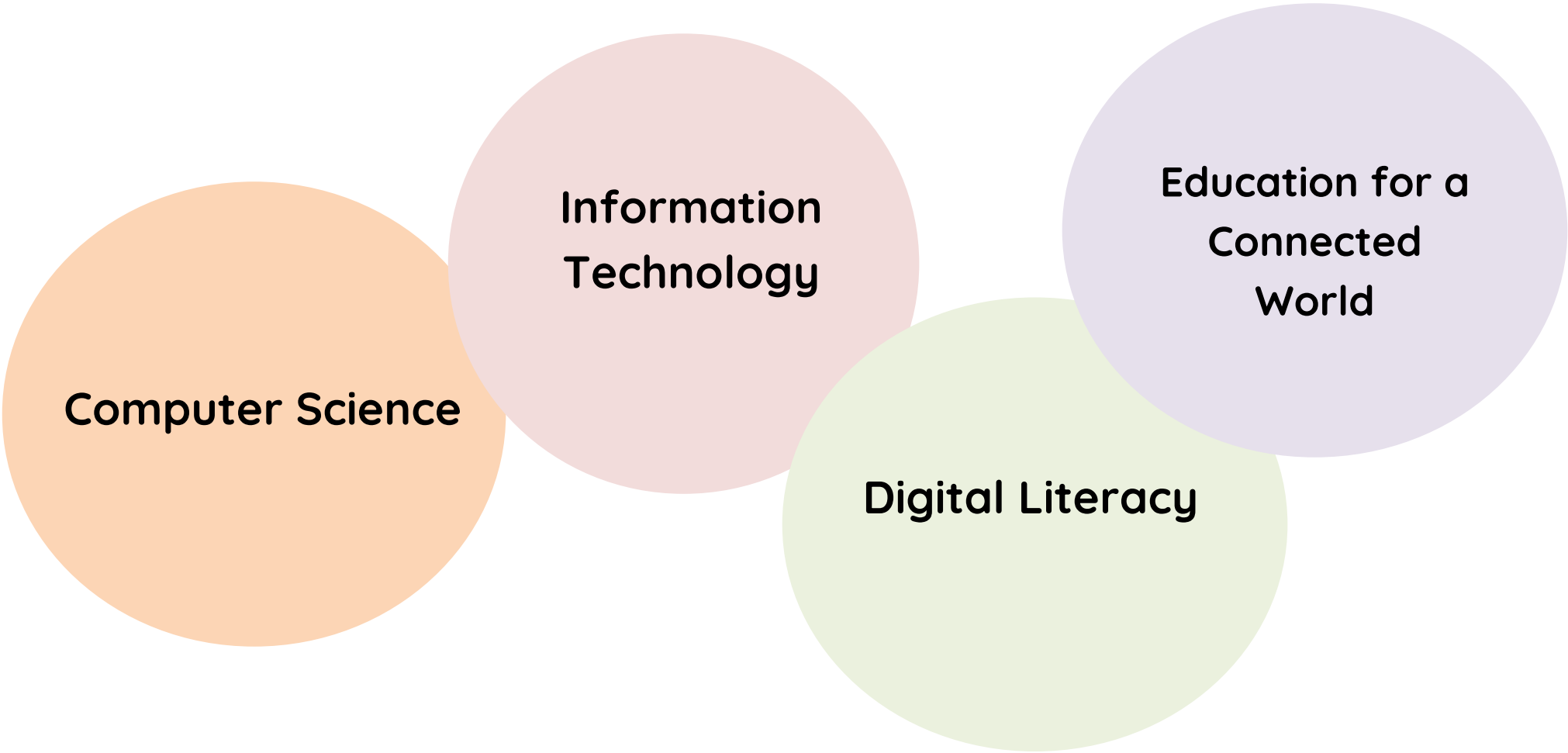
Herringthorpe Infant School

Computing – Subject Overview




Key strands to the curriculum



The knowledge skills and learning progression for each component is delivered through a spiral curriculum.

EYFS

Computational thinking

This will be covered throughout the year in Continuous provision.

Concepts	Approaches
Logical reasoning – Curiosity box, Maths, water play – investigating floating and sinking, construction, mixing colours, predicting key events in stories, anticipating what might happen next. **Abstraction –** sequencing, creating story maps, following and giving instructions to others, creating collaborative stories. **Pattern** – pattern seeking in maths, looking at numerical patterns, investigating seasonal change, making repeating patterns in sand and play doh and using natural objects to make patterns. **Algorithms –** giving and following instructions in Maths and PE. Making clues for other children to follow (Easter egg hunt). Following and giving instructions throughout continuous provision. Using beebots to give and follow instructions. **Decomposition –** Breaking down the main events in a story. Giving instructions to others. Problem solving across continuous provision. Planting seeds – giving and following instructions.	**Tinkering –** Beebots, remote control cars, model making, sand, water, mud kitchen, fine motor skills activities, **Creating –** using iPads to take photographs to create digital art, construction area, model making, Art work, PE, music and singing. **Collaboration –** group work throughout continuous provision, PE, creating collaborative stories. **Persevering –** Encouraged throughout school as one of the core values.

EYFS Computational Thinking simple definitions

EYFS Computational Thinking Skills	Simple definitions
Tinkering	Playing and exploring
Making	Making things, checking and fixing things
Collaboration	Playing and working collaboratively
Persevering	Not giving up
Logic	Anticipating and explaining is logical reasoning
Pattern	Grouping things, comparing, spotting similarities and differences, working out rules
Abstraction	Naming and labelling, working out what is important, sticking to the main theme, ignoring what is not important, creating a summary
Algorithms and Decomposition	Responding to instructions, ordering things, sequencing things, introducing storylines, working out different ways to do things, breaking problems down into steps

Additional EYFS units (adapted from Teach Computing Curriculum)

1. Moving Robots (Complete lessons 1-4)	2. Digital paint (Complete lessons 1-5)
To explain what a given command will do • I can predict the outcome of a command on a device • I can match a command to an outcome • I can run a command on a device **To combine 'forwards' and 'backwards' commands to make a sequence** • I can compare forward and backward movements • I can start a sequence from the same place • I can predict the outcome of a sequence involving 'forwards' and 'backwards' commands **To combine four direction commands to make sequences** • I can compare left and right turns • I can experiment with 'turn' and 'move' commands to move a robot • I can predict the outcome of a sequence involving up to four commands **To plan a simple program** • I can explain what my program should do • I can choose the order of commands in a sequence • I can debug my program	**To describe what different freehand tools do** • I can make marks on a screen and explain which tools I used • I can draw lines on a screen and explain which tools I used • I can use the paint tools to draw a picture **To use the shape tool and the line tools** • I can make marks with the square and line tools • I can use the shape and line tools effectively • I can use the shape and line tools to recreate the work of an artist **To make careful choices when painting a digital picture** • I can choose appropriate shapes • I can make appropriate colour choices • I can create a picture in the style of an artist **To explain why I chose the tools I used** • I can explain that different paint tools do different jobs • I can choose appropriate paint tools and colours to recreate the work of an artist • I can say which tools were helpful and why **To use a computer on my own to paint a picture** • I can make dots of colour on the page • I can change the colour and brush sizes

KS1 Pillars of Progression

	Year 1	Year 2
Computer Science The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming	**Technology around us** **To identify technology** • I can explain technology as something that helps us • I can locate examples of technology in the classroom • I can explain how these technology examples help us **To identify a computer and its main parts** • I can name the main parts of a computer • I can switch on and log into a computer **Grouping Data** **To act out a given word** • I can follow an instruction • I can recall words that can be acted out • I can give directions **To label objects** • I can describe objects using labels • I can match objects to groups • I can identify the label for a group of objects **To identify that objects can be counted** • I can count objects • I can group objects • I can count a group of objects **To describe objects in different ways** • I can describe an object • I can describe a property of an object • I can find objects with similar properties **To count objects with the same properties** • I can group similar objects • I can group objects in more than one way • I can count how many objects share a property **To compare groups of objects** • I can choose how to group objects • I can describe groups of objects • I can record how many objects are in a group **To answer questions about groups of objects** • I can decide how to group objects to answer a question • I can compare groups of objects • I can record and share what I have found	**Information Technology around us** **To recognise the uses and features of information technology** • I can identify examples of computers • I can describe some uses of computers • I can identify that a computer is a part of IT **To identify the uses of information technology in the school** • I can identify examples of IT • I can sort school IT by what it's used for • I can identify that some IT can be used in more than one way **To identify information technology beyond school** • I can find examples of information technology • I can sort IT by where it is found • I can talk about uses of information technology **To explain how information technology helps us** • I can recognise common types of technology • I can demonstrate how IT devices work together • I can say why we use IT **Digital Photography** **To use a digital device to take a photograph** • I can recognise what devices can be used to take photographs • I can talk about how to take a photograph • I can explain what I did to capture a digital photo **Robot Algorithms** **To describe a series of instructions as a sequence** • I can follow instructions given by someone else • I can choose a series of words that can be acted out as a sequence • I can give clear instructions **To explain what happens when we change the order of instructions** • I can use the same instructions to create different algorithms • I can use an algorithm to program a sequence on a floor robot • I can show the difference in outcomes between two sequences that consist of the same instructions **To use logical reasoning to predict the outcome of a program** • I can follow a sequence • I can predict the outcome of a sequence • I can compare my prediction to the program outcome

		Pictograms **To recognise that we can count and compare objects using tally charts** • I can record data in a tally chart • I can represent a tally count as a total • I can compare totals in a tally chart **Programming quizzes** **To explain that a sequence of commands has a start** • I can identify the start of a sequence • I can identify that a program needs to be started • I can show how to run my program
Information Technology Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content.	**Technology around us** **To use a mouse in different ways** • I can use a mouse to open a program • I can click and drag to make objects on a screen • I can use a mouse to create a picture • I can use a mouse to click and drag **To use a keyboard to type on a computer** • I can say what a keyboard is for • I can type my name on a computer • I can save my work to a file **Digital Writing** **To use the keyboard to edit text** • I can open my work from a file • I can use the arrow keys to move the cursor • I can delete letters **To add and remove text on a computer** • I can enter text into a computer • I can use letter, number, and Space keys • I can use Backspace to remove text **To identify that the look of text can be changed on a computer** • I can type capital letters • I can explain what the keys that I have already learnt about do • I can identify the toolbar and use bold, italic, and underline **To make careful choices when changing text** • I can select a word by double-clicking • I can select all of the text by clicking and dragging • I can change the font **To compare typing on a computer to writing on paper** • I can make changes to text on a computer • I can explain the differences between typing and writing • I can say why I prefer typing or writing	**Digital Photography** **To make choices when taking a photograph** • I can explain the process of taking a good photograph • I can take photos in both landscape and portrait format • I can explain why a photo looks better in portrait or landscape format **To use tools to change an image** • I can recognise that images can be changed • I can use a tool to achieve a desired effect • I can explain my choices **To recognise that photos can be changed** • I can apply a range of photography skills to capture a photo • I can recognise which photos have been changed • I can identify which photos are real and which have been changed **Robot Algorithms** **To explain that programming projects can have code and artwork** • I can explain the choices that I made for my mat design • I can identify different routes around my mat • I can test my mat to make sure that it is usable **To design an algorithm** • I can explain what my algorithm should achieve • I can create an algorithm to meet my goal • I can use my algorithm to create a program **To create and debug a program that I have written** • I can test and debug each part of the program • I can plan algorithms for different parts of a task • I can put together the different parts of my program **Pictograms** **To recognise that objects can be represented as pictures** • I can enter data onto a computer • I can use a computer to view data in a different format

	Programming animations **To choose a command for a given purpose** • I can find the commands to move a sprite • I can use commands to move a sprite • I can compare different programming tools **To show that a series of commands can be joined together** • I can use more than one block by joining them together • I can use a **Start** block in a program • I can run my program **To identify the effect of changing a value** • I can find blocks that have numbers • I can change the value • I can say what happens when I change a value **To explain that each sprite has its own instructions** • I can show that a project can include more than one sprite • I can delete a sprite • I can add blocks to each of my sprites	• I can use pictograms to answer simple questions about objects **To create a pictogram** • I can organise data in a tally chart • I can use a tally chart to create a pictogram • I can explain what the pictogram shows **To select objects by attribute and make comparisons** • I can tally objects using a common attribute • I can create a pictogram to arrange objects by an attribute • I can answer 'more than'/'less than' and 'most/least' questions about an attribute
Digital Literacy Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.	**Technology around us** **To create rules for using technology responsibly** • I can identify rules to keep us safe and healthy when we are using technology in and beyond the home • I can give examples of some of these rules I can discuss how we benefit from these rules **Digital Writing** **To explain why I used the tools that I chose** • I can say what tool I used to change the text • I can decide if my changes have improved my writing • I can use 'Undo' to remove changes **Programming animations** **To design the parts of a project** • I can choose appropriate artwork for my project • I can decide how each sprite will move • I can create an algorithm for each sprite	**Information Technology around us** **To explain how to use information technology safely** • I can list different uses of information technology • I can talk about different rules for using IT I can say how rules can help keep me safe **To recognise that choices are made when using information technology** • I can identify the choices that I make when using IT • I can use IT for different types of activities I can explain the need to use IT in different ways **Digital Photography** **To describe what makes a good photograph** • I can identify what is wrong with a photograph • I can discuss how to take a good photograph • I can improve a photograph by retaking it **To decide how photographs can be improved** • I can explore the effect that light has on a photo • I can experiment with different light sources • I can explain why a picture may be unclear **Pictograms** **To explain that we can present information using a computer** • I can use a computer program to present information in different ways • I can share what I have found out using a computer

		• I can give simple examples of why information should not be shared
Education for a Connected World	**Health, well-being and lifestyle** • I can identify rules that help keep us safe and healthy in and beyond the home when using technology • I can give some simple examples **Copyright and ownership** • I know that the work I create belongs to me • I can name my work so that others know it belongs to me **Privacy and security** • I can give reasons why I should only share information with people I choose to and can trust **Copyright and ownership** • I know that work I create belongs to me (Y1) • I can name my work so that others know it belongs to me (Y1) (covered twice)	**Health, well-being, and lifestyle** • I can identify rules that help keep us safe and healthy in and beyond the home when using technology I can give some simple examples • To identify that some images are not real (fake) **Self-image and identity** • I can recognise that I can say 'no'/'please stop'/'I'll tell'/'I'll ask' to somebody who asks me to do something that makes me feel sad, embarrassed or upset • I can explain how this could be either in real life or online • If something happens that makes me feel sad, worried, uncomfortable, or frightened I can give examples of when and how to speak to an adult I can trust

Computing Y1

Subject Yearly Overview

Autumn Term 1	Spring Term 1	Summer Term 1
Unit Title: Technology Around us	**Unit Title: Digital Writing**	**Unit Title: Programming Animations**
Prior Knowledge: EYFS	**Prior Knowledge:**	**Prior Knowledge:**
• Children will have experienced a variety of technology and will be familiar with the basic functions of an iPad and a computer.	• Digital paint unit completed in EYFS will give children experience of creating a product using Digital Literacy.	*Prior Knowledge* • *Follows on from Programming A - Moving a Robot, where children learned to program a floor robot using instructions*
New Knowledge:	**New Knowledge/Skills:**	**New Knowledge/Skills:**
By the end of this unit Y1 pupils will: Declarative Knowledge (Computer science) **To identify technology** • I can explain technology as something that helps us • I can locate examples of technology in the classroom • I can explain how these technology examples help us **To identify a computer and its main parts** • I can name the main parts of a computer • I can switch on and log into a computer Information Technology (procedural knowledge) **To use a mouse in different ways** • I can use a mouse to open a program • I can click and drag to make objects on a screen • I can use a mouse to create a picture • I can use a mouse to click and drag **To use a keyboard to type on a computer** • I can say what a keyboard is for • I can type my name on a computer • I can save my work to a file Digital Literacy **To create rules for using technology responsibly** • I can identify rules to keep us safe and healthy when we are using technology in and beyond the home • I can give examples of some of these rules	*By the end of this unit Y1 pupils will:* Information Technology (procedural knowledge) **To use the keyboard to edit text** • I can open my work from a file • I can use the arrow keys to move the cursor • I can delete letters **To add and remove text on a computer** • I can enter text into a computer • I can use letter, number, and Space keys • I can use Backspace to remove text **To identify that the look of text can be changed on a computer** • I can type capital letters • I can explain what the keys that I have already learnt about do • I can identify the toolbar and use bold, italic, and underline **To make careful choices when changing text** • I can select a word by double-clicking • I can select all of the text by clicking and dragging • I can change the font **To compare typing on a computer to writing on paper** • I can make changes to text on a computer • I can explain the differences between typing and writing • I can say why I prefer typing or writing Digital Literacy **To explain why I used the tools that I chose**	*By the end of this unit Y1 pupils will:* Information Technology (procedural knowledge) **To choose a command for a given purpose** • I can find the commands to move a sprite • I can use commands to move a sprite • I can compare different programming tools **To show that a series of commands can be joined together** • I can use more than one block by joining them together • I can use a **Start** block in a program • I can run my program **To identify the effect of changing a value** • I can find blocks that have numbers • I can change the value • I can say what happens when I change a value **To explain that each sprite has its own instructions** • I can show that a project can include more than one sprite • I can delete a sprite • I can add blocks to each of my sprites Digital Literacy **To design the parts of a project** • I can choose appropriate artwork for my project • I can decide how each sprite will move • I can create an algorithm for each sprite

I can discuss how we benefit from these rules **Education for a connected world focus** **Health, well-being and lifestyle** • I can identify rules that help keep us safe and healthy in and beyond the home when using technology • I can give some simple examples **Copyright and ownership** • I know that the work I create belongs to me • I can name my work so that others know it belongs to me	• I can say what tool I used to change the text • I can decide if my changes have improved my writing • I can use 'Undo' to remove changes **Education for a connected world focus** **Privacy and security** • I can give reasons why I should only share information with people I choose to and can trust.	
Vocabulary:		
By the end of this unit Y1 pupils will understand and use the vocabulary: • Technology • Computer • Mouse • Trackpad • Keyboard • Screen • Typing •	***By the end of this unit Y1 pupils will understand and use the vocabulary:*** • Word Processor • Keyboard • Keys • Letters • Type • Numbers • Space • Backspace • Text cursor • Toolbar • Bold • Italic • Font • Undo • Redo	***By the end of this unit Y1 pupils will understand and use the vocabulary:*** • Sprite • Command • Programming • Block • Joining • Command • Start Block • Run • Algorithm • Predict • Effect • Value • Instructions • Programme

Learning Sequence:	Learning Sequence:	Learning Sequence:
Technology arounds us *Using Technology* *Using a computer keyboard* *Developing Keyboard Skills* *Using a computer responsibly*	*Exploring the keyboard* *Adding and Removing text* *Exploring the toolbar* *Making changes to the text* *Explaining my choices* *Pencil or Keyboard*	*Comparing tools* *Joining blocks* *Make a change* *Adding sprites* *Project design* *Following my design*
Assessment Opportunities	**Assessment Opportunities**	**Assessment Opportunities**
Assessment opportunities are detailed in each lesson plan. The learning objective and success criteria are introduced in the slide deck at the beginning of each lesson and then reviewed at the end. Learners are invited to assess how well they feel they have met the learning objective using thumbs up, thumbs sideways, or thumbs down.	Formative assessment opportunities are provided throughout each of the lesson plan documents and the learning objectives and success criteria can be used to observe learners' progress for summative assessment.	• Formative assessment opportunities are provided throughout each of the lesson plan documents and the learning objectives and success criteria can be used to observe learners' progress for summative assessment.
Resources:	**Resources:**	**Resources:**
Teach Computing documents Laptops Ipads	• Ipads • Chromebooks	• Ipads

Autumn Term 2	Spring Term 2	Summer Term 2
Unit Title: Data and information – grouping data **(This will be taught as part of Science Animals including Humans).**		
Prior Knowledge EYFS:		
• Children will be familiar with the computational thinking skills of pattern seeking, abstraction and decomposition. • Children will be familiar with sorting and classifying when exploring KUW objectives.		

New Knowledge/Skills:		
By the end of this unit Y1 pupils will: Declarative Knowledge (Computer science) **To act out a given word** • I can follow an instruction • I can recall words that can be acted out • I can give directions **To label objects** • I can describe objects using labels • I can match objects to groups • I can identify the label for a group of objects **To identify that objects can be counted** • I can count objects • I can group objects • I can count a group of objects **To describe objects in different ways** • I can describe an object • I can describe a property of an object • I can find objects with similar properties **To count objects with the same properties** • I can group similar objects • I can group objects in more than one way • I can count how many objects share a property **To compare groups of objects** • I can choose how to group objects • I can describe groups of objects • I can record how many objects are in a group **To answer questions about groups of objects** • I can decide how to group objects to answer a question • I can compare groups of objects • I can record and share what I have found **Education for a connected world focus** **Copyright and ownership** • I know that work I create belongs to me (Y1) • I can name my work so that others know it belongs to me (Y1) (covered twice)		
Vocabulary:		
By the end of this unit Y1 pupils will understand and use the vocabulary. • Objects • Label • Group • Search • Image		

• Property • Colour • Size • Shape • Value • Data set		
Learning Sequence:		
Label and Match ***Group and Count*** ***Describe an object*** ***Making different groups*** ***Comparing groups*** ***Answering Questions***		
Assessment Opportunities		
Formative assessment opportunities are provided throughout each of the lesson plan documents and the learning objectives and success criteria can be used to observe learners' progress for summative assessment.		
Resources:		
• Ipads • Chromebooks		

Computing Y2

Subject Yearly Overview

Autumn Term 1st Half	Spring Term 1st Half	Summer Term 1st Half
Unit Title: IT around us	**Unit Title: Digital Photography**	**Unit Title: Pictograms** **(This will be taught as part of Science Living things and their habitats).**
Prior Knowledge:	**Prior Knowledge:**	**Prior Knowledge:**
Prior knowledge: • Progresses children's understanding of technology and how they interact with it.	*Prior Knowledge:* • Pupils will have used digital devices previously. • Pupils will have learnt we can use devices to create digital content	*Prior knowledge* • Continuing from the Year 1 Data and Information unit where learners labelled objects and grouped them based on different properties
New Knowledge/Skills:	**New Knowledge/Skills:**	**New Knowledge/Skills:**
By the end of this unit Y2 pupils will: Declarative Knowledge – Computer Science **To recognise the uses and features of information technology** • I can identify examples of computers • I can describe some uses of computers • I can identify that a computer is a part of IT **To identify the uses of information technology in the school** • I can identify examples of IT • I can sort school IT by what it's used for • I can identify that some IT can be used in more than one way **To identify information technology beyond school** • I can find examples of information technology • I can sort IT by where it is found • I can talk about uses of information technology **To explain how information technology helps us** • I can recognise common types of technology • I can demonstrate how IT devices work together • I can say why we use IT	*By the end of this unit Y2 pupils will:* Declarative Knowledge – Computer Science **To use a digital device to take a photograph** • I can recognise what devices can be used to take photographs • I can talk about how to take a photograph • I can explain what I did to capture a digital photo Information Technology (procedural knowledge) **To make choices when taking a photograph** • I can explain the process of taking a good photograph • I can take photos in both landscape and portrait format • I can explain why a photo looks better in portrait or landscape format **To use tools to change an image** • I can recognise that images can be changed • I can use a tool to achieve a desired effect • I can explain my choices **To recognise that photos can be changed** • I can apply a range of photography skills to capture a photo	*By the end of this unit Y2 pupils will:* Declarative Knowledge – Computer Science **To recognise that we can count and compare objects using tally charts** • I can record data in a tally chart • I can represent a tally count as a total • I can compare totals in a tally chart Information Technology (procedural knowledge) **To recognise that objects can be represented as pictures** • I can enter data onto a computer • I can use a computer to view data in a different format • I can use pictograms to answer simple questions about objects **To create a pictogram** • I can organise data in a tally chart • I can use a tally chart to create a pictogram • I can explain what the pictogram shows **To select objects by attribute and make comparisons** • I can tally objects using a common attribute

Digital Literacy

To explain how to use information technology safely

- I can list different uses of information technology
- I can talk about different rules for using IT
  I can say how rules can help keep me safe

To recognise that choices are made when using information technology

- I can identify the choices that I make when using IT
- I can use IT for different types of activities
  I can explain the need to use IT in different ways

Education for a connected world

Health, well-being, and lifestyle

- I can identify rules that help keep us safe and healthy in and beyond the home when using technology

I can give some simple examples

- I can recognise which photos have been changed
- I can identify which photos are real and which have been changed

Digital Literacy

To describe what makes a good photograph

- I can identify what is wrong with a photograph
- I can discuss how to take a good photograph
- I can improve a photograph by retaking it

To decide how photographs can be improved

- I can explore the effect that light has on a photo
- I can experiment with different light sources
- I can explain why a picture may be unclear

Education for a connected world

- To identify that some images are not real (fake)

- I can create a pictogram to arrange objects by an attribute
- I can answer 'more than'/'less than' and 'most/least' questions about an attribute

Digital Literacy

To explain that we can present information using a computer

- I can use a computer program to present information in different ways
- I can share what I have found out using a computer
- I can give simple examples of why information should not be shared

Education for a connected world

Privacy and security

- I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location)
- I can describe the people I can trust and can share this with; I can explain why I can trust them
- I can recognise more detailed examples of information that is personal to me (e.g. where I live, my family's names, where I go to school)

Self image and identity

- I can recognise that I can say 'no'/'please stop'/'I'll tell'/'I'll ask' to somebody who asks me to do something that makes me feel sad, embarrassed or upset
- I can explain how this could be either in real life or online
- If something happens that makes me feel sad, worried, uncomfortable, or frightened I can give examples of when and how to speak to an adult I can trust

Health, wellbeing and lifestyle

- I can identify rules that help keep us safe and healthy in and beyond the home when using technology
- I can give some simple examples

Vocabulary:

By the end of this unit Y2 pupils will understand and use the vocabulary:

- Computer
- Information Technology
- Barcode
- Scan
- Scanner

Vocabulary:

By the end of this unit Y1 pupils will understand and use the vocabulary:

- Camera
- Flash
- Landscape
- Portrait
- Photograph
- Capture
- Framing
- Compose
- Format
- Focus

Vocabulary:

By the end of this unit Y2 pupils will understand and use the vocabulary:

- Organise
- Tally Chart
- Votes
- Pictogram
- Common
- Attribute
- Conclusion

Learning Sequence:	Learning Sequence:	Learning Sequence:
What is IT? *IT in school* *IT in the world* *The benefits of IT* *Using IT safely* *Using IT in different way*	*Talking Photographs* *Landscape or portrait* *What makes a good photograph?* *Lighting* *Effects* *Is it real?*	*Counting and Comparing* *Entering Data* *Creating Pictograms* *What is an Attribute?* *Comparing People* *Presenting Information*
Assessment Opportunities	**Assessment Opportunities**	**Assessment Opportunities**
• Formative assessment opportunities are provided throughout each of the lesson plan documents and the learning objectives and success criteria can be used to observe learners' progress for summative assessment.	• Formative assessment opportunities are provided throughout each of the lesson plan documents and the learning objectives and success criteria can be used to observe learners' progress for summative assessment.	• Formative assessment opportunities are provided throughout each of the lesson plan documents and the learning objectives and success criteria can be used to observe learners' progress for summative assessment.
Resources:	**Resources:**	**Resources:**
• Laptops • Chromebook	• Ipads • Chromebooks • Cameras	• Ipads • Chromebooks

Autumn Term 2nd Half	Spring Term 2nd Half	Summer Term 2nd Half
		Unit Title: Robot Algorithms
		Prior Knowledge:
		Prior knowledge • Learners have explored using individual commands • They have identified what each command for the floor robot does • They have also been introduced to the early stages of program design
		New Knowledge/Skills:
		Declarative Knowledge – Computer Science **To describe a series of instructions as a sequence**

		• I can follow instructions given by someone else • I can choose a series of words that can be acted out as a sequence • I can give clear instructions **To explain what happens when we change the order of instructions** • I can use the same instructions to create different algorithms • I can use an algorithm to program a sequence on a floor robot • I can show the difference in outcomes between two sequences that consist of the same instructions **To use logical reasoning to predict the outcome of a program** • I can follow a sequence • I can predict the outcome of a sequence • I can compare my prediction to the program outcome **Information Technology (procedural knowledge)** **To explain that programming projects can have code and artwork** • I can explain the choices that I made for my mat design • I can identify different routes around my mat • I can test my mat to make sure that it is usable **To design an algorithm** • I can explain what my algorithm should achieve • I can create an algorithm to meet my goal • I can use my algorithm to create a program **To create and debug a program that I have written** • I can test and debug each part of the program • I can plan algorithms for different parts of a task • I can put together the different parts of my program
		Vocabulary:
		By the end of this unit Y2 pupils will understand and use the vocabulary: • Instruction • Sequence • Clear • Unambiguous • Algorithm • Program • Order • Predict • Prediction • Route

		Learning Sequence:
		Giving instructions *Same but different* *Making predictions* *Mats and routes* *Algorithm design* *Break it down*
		Assessment Opportunities
		• Formative assessment opportunities are provided throughout each of the lesson plan documents and the learning objectives and success criteria can be used to observe learners' progress for summative assessment.
		Resources:
		• Ipads • Chromebooks