



St Bartholomew's Primary School Computing Curriculum - Teach Computing

Year 1

- [1. Computing systems and networks – Technology around us](#)
- [2. Creating media – Digital painting](#)
- [3. Programming A – Moving a robot](#)
- [4. Data and information – Grouping data](#)
- [5. Creating media – Digital writing](#)
- [6. Programming B - Programming animations](#)

Year 2

- [1. Computing systems and networks – IT around us](#)
- [2. Creating media – Digital photography](#)
- [3. Programming A – Robot algorithms](#)
- [4. Data and information – Pictograms](#)
- [5. Creating media - Digital music](#)
- [6. Programming B - programming quizzes](#)

Year 3

- [1. Computing systems and networks – Connecting computers](#)
- [2. Creating media - Stop-frame animation](#)
- [3. Programming A - Sequencing sounds](#)
- [4. Data and information – Branching databases](#)
- [5. Creating media – Desktop publishing](#)
- [6. Programming B - Events and actions in programs](#)

Year 4

- [1. Computing systems and networks – The Internet](#)
- [2. Creating media - Audio production](#)
- [3. Programming A – Repetition in shapes](#)
- [4. Data and information – Data logging](#)
- [5. Creating media – Photo editing](#)
- [6. Programming B – Repetition in games](#)

Year 5

- [1. Computing systems and networks - systems and searching](#)
- [2. Creating media - Video production](#)
- [3. Programming A – Selection in physical computing](#)
- [4. Data and information – Flat-file databases](#)
- [5. Creating media - Introduction to vector graphics](#)
- [6. Programming B – Selection in quizzes](#)

Year 6

- [1. Computing systems and networks - Communication and collaboration](#)
- [2. Creating media – Web page creation](#)
- [3. Programming A – Variables in games](#)
- [4. Data and information - Introduction to Spreadsheets](#)
- [5. Creating media – 3D Modelling](#)
- [6. Programming B - Sensing movement](#)



St Bartholomew's Computing - Long Term Plan

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
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<p>Dahl Reception</p>	<p>Technology in the Early Years will mean:</p> <ul style="list-style-type: none"> • taking a photograph with a camera or tablet • searching for information on the internet • playing games on the interactive whiteboard • exploring an old typewriter or other mechanical/electronic toys • controlling toys using a remote control • using a Beebot • watching a video clip • listening to music • reading ebooks • using the apps on the ipads (suggested apps only) • use paint and writing apps to develop skills in other areas of the curriculum • using sound buttons to access provision and challenges 					
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<p>Nightingale Y1/2</p> <p>Year 1 units</p>	<p>Technology around us</p> <p>Recognising technology in school and using it responsibly.</p> <p>(Computer systems and networks)</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="background-color: #4a7ebb; color: white;">Learning Intention</th> <th style="background-color: #4a7ebb; color: white;">Success Criteria</th> </tr> </thead> <tbody> <tr> <td style="background-color: #4a7ebb; color: white;">Lesson 1 To know how to identify technology</td> <td style="background-color: #d9e1f2;">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</td> </tr> <tr> <td style="background-color: #4a7ebb; color: white;">Lesson 2 To know how to identify a computer and its main parts</td> <td style="background-color: #d9e1f2;">I can name the main parts of a computer I can switch on and log into a computer I can use a mouse to click and drag</td> </tr> <tr> <td style="background-color: #4a7ebb; 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	<p>Lesson 5 To know how to use the keyboard to edit text</p> <p>I can open my work from a file I can use the arrow keys to move the cursor I can delete letters</p> <p>Lesson 6 To know how to create rules for using technology responsibly</p> <p>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</p>	<p>the work of an artist I can say which tools were helpful and why</p> <p>Lesson 5 To know how to use a computer on my own to paint a picture</p> <p>I can make dots of colour on the page I can change the colour and brush sizes I can use dots of colour to create a picture in the style of an artist on my own</p> <p>Lesson 6 To know how to compare painting a picture on a computer and on paper</p> <p>I can explain that pictures can be made in lots of different ways I can spot the differences between painting on a computer and on paper I can say whether I prefer painting using a computer or using paper</p>	<p>Lesson 4 To know how to combine four direction commands to make sequences</p> <p>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</p> <p>Lesson 5 To know how to plan a simple program</p> <p>I can explain what my program should do I can choose the order of commands in a sequence I can debug my program</p> <p>Lesson 6 To know how to find more than one solution to a problem</p> <p>I can identify several possible solutions I can plan two programs I can use two different programs to get to the same place</p>	<p>Lesson 6 To know how to answer questions about groups of objects</p> <p>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</p>	<p>I can change the font</p> <p>Lesson 5 To know how to explain why I used the tools that I chose</p> <p>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</p> <p>Lesson 6 To know how to compare typing on a computer to writing on paper</p> <p>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</p>	<p>Lesson 5 To know how to design the parts of a project</p> <p>I can choose appropriate artwork for my project I can decide how each sprite will move I can create an algorithm for each sprite</p> <p>Lesson 6 To know how to use my algorithm to create a program</p> <p>I can use sprites that match my design I can add programming blocks based on my algorithm I can test the programs I have created</p>
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Darwin Y3/4

Year 3 units

Connecting computers

Challenge your learners to develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs. Start by comparing digital and non-digital devices, before introducing them to computer networks that include network infrastructure devices like routers and switches.

(Computing systems and networks)

Learning Intention	Success Criteria
Lesson 1 To explain how digital devices accept inputs	I can explain that digital devices accept inputs I can explain that digital devices produce outputs I can follow a process I can explain what makes a secure password
Lesson 2 To identify input and output device	I can classify input and output devices I can describe a simple process I can design a digital device

Sequencing sounds

Creating sequences in a block-based programming language to make music.

(Programming A)

SCRATCH

Learning Intention	Success Criteria
Lesson 1 To know how to explore a new programming environment	I can identify the objects in a Scratch project (sprites, backdrops) I can explain that objects in Scratch have attributes (linked to) I can recognise that commands in Scratch are represented as blocks
Lesson 2 To know that commands have an outcome	I can identify that each sprite is controlled by the commands I choose I can choose a word which describes an on-screen action for my plan I can create a program following a design

Stop-frame animation

Capturing and editing digital still images to produce a stop-frame animation that tells a story.

(Creating Media)

Learning Intention	Success Criteria
Lesson 1 To know that animation is a sequence of drawings or photographs	I can draw a sequence of pictures I can create an effective flip book—style animation I can explain how an animation/flip book works
Lesson 2 To know how to relate animated movement with a sequence of images	I can predict what an animation will look like I can explain why little changes are needed for each frame I can create an effective stop-frame animation
Lesson 3 To know how to play an animation	I can break down a story into settings, characters and events I can describe an animation that is achievable on screen I can create a storyboard

Branching databases

Building and using branching databases to group objects using yes/no questions.

(Data and information)

Learning Intention	Success Criteria
Lesson 1 To know how to create questions with yes/no answers	I can investigate questions with yes/no answers I can make up a yes/no question about a collection of objects I can create two groups of objects separated by one attribute
Lesson 2 To know how to identify the attributes needed to collect data about an object	I can select an attribute to separate objects into groups I can create a group of objects within an existing group I can arrange objects into a tree structure
Lesson 3 To know how to create a branching database	I can select objects to arrange in a branching database I can group objects using my own

Desktop publishing

Creating documents by modifying text, images, and page layouts for a specified purpose.

(Creating Media)

Learning Intention	Success Criteria
Lesson 1 To know how to recognise how text and images convey information	I can explain the difference between text and images I can recognise that text and images can communicate messages clearly I can identify the advantages and disadvantages of using text and images
Lesson 2 To know how 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
Lesson 3 To know how to choose appropriate page settings	I can explain what 'page orientation' means I can recognise placeholders and say why they are important I can create a template for a particular purpose

Events and actions in programs

Writing algorithms and programs that use a range of events to trigger sequences of actions.

(Programming B)

SCRATCH

Learning Intention	Success Criteria
Lesson 1 To know how a sprite moves in an existing project	I can explain the relationship between an event and an action I can choose which keys to use for actions and explain my choices I can identify a way to improve a program
Lesson 2 To know how 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
Lesson 3 To know how to adapt a program to a new context	I can use a programming extension I can consider the real world when making design choices I can choose blocks to set up my program

	<p>Lesson 3 To recognise how digital devices can change the way that we work</p> <p>I can explain how I use digital devices for different activities I can recognise similarities between using digital devices and using non-digital tools I can suggest differences between using digital devices and using non-digital tools</p> <p>Lesson 4 To explain how a computer network can be used to share information</p> <p>I can recognise different connections I can explain how messages are passed through multiple connections I can discuss why we need a network switch</p> <p>Lesson 5 To explore how digital devices can be connected</p> <p>I can recognise that a computer network is made up of a number of devices 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</p> <p>Lesson 6 To recognise the physical components of a network</p> <p>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</p>	<p>Lesson 3 To know that a program has a start</p> <p>I can start a program in different ways I can create a sequence of connected commands I can explain that the objects in my project will respond exactly to the code</p> <p>Lesson 4 To know that a sequence of commands can have an order</p> <p>I can explain what a sequence is I can combine sound commands I can order notes into a sequence</p> <p>Lesson 5 To know how to change the appearance of my project</p> <p>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</p> <p>Lesson 6 To know how to create a project from a task description</p> <p>I can identify and name the objects I will need for a project I can relate a task description to a design I can implement my algorithm as code</p>	<p>Lesson 4 To know the need to work consistently and carefully</p> <p>I can use onion skinning to help me make small changes between frames I can review a sequence of frames to check my work I can evaluate the quality of my animation</p> <p>Lesson 5 To know how to review and improve an animation</p> <p>I can explain ways to make my animation better I can evaluate another learner's animation I can improve my animation based on feedback</p> <p>Lesson 6 To know how to evaluate the impact of adding other media to an animation</p> <p>I can add other media to my animation I can explain why I added other media to my animation I can evaluate my final film</p>	<p>yes/no questions</p> <p>I can test my branching database to see if it works</p> <p>Lesson 4 To know how to explain why it is helpful for a database to be well structured</p> <p>I can create yes/no questions using given attributes</p> <p>I can compare two branching database structures</p> <p>I can explain that questions need to be ordered carefully to split objects into similarly sized groups</p> <p>Lesson 5 To know how to plan the structure of a branching database</p> <p>I can independently create questions to use in a branching database</p> <p>I can create questions that will enable objects to be uniquely identified</p> <p>I can create a physical version of a branching database</p> <p>Lesson 6 To know how to independently create an identification tool</p> <p>I can create a branching database that reflects my plan</p> <p>I can work with a partner to test my identification tool</p> <p>I can suggest real-world uses for branching databases</p>	<p>Lesson 4 To know how to add content to a desktop publishing publication</p> <p>I can choose the best locations for my content I can paste text and images to create a magazine cover I can make changes to content after I've added it</p> <p>Lesson 5 To know how different layouts can suit different purposes</p> <p>I can identify different layouts I can match a layout to a purpose I can choose a suitable layout for a given purpose</p> <p>Lesson 6 To know the benefits of desktop publishing</p> <p>I can identify the uses of desktop publishing in the real world I can say why desktop publishing might be helpful I can compare work made on desktop publishing to work created by hand</p>	<p>Lesson 4 To know how to develop my program by adding features</p> <p>I can identify additional features (from a given set of blocks) I can choose suitable keys to turn on additional features I can build more sequences of commands to make my design work</p> <p>Lesson 5 To know how to identify and fix bugs in a program</p> <p>I can test a program against a given design I can match a piece of code to an outcome I can modify a program using a design</p> <p>Lesson 6 To know how to design and create a maze-based challenge</p> <p>I can make design choices and justify them I can implement my design I can evaluate my project</p>
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<p>Franklin Y5/6</p> <p>Year 5 units</p>	<p>Systems and searching</p> <p>In this unit, learners develop their understanding of computer systems and how information is transferred between systems and devices. Learners consider small-scale systems as well as large-scale systems. They explain the input, output, and process aspects of a variety of different real-world systems. Learners discover how information is found on the World Wide Web, through learning how search engines work (including how they select and rank results) and what influences searching, and through comparing different search engines.</p>	<p>Video production</p> <p>This unit gives learners the opportunity to learn how to create short videos in groups. As they progress through this unit, they will be exposed to topic-based language and develop the skills of capturing, editing, and manipulating video. Active learning is encouraged through guided questions and by working in small groups to investigate the use of devices and software. Learners are guided with step-by-step support to take their idea from conception to completion. At the teacher's discretion, the use of green screen can be incorporated into this unit. At the conclusion of the unit, learners have the</p>	<p>Selection in physical computing</p> <p>In this unit, learners will use physical computing to explore the concept of selection in programming through the use of the Crumble programming environment. Learners will be introduced to a microcontroller (Crumble controller) and learn how to connect and program components (including output devices- LEDs and motors) through the application of their existing programming knowledge. Learners are introduced to conditions as a means of controlling the flow of actions and make use of their knowledge of repetition and conditions when introduced to the concept</p>	<p>Flat-file databases</p> <p>This unit looks at how a flat-file database can be used to organise data in records. Pupils use tools within a database to order and answer questions about data. They create graphs and charts from their data to help solve problems. They use a real-life database to answer a question, and present their work to others.</p> <p>(Data and information)</p> <table border="1" data-bbox="885 1792 1085 2016"> <tr> <th>Learning Intention</th> <th>Success Criteria</th> </tr> <tr> <td>Lesson 1 To use a form to record information</td> <td>I can create a database using cards I can explain how information</td> </tr> </table>	Learning Intention	Success Criteria	Lesson 1 To use a form to record information	I can create a database using cards I can explain how information	<p>Introduction to vector graphics</p> <p>In this unit, learners start to create vector drawings. They learn how to use different drawing tools to help them create images. Learners recognise that images in vector drawings are created using shapes and lines, and each individual element in the drawing is called an object. Learners layer their objects and begin grouping and duplicating them to support the creation of more complex pieces of work. This unit is planned using the Google Drawings app, other alternative pieces of software are available.</p> <p>(Creating media)</p>	<p>Selection in quizzes</p> <p>In this unit, pupils develop their knowledge of selection by revisiting how conditions can be used in programs and then learning how the If... Then... Else structure can be used to select different outcomes depending on whether a condition is true or false. They represent this understanding in algorithms and then by constructing programs using the Scratch programming environment. They use their knowledge of writing programs and using selection to control outcomes to design a quiz in response to a given task and implement it as a program.</p>
Learning Intention	Success Criteria									
Lesson 1 To use a form to record information	I can create a database using cards I can explain how information									

(Computing systems and networks)

Learning Intention	Success Criteria
Lesson 1 To explain that computers can be connected together to form systems	I can explain that systems are built using a number of parts I can describe the input, process, and output of a digital system I can explain that computer systems communicate with other devices
Lesson 2 To recognise the role of computer systems in our lives	I can identify tasks that are managed by computer systems I can identify the human elements of a computer system I can explain the benefits of a given computer system I can explain how to keep my personal information safe online
Lesson 3 To identify how to use a search engine	I can make use of a web search to find specific information I can refine my web search I can compare results from different search engines I can recognise trustworthy websites
Lesson 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
Lesson 5 To explain how search results are ranked	I can order a list by rank 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
Lesson 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 recognise some of the limitations of search engines

opportunity to reflect on and assess their progress in creating a video.

(Creating media)

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

of selection (through the if, then structure).

(Programming A)

Learning Intention	Success Criteria
Lesson 1 To control a simple circuit connected to a computer	I can create a simple circuit and connect it to a microcontroller I can program a microcontroller to make an LED switch on I can explain what an infinite loop does
Lesson 2 To write a program that includes count-controlled loops	I can connect more than one output component to a microcontroller I can use a count-controlled loop to control outputs I can design sequences that use count-controlled loops
Lesson 3 To explain that a loop can stop when a condition is met	I can explain that a condition is either true or false I can design a conditional loop I can program a microcontroller to respond to an input
Lesson 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
Lesson 5 To design a physical project that includes selection	I can identify a real-world example of a condition starting an action I can describe what my project will do I can create a detailed drawing of my project
Lesson 6 To create a program that controls a physical computing project	I can write an algorithm that describes what my model will do I can use selection to produce an intended outcome I can test and debug my project

	can be recorded I can order, sort, and group my data cards
Lesson 2 To compare paper and computer-based databases	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 I can choose which field to sort data by to answer a given question
Lesson 3 To outline how you can answer questions by grouping and then sorting data	I can explain that data can be grouped using chosen values I can group information using a database I can combine grouping and sorting to answer specific questions
Lesson 4 To explain that tools can be used to select specific data	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 I can choose multiple criteria to answer a given question
Lesson 5 To explain that computer programs can be used to compare data visually	I can select an appropriate chart to visually compare data I can refine a chart by selecting a particular filter I can explain the benefits of using a computer to create charts
Lesson 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 refine a search in a real-world context I can present my findings to a group

Learning Intention	Success Criteria
Lesson 1 To identify that drawing tools can be used to produce different outcomes	I can recognise that vector drawings are made using shapes I can experiment with the shape and line tools I can discuss how vector drawings are different from paper-based drawings
Lesson 2 To create a vector drawing by combining shapes	I can identify the shapes used to make a vector drawing I can explain that each element added to a vector drawing is an object I can move, resize, and rotate objects I have duplicated
Lesson 3 To use tools to achieve a desired effect	I can use the zoom tool to help me add detail to my drawings I can explain how alignment grids and resize handles can be used to improve consistency I can modify objects to create a new image
Lesson 4 To recognise that vector drawings consist of layers	I can identify that each added object creates a new layer in the drawing I can change the order of layers in a vector drawing I can use layering to create an image
Lesson 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

(Programming B)

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

I can explain
how search
engines
make money

Lesson 6
To apply
what I
have
learned
about
vector
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
I can
compare
vector
drawings
to
freehand
paint
drawings

Lesson 6
To
evaluate
my
program

I can
identify
ways the
program
could be
improved
I can
identify
the setup
code I
need in
my
program
I can
extend my
program
further



St Bartholomew's Computing - Long Term Plan

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6																																																				
<p>Dahl Reception</p>	<p>Technology in the Early Years will mean:</p> <ul style="list-style-type: none"> • taking a photograph with a camera or tablet • searching for information on the internet • playing games on the interactive whiteboard • exploring an old typewriter or other mechanical/electronic toys • controlling toys using a remote control • using a Beebot • watching a video clip • listening to music • reading ebooks • using the apps on the ipads (suggested apps only) • use paint and writing apps to develop skills in other areas of the curriculum 																																																									
<p>Nightingale Y1/2</p> <p>Year 2 units</p>	<p>IT around us</p> <p>How is information technology (IT) being used for good in our lives? With an initial focus on IT in the home, learners explore how IT benefits society in places such as shops, libraries, and hospitals. Whilst discussing the responsible use of technology, and how to make smart choices when using it.</p> <p>(Computer systems and networks)</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 15%;">Learning Intention</th> <th style="width: 15%;">Success Criteria</th> </tr> </thead> <tbody> <tr> <td style="background-color: #4a7ebb; color: white;">Lesson 1 To recognise the uses and features of information technology</td> <td style="background-color: #d9e1f2;">I can identify examples of computers I can describe some uses of computers I can identify that a computer is a part of IT</td> </tr> <tr> <td style="background-color: #4a7ebb; color: white;">Lesson 2 To identify the uses of information technology in the school</td> <td style="background-color: #d9e1f2;">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</td> </tr> <tr> <td style="background-color: #4a7ebb; 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Lesson 3 To know how 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																																																									
Learning Intention	Success Criteria																																																									
Lesson 1 To know 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																																																									
Lesson 2 To know 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																																																									
Lesson 3 To know how 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																																																									
Lesson 4 To know how 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																																																									
Learning Intention	Success Criteria																																																									
Lesson 1 To know how music can make us feel	I can identify simple differences in pieces of music I can describe music using adjectives I can say what I do and don't like about a piece of music																																																									
Lesson 2 To know that there are patterns in music	I can create a rhythm pattern I can play an instrument following a rhythm pattern I can explain that music is created and played by humans																																																									
Lesson 3 To know how to experiment with sound using a computer	I can connect images with sounds I can use a computer to experiment with pitch I can relate an idea to a piece of music																																																									
Lesson 4 To know how to use a computer to create a musical pattern	I can identify that music is a sequence of notes I can explain how my music can be played in different ways I can refine my musical pattern on a computer																																																									
Learning Intention	Success Criteria																																																									
Lesson 1 To know how 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																																																									
Lesson 2 To know how to explain that a sequence of commands has an outcome	I can predict the outcome of a sequence of commands I can match two sequences with the same outcome I can change the outcome of a sequence of commands																																																									
Lesson 3 To know how to create a program using a given design	I can work out the actions of a sprite in an algorithm I can decide which blocks																																																									

	<p>information technology</p> <p>Lesson 4 To explain how information technology helps us</p> <p>I can recognise common types of technology I can demonstrate how IT devices work together I can say why we use IT</p> <p>Lesson 5 To explain how to use information technology safely</p> <p>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</p> <p>Lesson 6 To recognise that choices are made when using information technology</p> <p>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</p>	<p>Lesson 4 To know how photographs can be improved</p> <p>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</p> <p>Lesson 5 To know how to use tools to change an image</p> <p>I can recognise that images can be changed I can use a tool to achieve a desired effect I can explain my choices</p> <p>Lesson 6 To know that photos can be changed</p> <p>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</p>	<p>to the program outcome</p> <p>Lesson 4 To know how to explain that programming projects can have code and artwork</p> <p>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</p> <p>Lesson 5 To know how to design an algorithm</p> <p>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</p> <p>Lesson 6 To know how to create and debug a program that I have written</p> <p>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</p>	<p>than'/'less than' and 'most/least' questions about an attribute</p> <p>Lesson 5 To know that people can be described by attributes</p> <p>I can choose a suitable attribute to compare people I can collect the data I need I can create a pictogram and draw conclusions from it</p> <p>Lesson 6 To know that we can present information using a computer</p> <p>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</p>	<p>Lesson 5 To know how to create music for a purpose</p> <p>I can create a rhythm which represents an animal I've chosen I can create my animal's rhythm on a computer I can add a sequence of notes to my rhythm</p> <p>Lesson 6 To know how to review and refine our computer work</p> <p>I can review my work I can explain how I changed my work I can listen to music and describe how it makes me feel</p>	<p>to use to meet the design</p> <p>I can build the sequences of blocks I need</p> <p>Lesson 4 To know how to change a given design</p> <p>I can choose backgrounds for the design I can choose characters for the design I can create a program based on the new design</p> <p>Lesson 5 To know how to create a program using my own design</p> <p>I can choose the images for my own design I can create an algorithm I can build sequences of blocks to match my design</p> <p>Lesson 6 To know how my project can be improved</p> <p>I can compare my project to my design I can improve my project by adding features I can debug my program</p>
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<p>Darwin Y3/4</p> <p>Year 4 units</p>	<p>The Internet</p> <p>Learners will apply their knowledge and understanding of networks, to appreciate the internet as a network of networks which need to be kept secure. They will learn that the World Wide Web is part of the internet, and will be given opportunities to explore the World Wide Web for themselves in order to learn about who owns content and what they can access, add, and create. Finally, they will evaluate online content to decide how honest, accurate, or reliable it is, and understand the consequences of false information. This unit requires devices with an internet connection. Chrome Music Lab is used in one lesson to demonstrate content which can be produced on the World Wide Web.</p> <p>(Computing systems and networks)</p>	<p>Audio production</p> <p>Learners will identify the input device (microphone) and output devices (speaker or headphones) required to work with sound digitally. Learners will discuss the ownership of digital audio and the copyright implications of duplicating the work of others. In order to record audio themselves, learners will use Audacity to produce a podcast, which will include editing their work, adding multiple tracks, and opening and saving the audio files. Finally, learners will evaluate their work and give feedback to their peers.</p> <p>(Creating media)</p> <table border="1"> <tr> <th>Learning Intention</th> <th>Success Criteria</th> </tr> <tr> <td></td> <td></td> </tr> </table>	Learning Intention	Success Criteria			<p>Repetition in shapes</p> <p>This unit is the first of the two programming units in Year 4, and looks at repetition and loops within programming. Pupils will create programs by planning, modifying, and testing commands to create shapes and patterns. They will use Logo, a text-based programming language.</p> <p>(Programming A)</p> <table border="1"> <tr> <th>Learning Intention</th> <th>Success Criteria</th> </tr> <tr> <td>Lesson 1 To identify that accuracy in programming is important</td> <td>I can program a computer by typing commands I can explain the effect of changing a value of a command I can create a code snippet for a given purpose</td> </tr> </table>	Learning Intention	Success Criteria	Lesson 1 To identify that accuracy in programming is important	I can program a computer by typing commands I can explain the effect of changing a value of a command I can create a code snippet for a given purpose	<p>Data logging</p> <p>In this unit, pupils will consider how and why data is collected over time. Pupils will consider the senses that humans use to experience the environment and how computers can use special input devices called sensors to monitor the environment. Pupils will collect data as well as access data captured over long periods of time. They will look at data points, data sets, and logging intervals. Pupils will spend time using a computer to review and analyse data. Towards the end of the unit, pupils will pose questions and then use data loggers to automatically collect the data needed to answer those questions.</p> <p>(Data and information)</p> <table border="1"> <tr> <th>Learning Intention</th> <th>Success Criteria</th> </tr> <tr> <td>Lesson 1 To explain that the composition of digital images can be changed</td> <td>I can improve an image by rotating it I can explain why I might crop an image I can use photo editing software to crop an image I understand that editing</td> </tr> </table>	Learning Intention	Success Criteria	Lesson 1 To explain that the composition of digital images can be changed	I can improve an image by rotating it I can explain why I might crop an image I can use photo editing software to crop an image I understand that editing	<p>Photo editing</p> <p>Learners will develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused. They will consider the impact that editing images can have, and evaluate the effectiveness of their choices.</p> <p>(Creating media)</p> <table border="1"> <tr> <th>Learning Intention</th> <th>Success Criteria</th> </tr> <tr> <td></td> <td></td> </tr> </table>	Learning Intention	Success Criteria			<p>Repetition in games</p> <p>This unit explores the concept of repetition in programming using the Scratch environment. It begins with a Scratch activity similar to that carried out in Logo in Programming unit A, where learners can discover similarities between two environments. Learners look at the difference between count-controlled and infinite loops, and use their knowledge to modify existing animations and games using repetition. Their final project is to design and create a game which uses repetition, applying stages of programming design throughout.</p> <p>(Programming B)</p>
Learning Intention	Success Criteria																					
Learning Intention	Success Criteria																					
Lesson 1 To identify that accuracy in programming is important	I can program a computer by typing commands I can explain the effect of changing a value of a command I can create a code snippet for a given purpose																					
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Learning Intention	Success Criteria																					

Learning Intention	Success Criteria	Lesson 1 To identify that sound can be recorded	Lesson 2 To create a program in a text-based language	Lesson 3 To explain what 'repeat' means	Lesson 4 To modify a count-controlled loop to produce a given outcome	Lesson 5 To decompose a task into small steps	Lesson 6 To create a program that uses count-controlled loops to produce a given outcome	Learning Intention	Success Criteria
Lesson 1 To describe how networks physically connect to other networks	I can describe the internet as a network of networks I can demonstrate how information is shared across the internet I can discuss why a network needs protecting	I can identify the input and output devices used to record and play sound I can use a computer to record audio I can explain that the person who records the sound can say who is allowed to use it	I can use a template to draw what I want my program to do I can write an algorithm to produce a given outcome I can test my algorithm in a text-based language	I can identify repetition in everyday tasks I can identify patterns in a sequence I can use a count-controlled loop to produce a given outcome	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 I can choose which values to change in a loop	I can identify 'chunks' of actions in the real world I can use a procedure in a program I can explain that a computer can repeatedly call a procedure	I can design a program that includes count-controlled loops I can make use of my design to write a program I can develop my program by debugging it	Lesson 1 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 suggest questions that can be answered using a given data set I can identify data that can be gathered over time
Lesson 2 To recognise how networked devices and how they connect	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	I can re-record my voice to improve my recording I can inspect the soundwave view to know where to trim my recording I can discuss what sounds can be added to a podcast	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 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 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 I can choose which values to change in a loop	I can identify 'chunks' of actions in the real world I can use a procedure in a program I can explain that a computer can repeatedly call a procedure	I can design a program that includes count-controlled loops I can make use of my design to write a program I can develop my program by debugging it	Lesson 2 To explain that colours can be changed in digital images	I can explain that different colour effects make you think and feel different things I can experiment with different colour effects I can explain why I chose certain colour effects
Lesson 3 To outline how websites can be shared via the World Wide Web (WWW)	I can explain the types of media that can be shared on the WWW I can describe where websites are stored when uploaded to the WWW I can describe how to access websites on the WWW	I can explain how sounds can be combined to make a podcast more engaging I can save my project so the different parts remain editable I can plan appropriate content for a podcast	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 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 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 I can choose which values to change in a loop	I can identify 'chunks' of actions in the real world I can use a procedure in a program I can explain that a computer can repeatedly call a procedure	I can design a program that includes count-controlled loops I can make use of my design to write a program I can develop my program by debugging it	Lesson 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
Lesson 4 To describe how content can be added and accessed on the World Wide Web (WWW)	I can explain what media can be found on websites I can recognise that I can add content to the WWW I can explain that internet services can be used to create content online	I can record content following my plan I can review the quality of my recordings I can improve my voice recordings	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 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 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 I can choose which values to change in a loop	I can identify 'chunks' of actions in the real world I can use a procedure in a program I can explain that a computer can repeatedly call a procedure	I can design a program that includes count-controlled loops I can make use of my design to write a program I can develop my program by debugging it	Lesson 4 To explain that images can be combined	I can experiment with tools to select and copy part of an image I can use a range of tools to copy between images I can explain why photos might be edited
Lesson 5 To recognise how the content of the WWW is created by people	I can explain that websites and their content are created by people I can suggest who owns the content on websites I can explain that there are rules to protect content	I can open my project to continue working on it 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 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 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 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 I can choose which values to change in a loop	I can identify 'chunks' of actions in the real world I can use a procedure in a program I can explain that a computer can repeatedly call a procedure	I can design a program that includes count-controlled loops I can make use of my design to write a program I can develop my program by debugging it	Lesson 5 To explain that internet services can be used to create content online	I can experiment with tools to select and copy part of an image I can use a range of tools to copy between images I can explain why photos might be edited
Lesson 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 some information I find online may not be honest, accurate, or legal I can explain why I need to think carefully before I share or reshare content	I can listen to an audio recording to identify its strengths I can suggest improvements to an audio recording I can choose appropriate edits to improve my podcast	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 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 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 I can choose which values to change in a loop	I can identify 'chunks' of actions in the real world I can use a procedure in a program I can explain that a computer can repeatedly call a procedure	I can design a program that includes count-controlled loops I can make use of my design to write a program I can develop my program by debugging it	Lesson 6 To explain that data logger collects 'data points' from sensors over time	I can recognise that a data logger collects data at given points I can identify the intervals used to collect data I can talk about the data that I have captured
		Lesson 4 To apply audio editing skills independently	Lesson 5 To combine audio to enhance my podcast project	Lesson 6 To evaluate the effective use of audio				Lesson 4 To recognise how a computer can help us analyse data	I can view data at different levels of detail I can sort data to find information I can explain that there are different ways to view data
								Lesson 5 To identify the data needed to answer questions	I can propose a question that can be answered using logged data I can plan how to collect data using a data logger I can use a data logger to collect data
								Lesson 6 To use data from sensors to answer questions	I can interpret data that has been collected using a data logger I can draw conclusions from the data that I have collected I can explain the benefits of using a data logger
								Lesson 5 To combine images for a purpose	I can describe the image I want to create I can choose suitable images for my project I can create a project that is a combination of other images
								Lesson 6 To evaluate how changes can improve an image	I can review images against a given criteria I can use feedback to guide making changes I can combine text and my image to complete the project
								Lesson 3 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 predict the outcome of a snippet of code I can modify a snippet of code to create a given outcome
								Lesson 2 To explain that in programming there are infinite loops and count-controlled loops	I can modify loops to produce a given outcome I can choose when to use a count-controlled and an infinite loop I can recognise that some programming languages enable more than one process to be run at once
								Lesson 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 explain what the outcome of the repeated action should be I can evaluate the effectiveness of the repeated sequences used in my program
								Lesson 4 To modify an infinite loop in a given program	I can identify which parts of a loop can be changed I can explain the effect of my changes I can re-use existing code snippets on new sprites
								Lesson 5 To design a project that includes repetition	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 I can develop my own design explaining what my project will do

Lesson 6
To create a project that includes repetition

I can refine the algorithm in my design
I can build a program that follows my design
I can evaluate the steps I followed when building my project

Franklin Y5/6
Year 6 units

Communication and collaboration

Identifying and exploring how data is transferred and information is shared online.

(Computer systems and networks)

Learning Intention	Success Criteria
Lesson 1 To know the importance of internet addresses	I can recognise that data is transferred using agreed methods I can explain that internet devices have addresses I can describe how computers use addresses to access websites
Lesson 2 To know how data is transferred across the internet	I can identify and explain the main parts of a data packet I can explain that data is transferred over networks in packets I can explain that all data transferred over the internet is in packets
Lesson 3 To know how sharing information online can help people to work together	I can recognise how to access shared files stored online I can send information over the internet in different ways I can explain that the internet allows different media to be shared
Lesson 4 To know how to evaluate different ways of working together online	I can identify different ways of working together online I can recognise that working together on the internet can be public or private I can explain how the internet enables effective collaboration
Lesson 5 To know how we communicate using technology	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 I can choose methods of communication to suit particular purposes

Webpage creation

Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.

(Creating media)

Learning Intention	Success Criteria
Lesson 1 To know how to review an existing website and consider its structure	I can explore a website I can discuss the different types of media used on websites I know that websites are written in HTML
Lesson 2 To know how to plan the features of a web page	I can recognise the common features of a web page I can suggest media to include on my page I can draw a web page layout that suits my purpose
Lesson 3 To know how to consider the ownership and use of images (copyright)	I can say why I should use copyright-free images I can find copyright-free images I can describe what is meant by the term 'fair use'
Lesson 4 To know how to recognise the need to preview pages	I can add content to my own web page I can preview what my web page looks like I can evaluate what my web page looks like on different devices and suggest/make edits.
Lesson 5 To know the outline the need for a navigation path	I can explain what a navigation path is I can describe why navigation paths are useful I can make multiple web pages and link them using hyperlinks
Lesson 6 To know the implications of linking to content owned by other people	I can explain the implication of linking to content owned by others I can create hyperlinks to link to other people's work I can evaluate the user experience of a website

Variables in games

Exploring variables when designing and coding a game.

(Programming A)

SCRATCH

Learning Intention	Success Criteria
Lesson 1 To know how to define a 'variable' as something that is changeable	I can identify examples of information that is variable I can explain that the way a variable changes can be defined I can identify that variables can hold numbers or letters
Lesson 2 To know why a variable is used in a program	I can identify a program variable as a placeholder in memory for a single value I can explain that a variable has a name and a value I can recognise that the value of a variable can be changed
Lesson 3 To know 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
Lesson 4 To know how 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
Lesson 5 To know how to use my design to create a project	I can create the artwork for my project I can choose a name that identifies the role of a variable

Introduction to spreadsheets

Answering questions by using spreadsheets to organise and calculate data.

(Data and information)

Learning Intention	Success Criteria
Lesson 1 To know how to create a data set in a spreadsheet	I can collect data I can suggest how to structure my data I can enter data into a spreadsheet
Lesson 2 To know how to build a data set in a spreadsheet	I can explain what an item of data is I can choose an appropriate format for a cell I can apply an appropriate format to a cell
Lesson 3 To know how to explain that formulas can be used to produce calculated data	I can explain which data types can be used in calculations I can construct a formula in a spreadsheet I can identify that changing inputs changes outputs
Lesson 4 To know how to apply formulas to data	I can calculate data using different operations I can create a formula which includes a range of cells I can apply a formula to multiple cells by duplicating it
Lesson 5 To know how to create a spreadsheet to plan an event	I can use a spreadsheet to answer questions I can explain why data should be organised I can apply a formula to calculate the data I need to answer questions

3D modelling

Planning, developing, and evaluating 3D computer models of physical objects.

(Creating media)

Learning Intention	Success Criteria
Lesson 1 To know that you can work in three dimensions on a computer	I can add 3D shapes to a project I can view 3D shapes from different perspectives I can move 3D shapes relative to one another
Lesson 2 To know that digital 3D objects can be modified	I can resize an object in three dimensions I can lift/lower 3D objects I can recolour a 3D object
Lesson 3 To know that objects can be combined in a 3D model	I can rotate objects in three dimensions I can duplicate 3D objects I can group 3D objects
Lesson 4 To know how to create a 3D model for a given purpose	I can accurately size 3D objects I can show that placeholders can create holes in 3D objects I can combine a number of 3D objects
Lesson 5 To know how 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
Lesson 6 To know how 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

Sensing Movement

Designing and coding a project that captures inputs from a physical device.

(Programming B)

MICROBITS

Learning Intention	Success Criteria
Lesson 1 To know how 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
Lesson 2 To know how to explain that selection can control the flow of a program	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 I can determine the flow of a program using selection
Lesson 3 To know how to update a variable with a user input	I can use a condition to change a variable I can experiment with different physical inputs I can explain that checking a variable doesn't change its value
Lesson 4 To know how to use a conditional statement to compare a variable to a value	I can use an operand (e.g. <=>) in an if, then statement I can explain the importance of the order of conditions in else, if statements I can modify a program to achieve a different outcome
Lesson 5 To know how 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

Lesson 6
To know how 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

Lesson 6
To know how to evaluate my project

I can test the code that I have written

I can identify ways that my game could be improved
I can use variables to extend my game
I can share my game with others

Lesson 6
To know how to choose suitable ways to present data

I can produce a chart
I can use a chart to show the answer to a question
I can suggest when to use a table or chart

Lesson 6
To know how to develop a program to use inputs and outputs on a controllable device

flow for my project

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