Buckingham Primary Academy
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Buckingham Primary Academy - Computing

At Buckingham Primary Academy, we believe that it is vital for all our pupils to learn from and about Computing and Technology, so that they can understand the world around them. Through teaching computing at Buckingham Primary Academy we aim to equip our children to participate in a rapidly changing world where work and leisure activities are increasingly transformed by technology. It is our intention to enable children to find, explore, analyse, exchange and present information as well as having the skills to manipulate, develop and interpret different forms of technology in an ever-changing world. In such a fast moving curriculum, we are constantly looking at new ways of delivering relevant and exciting activities, while still delivering the fundamental skills needed for computing. Using technology safely and responsibly is a main priority and ensuring all are able to use the internet and equipment appropriately is of paramount importance. We encourage our pupils to make links across the curriculum, the world and our local community, to reflect on their own experiences, which are designed in our 3D curriculum, allowing horizontal and vertical links with previous year groups.

As a school we use a learning challenge concept, which is designed around children taking more involvement with their own learning and culminates in a challenge/project. Our computing curriculum is built around three aspects of computing; E-safety, Digital literacy and Programming/Coding. It requires deep thinking and encourages learners to work using a challenge as their starting point and advance their cultural capital.

	Autumn 1	Autumn 2		Spring 1		Spring 2	Summer 1		Summer 2
Year 1	E-safety: Using the internet safely	Digital Literacy & E-safety: using a computer/device		E-safety: Using the internet safely	Coding with Beebots	Digital Literacy: bug hunters	Digital Literacy: potty painters		Coding: Scratch Jnr - introduction and fundamentals
Year 2	E-safety: Staying safe on the internet	Digital Literacy & E-safety: using a computer/device		E-safety: Staying safe on the internet	Coding: Scratch Jnr - introduction and fundamentals	Digital Literacy - using a computer including word processing. Saving and opening documents	E-safety: Google Share with care	Digital Literacy: taking and using photos	Coding: Scratch Jnr - introduction and fundamentals
Year 3 **Topic related activities throughout the year.**	E-safety: Google Share with care	Digital Literacy & E-safety: using a computer/device	Word processing PowerPoint	Digital Literacy: Explore a Topic with Research and Collaboration	E-safety: Google Share with care	Coding: Animations - Space	Coding: Sound and music - Rock band		Coding: project
Year 4 **Topic related activities throughout the year.**	E-safety: Google Don't fall for fake	Digital Literacy: Research and develop a topic	Word processing PowerPoint	E-safety: Google Don't fall for fake	Coding: Interactive - Chatbot	Coding: Game - Boat race	Stop motion animation		Coding: project
Year 5 **Topic related activities throughout the year.**	E-safety: Google Secure your secrets	Digital Literacy: Plan an event		E-safety: Google Secure your secrets	Coding: Scratch - Space Junk Game	Coding: Catch the Dots Game	Animation through varied apps and websites		Coding: project
Year 6 **Topic related activities throughout the year.**	E-safety: Google It's cool to be kind	Digital Literacy: Explore a Topic with Research and Collaboration		E-safety: Google It's cool to be kind	Coding: scratch maths Building with Numbers	Coding: Scratch Memory game	Digital Literacy: Childnet video competition		Coding: project

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Computing Year 1

I can statements

Year 1	
E-safety	Uses technology safely
	Keeps personal information private
	Recognises common uses of information technology beyond school
Computing / Digital Literacy	Uses technology purposefully to create digital content
	Uses technology purposefully to store digital content
	Uses technology purposefully to retrieve digital content
Coding	Understands what algorithms are
	Creates simple programs

Year 7

Coding Toolkit

Toolkits are to help guide what should be included in a coding project and to aid assessment.

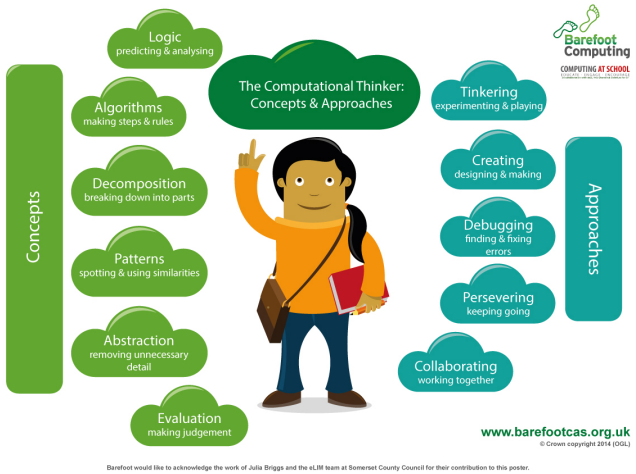
Toolkits for the different genres can be found in Resources folder.

A sample assessment document can be found in Resources folder.

Toolkits can be introduced in the same way that a toolkit or success criteria might be in English (Talk for Writing) and developed in the series of lessons outlined in the planning.

Particular focus should be placed on use of full sentence answers (including correct vocabulary), success in achieving goals and use of the toolkit.

Computing Vocabulary



Algorithm
An algorithm is a sequence of instructions or a set of rules to get something done. Please note: a piece of code is not an algorithm.

Decomposition
The process of breaking down a problem into smaller manageable parts is known as decomposition. Decomposition helps us solve complex problems and manage large projects.

Sequences
This means that the computer will run your code in order, one line at a time from the top to the bottom of your program. It will start at the first block of code, then execute the next block of code then the next and so on until it reaches the last code block of your program.

Repetition
Sometimes you want the computer to execute the same lines of code several times. This is done using a loop. There are three types of loops: Forever loops, repeat n time loops and repeat until loops. That's handy as it enables you not to have to copy the same blocks of code many times.

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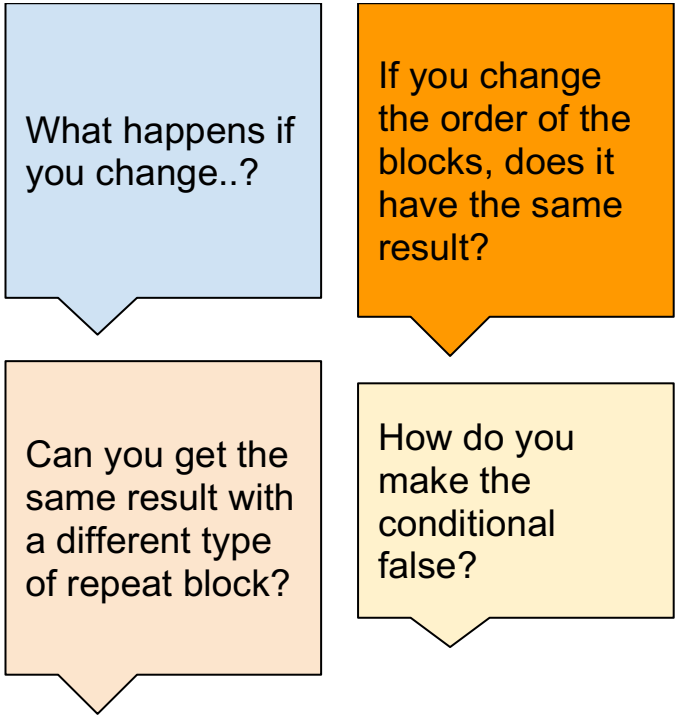
You may need to register and login to the Barefoot website for these resources. It's quick and free to do.

Mastery example questions like maths	Exemplar lesson and planning material
	Exemplar complete unit, including planning, scaffolding, questioning and assessment Lesson plan for a similar maths game, including slides (requires registration) Example slides using PRIMM located in Resources folder

Year 1

Autumn 1	1 & 2	3	4	5	6	7	8
Topic	E-safety:	E-safety:	E-safety:	E-safety:	E-safety:	E-safety:	E-safety:
Lesson	I am internet awesome	Going Places Safely	A-B-C Searching	Keep It Private	My Creative Work	Sending emails	Space for lesson appropriate for school
LO	To agree to the Think Before You Click pledge & E-safety assembly	To use the internet safely	To search the internet for suitable pictures	To keep my information private	To describe how to take ownership of work online	To discuss how to stay safe online	TBD
Planning	To read and sign the Be Internet Awesome pledge	Link You will need to sign in/register	Link	Link	Link	Link	TBD

Autumn 2	1	2	3	4	5	6	7	8
Topic	Digital Literacy: using a computer	Digital Literacy: using a computer	Digital Literacy: using a computer	Digital Literacy: using a computer	Digital Literacy: using a computer	Coding: Hour of Code	Digital Literacy: using a computer	Digital Literacy: using a computer
Lesson	How a supermarket works	How a library works	Getting started in the computer lab	Your digital footprint	Using a device	Select an appropriate activity	Using a device	Using a device
LO	To identify computers in everyday lives	To discuss how computers make our lives easier	To follow the rules when using computers	To discuss staying safe on and offline	To safely use a device, logging on/off	TBD	To safely use a device, video	To safely use a device, sharing
Planning	Link	Link	Link	Link Lesson Plan	This is space for additional time for children to practise using devices	Link	This is space for additional time for children to practise using devices	This is space for additional time for children to practise using devices

Year 1

Spring 1	1	2	3	4	5	6
Topic	E-safety	E-safety	Coding with Beebots	Coding with Beebots	Coding with Beebots	Coding with Beebots
Lesson	We are internet awesome.	We are internet awesome.	Playing & Exploring Bee-Bot: How far?	Playing & Exploring Bee-Bot: One Step More	Bee-Bot Trail : Challenge	Bee-Bot's Journey
LO	An e-safety lesson appropriate for your class	An e-safety lesson appropriate for your class	To be able to predict the behaviour of simple programs	To be able to use logical reasoning to predict the behaviour of simple programs	To plan, test and debug simple programs.	To be able to plan and combine a sequence of commands to achieve a specific goal
Planning/Resources	According to school		LINK			

Spring 2	1	2	3	4	5	6
Topic	Digital Literacy: bug hunters	Digital Literacy: bug hunters	Digital Literacy: bug hunters	Digital Literacy: bug hunters	Digital Literacy: bug hunters	Digital Literacy: bug hunters
Lesson	Introduction to the topic and searching for images	Create an image gallery	Organise files into groups	Organise files into folders	Rename files to help organise them	Create a presentation of organised images
LO	To use Google search to find images	To save images from the internet	To move files	To create and rename folders	To rename files	To present my image gallery
Planning/Resources	Insects	On iPads				

Summer 1	1	2	3	4	5	6	7
Topic	E-safety	Digital Literacy: potty painters	Digital Literacy: potty painters	Digital Literacy: potty painters	Digital Literacy: potty painters	Digital Literacy: potty painters	Digital Literacy: potty painters
Lesson	We are internet awesome.	To introduce topic and discuss what an illustration is	Children choose a book to draw an illustration for	Use an illustration program (eg Google drawings) to create an illustration	Use the same program to edit an illustration	Introduction to eBooks (using Google)	Continue to make the eBook
LO	An e-safety lesson appropriate for your class	To describe what an illustration is	To plan an illustration	To create and save an illustration	To edit an illustration	To create an eBook	To add illustrations to an eBook
Planning/Resources	According to school		Austin's butterfly	LINK		Slides & here Comic strip (longer)	

Summer 2	1	2	3	4	5	6	7
Topic	Coding: Scratch Jnr - Introduction and fundamentals	Coding: Scratch Jnr - Introduction and fundamentals	Coding: Scratch Jnr - Introduction and fundamentals	Coding: Scratch Jnr - Introduction and fundamentals	Coding: Scratch Jnr - Introduction and fundamentals	Coding: Scratch Jnr - Introduction and fundamentals	Coding: Scratch Jnr - Introduction and fundamentals
Lesson	Drive across the city	Run a race	Sunset	Moonrise after sunset	Spooky forest	Meet and greet	Conversation
LO	To write an algorithm and program a sprite	To add sprites	To make a sprite move	To change the background	To make my program repeat	To use speech in a program	To use sequencing in a program
Planning	LINK	LINK	LINK	LINK	LINK	LINK	LINK

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Computing Year 2

Year 2

I can statements

Year 2	
E-safety	Uses technology respectfully
	Identifies where to go for help and support when they have concerns about content or contact on the internet or other online technologies
Computing / Digital Literacy	Uses technology purposefully to organise digital content
	Uses technology purposefully to manipulate digital content
Coding	Understands that algorithms are implemented as programs on digital devices
	Understands that programs execute by following precise and unambiguous instructions
	Debugs simple programs
	Uses logical reasoning to predict the behaviour of simple programs

Year 2

Coding Toolkit

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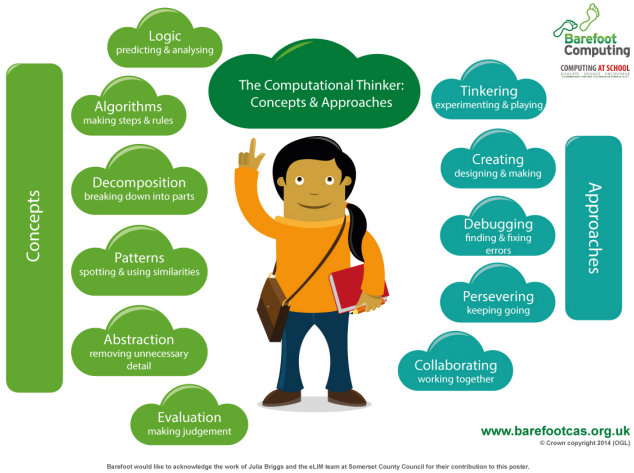
Computing Vocabulary



Algorithm
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Decomposition
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Decomposition helps us solve complex problems and manage large projects.

Sequences
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Repetition
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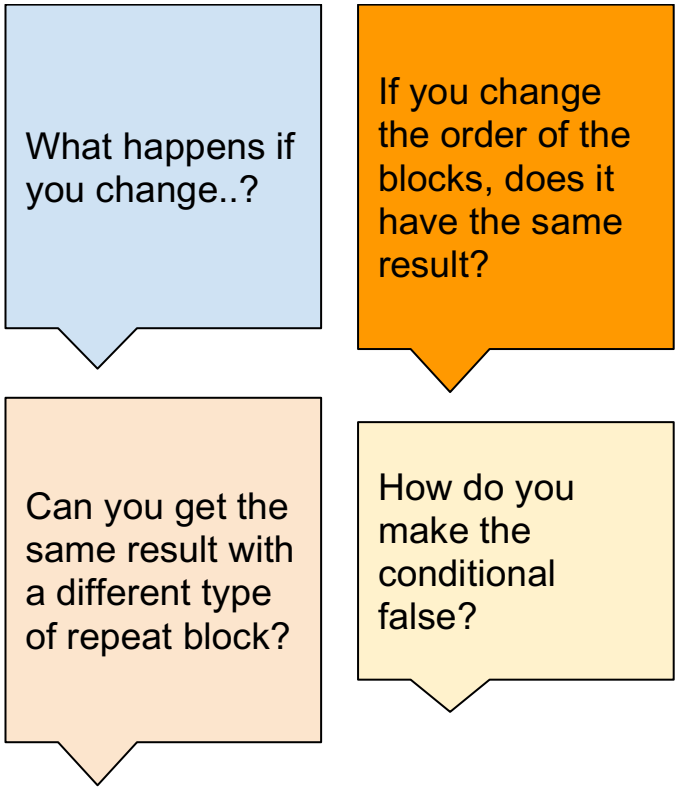
Year 2

Mastery example questions like maths	Exemplar lesson and planning material
	Exemplar complete unit, including planning, scaffolding, questioning and assessment Lesson plan for a similar maths game, including slides (requires registration) Scratch Jnr Slides from Twinkl Example slides using PRIMM in resource folder.

Year 2

Autumn 1	1 & 2	3	4	5	6	7	8
Topic	E-safety:	E-safety:	E-safety:	E-safety:	E-safety:	E-safety:	E-safety:
Lesson	I am internet awesome:	Keeping safe on the internet cartoon	Keeping Safe Game	Make an E-safety poster	Write a story about finding the treasure safely	Design and fill a treasure chest	'Be a Protector' board game
LO	To agree to the Think Before You Click pledge & E-safety assembly	To discuss how to stay safe on the internet	To use technology safely	To describe the rules for staying safe online	To use the rules to discuss a story	To describe positive behaviour on the internet	To make safe choices when using the internet
Planning	To read and sign the Be Internet Awesome pledge	LINK (quick registration and download required)					

Autumn 2	1	2	3	4	5	6	7	8
Topic	Digital Literacy: using a computer	Digital Literacy: using a computer	Digital Literacy: using a computer	Digital Literacy: using a computer	Digital Literacy: using a computer	Coding: Hour of Code	Digital Literacy: using a computer	Digital Literacy: using a computer
Lesson	Staying Safer Online	Follow the Digital Trail	Screen Out the Mean	Using Keywords	Sites I Like	Select an appropriate activity	Using a device	Using a device
LO	To discuss which websites are appropriate for my age	To describe my digital footprint	To treat others with respect online	To use search engines effectively	To rate my favourite websites	TBD	To safely use a device, video	To safely use a device, sharing
Planning	Link You will need to sign in/register	Link	Link	Link	Link	Link	Additional time for children to use devices	Additional time for children to use devices

Year 2

Spring 1	1	2	3	4	5	6
Topic	E-safety	E-safety	Coding: Scratch Jnr - introduction and fundamentals	Coding: Scratch Jnr - introduction and fundamentals	Coding: Scratch Jnr - introduction and fundamentals	Coding: Scratch Jnr - introduction and fundamentals
Lesson	I am internet awesome	I am internet awesome	Grow and Shrink	Time to Move	Repeat	Sounds
LO	An e-safety lesson appropriate for your class	An e-safety lesson appropriate for your class	To program a character to grow and shrink.	To use instructions to make characters move at different speeds and distance.	To use a repeat instruction to make a sequence of instructions run more than once and predict the behaviour.	To create programs that play a recorded sound.
Planning	According to school	LINK				

Spring 2	1	2	3	4	5	6
Topic	Coding: Scratch Jnr - introduction and fundamentals	Digital Literacy - using a computer	Digital Literacy - using a computer	Digital Literacy - using a computer	Digital Literacy - using a computer	Digital Literacy - using a computer
Lesson	Sequencing	How can computers help you learn?	What is the internet?	How do people use computers at work?	How does animation work?	How do you make video on a computer?
LO	To create programs with a sequence of linked instructions.	To identify computer icons	To describe how the internet works	To discuss the different uses of computers	To create a flipbook animation Flip book	To film a short video LINK
Planning/Resources	LINK	LINK				

Year 2

Summer 1	1	2	3	4	5	6	7
Topic	E-safety	E-safety: Google: Share with care	Digital Literacy: taking and using photos	Digital Literacy: taking and using photos	Digital Literacy: taking and using photos	Digital Literacy: taking and using photos	Digital Literacy: taking and using photos
Lesson	I am internet awesome	When not to share	We are photographers	We are photographers	We are photographers	We are photographers	We are photographers
LO	An e-safety lesson appropriate for your class	To discuss what information should be kept private	To discuss what a camera is and how it works	To take a good photo	To save and organise photos	To edit a photo	To present my photos
Planning/Resources	According to school	Link	How a camera works Pinhole Camera	LINK	How data is stored	Photography apps	

Summer 2	1	2	3	4	5	6	7
Topic	Coding: Scratch Jnr - introduction and fundamentals	Coding: Scratch Jnr - introduction and fundamentals	Coding: Scratch Jnr - introduction and fundamentals	Coding: Scratch Jnr - introduction and fundamentals	Coding: Scratch Jnr - introduction and fundamentals	Coding: Scratch Jnr - introduction and fundamentals	Coding: Scratch Jnr - introduction and fundamentals
Lesson	Walk Along	Show and Hide	Gymnast Cat	Intersection	Big and Small	Messaging	Maze
LO	To animate a sprite	To make sprites appear and disappear	To use a repeat block	To control a sprite's actions	To change the size of a sprite	To use messaging to control a sprite	To create a game
Planning/Resources	LINK						

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Computing Year 3

Year 3

I Can statements

Year 3	
E-safety	Uses technology responsibly
	Identifies a range of ways to report concerns about contact
Computing / Digital Literacy Coding	Uses search technologies effectively
	Uses a variety of software to accomplish given goals
	Collects information
	Designs and creates content
	Presents information
Coding	Writes programs that accomplish specific goals
	Uses sequence in programs
	Works with various forms of input
	Works with various forms of output

Year 3

Coding Toolkit

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A sample assessment document can be found in Resources folder.

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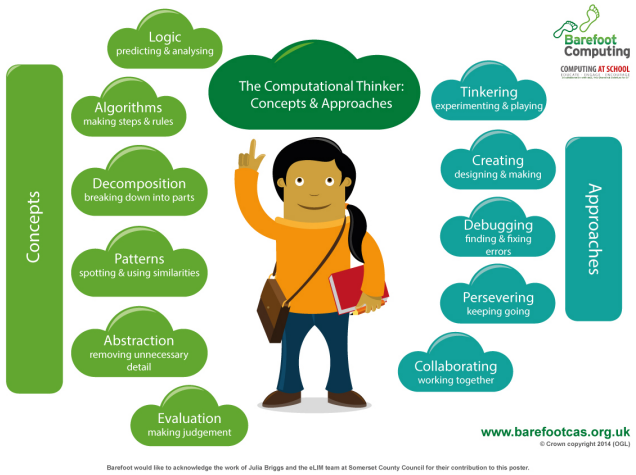
Particular focus should be placed on use of full sentence answers (including correct vocabulary), success in achieving goals and use of the toolkit.

Computing Vocabulary



Algorithm
An algorithm is a sequence of instructions or a set of rules to get something done.
Please note: a piece of code is not an algorithm.

Decomposition
The process of breaking down a problem into smaller manageable parts is known as decomposition. Decomposition helps us solve complex problems and manage large projects.

Sequences
This means that the computer will run your code in order, one line at a time from the top to the bottom of your program. It will start at the first block of code, then execute the next block of code then the next and so on until it reaches the last code block of your program.

Repetition
Sometimes you want the computer to execute the same lines of code several times. This is done using a loop. There are three types of loops: Forever loops, repeat n time loops and repeat until loops. That's handy as it enables you not to have to copy the same blocks of code many times.

Selection
Sometimes you only want some blocks of code to be run only if a condition is met, otherwise you want the computer to ignore these blocks and jump over them. This is achieved using IF statements. e.g. If a condition is met then blocks contained within the IF block are executed otherwise the computer jumps to the next code blocks without even looking at them.

You may need to register and login to the Barefoot website for these resources. It's quick and free to do.

Year 3

Coding focus areas

Sequences

More info

Repetition

More info

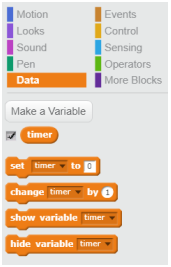
Selection

More info

Year 3

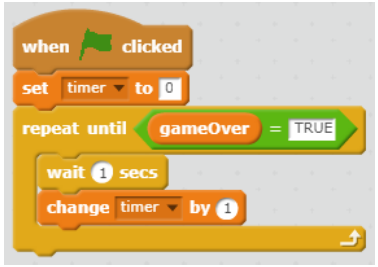
Additional code

Variables



More info

Timer LINK



Assessment

Use the following for a rounded assessment for all 3 areas:

Assessment document, inc toolkit

Quantum Project Quiz (registration required)
Links in planning. Quizzes are multiple choice and have 10 questions. 0-2: significantly below; 2-3: below; 4-6: at; 7-8: just above; 9-10: significantly above. See document in Resources folder on how to set up.

I can statements

Mastery example questions like maths

What happens if you change..?

If you change the order of the blocks, does it have the same result?

Can you get the same result with a different type of repeat block?

How do you make the conditional

Exemplar lesson and planning material

Exemplar complete unit, including planning, scaffolding, questioning and assessment

Lesson plan for a similar maths game, including slides (requires registration)

Example slides using PRIMM in resource folder.

Year 3

Autumn 1	1 & 2	3	4	5	6	7	8
Topic	E-safety:	E-safety: Google: Share with care	E-safety: Google: Share with care	E-safety: Google: Share with care	E-safety: Google: Share with care	E-safety: Google: Share with care	E-safety:
Lesson	I am internet awesome	When not to share	Whose profile is this, anyway?	How do others see us?	Keeping it private	Interland: Mindful Mountain	Space for lesson appropriate for school
LO	To agree to the Be Internet Awesome pledge & E-safety assembly	To discuss what information should be kept private	To identify ways information can be found online about people	To create a positive online presence	To discuss different levels of privacy	To put my learning into practice	TBD
Planning	To read and sign the pledge	Link	Link	Link	Link	Link	TBD

Autumn 2	1	2	3	4	5	6	7	8
Topic	Digital Literacy: using a computer	Digital Literacy: using a computer	Digital Literacy: using a computer	Digital Literacy: using a computer	Digital Literacy: using a computer	Word Processing	Word Processing	PowerPoint
Lesson	Powerful Password	My Online Community	Things For Sale	Show Respect Online	Writing Good Emails	Creating a word document	Opening and editing a Word document	Open a Powerpoint, edit and save
LO	To create a safe password	To describe how the internet connects people	To discuss how products are sold online	To describe differences between on/offline communication	To communicate safely and effectively online	To be able to create, edit and save Word document	To locate a previously saved document, edit and resave the document	To be able to create a short PowerPoint to present to peers
Planning	Link You will need to sign in/register	Link	Link	Link	Link	Topic based		

Year 3

Spring 1	1	2	3	4	5	6
Topic	E-safety	Digital Literacy: Explore a Topic with Research and Collaboration	Digital Literacy: Explore a Topic with Research and Collaboration	Digital Literacy: Explore a Topic with Research and Collaboration	Digital Literacy: Explore a Topic with Research and Collaboration	E-safety: Google: Share with care
Lesson	I am internet awesome	Choose a research topic	Search the internet for information and record notes	Write a paragraph about your topic	Write a paragraph about your topic	Interland: Mindful Mountain
LO	An e-safety lesson appropriate for your class	To describe the features of a fake news article	To conduct a google search and record information	To use School shared to write an article	To share a piece of writing	To put my learning into practice
Planning	According to school	Link	Link	Link	Link	Link

Spring 2	1	2	3	4	5	6
Topic	Coding: Animations - Space	Coding: Animations - Space	Coding: Animations - Space	Coding: Animations - Space	Coding: Animations - Space	Coding: Animations - Space
Lesson	View animation and plan my own	Animate a spaceship	Animating using loops	Floating monkey	Bouncing asteroid & Shining a Star	Challenge: make your own animation - children to create own animation from initial plan and design
LO	To create a Scratch project	To animate a Scratch sprite	To use repetition	To edit a sprite	To change the size of a sprite	To test and debug
Planning	LINK	LINK	LINK	LINK	LINK	LINK
						Assessment

Year 3

Summer 1	1	2	3	4	5	6	7
Topic	E-safety	Coding: Sound and music - Rock band	Coding: Sound and music - Rock band	Coding: Sound and music - Rock band	Coding: Sound and music - Rock band	Coding: Sound and music - Rock band	Coding: Sound and music - Rock band
Lesson	I am internet awesome	To view animation and plan my own	Sprites & The stage	Making a drum & Making a singer	Challenge: improving your drum	Costumes	Challenge: make your own band - create animation
LO	An e-safety lesson appropriate for your class	To create a project in Scratch	To change the backdrop in a Project	To add sound to a sprite	To change the sound of a sprite	To change a sprite's costume	To create an animation with sound
Planning	According to school	LINK	LINK	LINK	LINK	LINK	LINK
							Assessment

Summer 2	1	2	3	4	5	6	7
Topic	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project
Lesson	Brainstorm and plan: children to create game or animation and to design and plan their own version	Create sprites, backgrounds for project	To start adding in functionality	To start adding in functionality	To start adding in functionality	Review and improve	Children play each other's games and assess/feedback on success compared to initial plan.
LO	To plan an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation
Planning	LINK (link to existing scratch projects for ideas)						

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Computing Year 4

Year 4

I can statements

Year 4	
E-safety	Understands the opportunities computer networks offer for communication
	Identifies a range of ways to report concerns about content
	Recognises acceptable/unacceptable behaviour
Computing / Digital Literacy	Selects a variety of software to accomplish given goals
	Selects, uses and combines internet services
	Analyses and evaluates information
	Collects and presents data
Coding	Designs programs that accomplish specific goals
	Designs and creates programs
	Debugs programs that accomplish specific goals
	Uses repetition in programs
	Controls or simulates physical systems
	Uses logical reasoning to detect and correct errors in programs
	Understands how computer networks can provide multiple services, such as the World Wide Web

Year 4 Coding Toolkit

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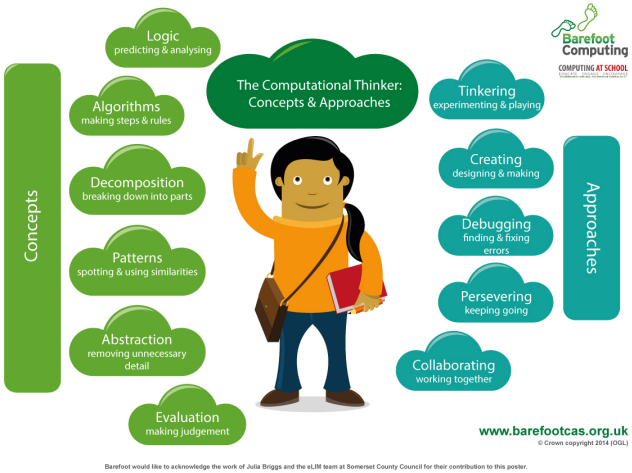
Year 4 Computing Vocabulary



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Please note: a piece of code is not an algorithm.

Decomposition
The process of breaking down a problem into smaller manageable parts is known as decomposition. Decomposition helps us solve complex problems and manage large projects.

Sequences
This means that the computer will run your code in order, one line at a time from the top to the bottom of your program. It will start at the first block of code, then execute the next block of code then the next and so on until it reaches the last code block of your program.

Repetition
Sometimes you want the computer to execute the same lines of code several times. This is done using a loop. There are three types of loops: Forever loops, repeat n time loops and repeat until loops. That's handy as it enables you not to have to copy the same blocks of code many times.

Selection
Sometimes you only want some blocks of code to be run only if a condition is met, otherwise you want the computer to ignore these blocks and jump over them. This is achieved using IF statements. E.g. If a condition is met then blocks contained within the IF block are executed otherwise the computer jumps to the next code blocks without even looking at them.

You may need to register and login to the Barefoot website for these resources. It's quick and free to do.

Year 4

Coding focus areas

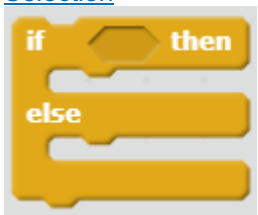
Sequences

More info

Repetition

More info

Selection



More info & here

Year 4

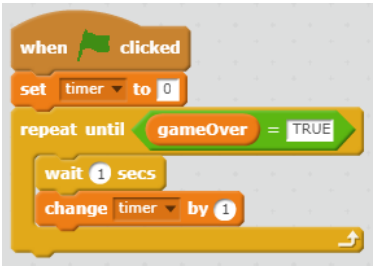
Additional code

Variables

More info

How to score points when touching another sprite LINK

Timer LINK



Assessment

Use the following for a rounded assessment for all 3 areas:

Assessment document, Inc. toolkit

Quantum Project Quiz (registration required)
Links in planning. Quizzes are multiple choice and have 10 questions. 0-2: significantly below; 2-3: below; 4-6: at; 7-8: just above; 9-10: significantly above. See document in Resources folder on how to set up.

I can statements

Mastery example questions like maths

What happens if you change..?

If you change the order of the blocks, does it have the same result?

Can you get the same result with a different type of repeat block?

How do you make the conditional

Exemplar lesson and planning material

Exemplar complete unit, including planning, scaffolding, questioning and assessment

Lesson plan for a similar maths game, including slides (requires registration)

Example slides using PRIMM in resource folder.

Year 4

Autumn 1	1 & 2	3	4	5	6	7	8
Topic	E-safety:	E-safety: Google: Don't fall for fake	E-safety: Google: Don't fall for fake	E-safety: Google: Don't fall for fake	E-safety: Google: Don't fall for fake	Digital Literacy: Research and develop a topic	Digital Literacy: Research and develop a topic
Lesson	I am Internet Awesome	Don't bite that phishing hook!	Who are you, really?	About those bots	Interland: Reality River	Unit Introduction	Credibility Clues
LO	To agree to the Be Internet Awesome pledge & E-safety assembly	To recognize ways people steal personal information	To recognize when someone is trying to steal personal info	To analyse how computer 'bots' can impact on daily life	To put my learning into practice	To assess the credibility of source on the internet	To assess the credibility of source on the internet
Planning	To read and sign the Be Internet Awesome pledge	Link	Link	Link	Link	Link (Lesson 1)	Link (Lesson 1)

Autumn 2	1	2	3	4	5	6	7	8
Topic	Digital Literacy: Research and develop a topic	Digital Literacy: Research and develop a topic	Digital Literacy: Research and develop a topic	Digital Literacy: Research and develop a topic	Word processing: creating a document	Word processing	PowerPoint: Creating a presentation	PowerPoint: Design and transition
Lesson	Explore a topic with research and collaboration	Explore a topic with research and collaboration	Create a welcome screen	Create a welcome screen	Creating a word document. Saving	Opening and editing a word document and Save As	Creating a presentation Saving	Opening and editing a PowerPoint and Save As
LO	To research and record information	To research and record information	To write and execute a program	To show an HTML formatted message	To create a word document and edit font	To open and edit word document	To create a PowerPoint and edit font	To open and edit PowerPoint
Planning	Link (Lesson 2)	Link (Lesson 2)	Link (Lesson 3)	Link (Lesson 3)	Topic related	Topic related	Topic related	Topic related

Year 4

Spring 1	1	2	3	4	5	6
Topic	E-safety	Coding: Interactive - Chatbot	Coding: Interactive - Chatbot	Coding: Interactive - Chatbot	Coding: Interactive - Chatbot	Coding: Interactive - Chatbot
Lesson	I am internet awesome	Your chatbot: children create and plan their own version	A talking chatbot	Making decisions	Changing locations	Challenge: finish your chatbot: children create their own chatbot from initial design and plan
LO	An e-safety lesson appropriate for your class	To plan and design a chatbot	To create and use a variable	To ask a question in Scratch	To use selection	To test and debug a program
Planning	According to school	LINK	LINK	LINK	LINK	LINK
						Assessment

Spring 2	1	2	3	4	5	6
Topic	Coding: Game - Boat race	Coding: Game - Boat race	Coding: Game - Boat race	Coding: Game - Boat race	Coding: Game - Boat race	Coding: Game - Boat race
Lesson	Getting started and introduction to game	Controlling the boat/Crashing	Time trial	Obstacles and power ups	Challenge: more obstacles	Challenge: more boats
LO	To trace code and understand what it does	To use repetition and selection	To use a variable to create a timer	To introduce challenge to a game	To introduce challenge to a game	To add extra functionality
Planning	LINK	LINK	LINK	LINK	LINK	LINK
						Assessment

Year 4

Summer 1	1	2	3	4	5	6	7
Topic	E-safety	IMovie	IMovie	Stop motion animation	Stop motion animation	Stop motion animation	Stop motion animation
Lesson	I am internet awesome	Create trailer using pictures	Create more complex video using a mixture of video and photo	Animation techniques	Creating simple Stop motion	Develop and edit animation	present and show final piece
LO	An e-safety lesson appropriate for your class	To develop camera skills and manipulation	To develop camera skills and manipulation	practise simple photography skills	Develop photography and movement	Develop photography and movement	
Planning	According to school	Topic based if possible					

Summer 2	1	2	3	4	5	6	7
Topic	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project
Lesson	Brainstorm and plan project: children to create game/animation and to design and plan their own version	Create sprites, backgrounds for project	To start adding in functionality	To start adding in functionality	To start adding in functionality	Review and improve	Children play each other's games and assess/feedback on success compared to initial plan.
LO	To plan an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation
Planning	LINK (link to existing scratch projects for ideas)						

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Computing Year 5

Year 5

I Can Statements

Year 5	
E-safety	Understands the opportunities computer networks offer for collaboration
	Is discerning in evaluating digital content
Computing / Digital Literacy	Combines a variety of software to accomplish given goals
	Selects, uses and combines software on a range of digital devices
	Analyses and evaluates data
	Designs and creates systems
Coding	Solves problems by decomposing them into smaller parts
	Uses selection in programs
	Works with variables
	Uses logical reasoning to explain how some simple algorithms work
	Uses logical reasoning to detect and correct errors in algorithms
	Understands computer networks, including the internet
	Appreciates how search results are ranked

Year 5

Coding Toolkit

Toolkits are to help guide what should be included in a coding project and to aid assessment.

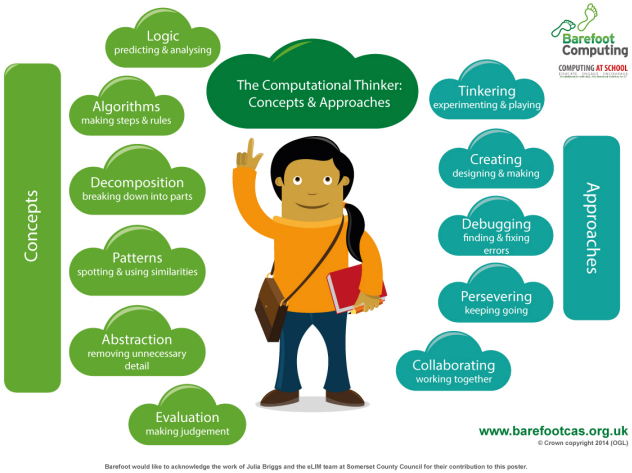
Toolkits for the different genres can be found in the Resources folder.

A sample assessment document can be found in the Resources folder.

Toolkits can be introduced in the same way that a toolkit or success criteria might be in English (Talk for Writing) and developed in the series of lessons outlined in the planning.

Particular focus should be placed on use of full sentence answers (including correct vocabulary), success in achieving goals and use of the toolkit.

Computing Vocabulary



Algorithm
An algorithm is a sequence of instructions or a set of rules to get something done.
Please note: a piece of code is not an algorithm.

Decomposition
The process of breaking down a problem into smaller manageable parts is known as decomposition. Decomposition helps us solve complex problems and manage large projects.

You may need to register and login to the Barefoot website for these resources. It's quick and free to do.

Sequences
This means that the computer will run your code in order, one line at a time from the top to the bottom of your program. It will start at the first block of code, then execute the next block of code then the next and so on until it reaches the last code block of your program.

Repetition
Sometimes you want the computer to execute the same lines of code several times. This is done using a loop. There are three types of loops: Forever loops, repeat n time loops and repeat until loops. That's handy as it enables you not to have to copy the same blocks of code many times.

Selection
Sometimes you only want some blocks of code to be run only if a condition is met, otherwise you want the computer to ignore these blocks and jump over them. This is achieved using IF statements. e.g. If a condition is met then blocks contained within the IF block are executed otherwise the computer jumps to the next code blocks without even looking at them.

Variables
A variable is a simple way of storing one piece of information somewhere in the computer's memory whilst a program is running, and getting that information back later. Programs store, retrieve or change the value of a variable, such as a user's name, the name of a product to be purchased in an online store and a score in a computer game.

Year 5

The Big 3 focus areas
http://www.101computing.net/sequencing-selection-iteration/

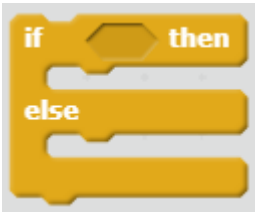
Sequences

More info

Repetition

More info

Selection

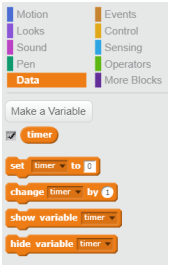


More info

Year 5

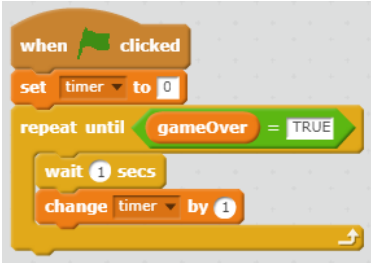
Additional code

Variables



More info

Timer LINK



Assessment

Use the following for a rounded assessment for all 3 areas:

Assessment document, inc toolkit

Quantum Project Quiz (registration required)
Links in planning. Quizzes are multiple choice and have 10 questions. 0-2: significantly below; 2-3: below; 4-6: at; 7-8: just above; 9-10: significantly above. See document in Resources folder on how to set up.

I can statements

Mastery example questions like maths

What happens if you change..?

If you change the order of the blocks, does it

Can you get the same result with a different type

How do you make the

Exemplar lesson and planning material

Exemplar complete unit, including planning, scaffolding, questioning and assessment

Lesson plan for a similar maths game, including slides (requires registration)

Example slides using PRIMM in resource folder.

Year 5

Autumn 1	1 & 2	3	4	5	6	7	8
Topic	E-safety:	E-safety: Secure your secrets	E-safety: Secure your secrets	E-safety: Secure your secrets	Digital Literacy: Plan an event	Digital Literacy: Plan an event	Digital Literacy: Plan an event
Lesson	I am internet awesome	How to build a great password	Keep it to yourself	Interland: Tower of Treasure	Select and research an event	Plan tasks for your event	Plan tasks for your event
LO	To agree to the Be Internet Awesome pledge & E-safety assembly	To create a strong password	To customize privacy settings	To put my learning into practice	To create docs and collaborate using Google Drive	To create and edit a Google Sheet	To create and edit a Google Sheet
Planning	To read and sign the Be Internet Awesome pledge	Link	Link	Link	Link (Lesson 1)	Link (Lesson 2)	Link (Lesson 2)

Autumn 2	1	2	3	4	5	6	7	8
Topic	Digital Literacy: Plan an event	Digital Literacy: Plan an event	Digital Literacy: Plan an event	Digital Literacy: Plan an event	Digital Literacy: Plan an event	Coding: Hour of Code	Coding	Coding
Lesson	Create a logo	Create a flyer to advertise	Create a flyer to advertise	Share your event digitally	Wrap-up and evaluation	Select an appropriate activity	Christmas card competition	Christmas card competition
LO	To use Google Drawings to create an image	To create an advert using Google Docs	To create an advert using Google Docs	To create a basic website in Google Sites	To reflect and evaluate learning	TBD	LO: to create an animation in Scratch	LO: to create an animation in Scratch
Planning	Link (Lesson 4)	Link (Lesson 5)	Link (Lesson 5)	Link (Lesson 6)	Link (Lesson 7)	Link	Slides in resource folder	Slides in resource folder

Year 5

Spring 1	1	2	3	4	5	6
Topic	E-safety	Coding: Scratch - Space Junk Game	Coding: Scratch - Space Junk Game	Coding: Scratch - Space Junk Game	Coding: Scratch - Space Junk Game	Coding: Scratch - Space Junk Game
Lesson	I am internet awesome	Project introduction	Controlling the cat	Space Junk	Getting back to Earth	CHallenge: 2 players
LO	An e-safety lesson appropriate for your class	To discuss how a game works	To control a sprite using input	To use collision detection	To add a timer to a game	To add 2 player functionality
Planning	According to school	LINK	LINK	LINK	LINK	LINK
						Assessment

Spring 2	1	2	3	4	5	6
Topic	Coding: Catch the Dots Game	Coding: Catch the Dots Game	Coding: Catch the Dots Game	Coding: Catch the Dots Game	Coding: Catch the Dots Game	Coding: Catch the Dots Game
Lesson	Creating a controller	Collecting dots	Increasing the difficulty	High score	Challenge: Improve your game!	Challenge: Game menu
LO	To create a sprite	To clone a sprite	To add difficulty to a game	To add a high score to a game	To make the game more enjoyable	To add an interface to a game
Planning	LINK					
						Assessment

Year 5

Summer 1	1	2	3	4	5	6	7
Topic	E-safety	Animation	Animation	Animation	Animation	Animation	Animation
Lesson	I am internet awesome	Using various apps	Using various apps	Using various apps	Using various apps	Using various apps	Using various apps
LO	An e-safety lesson appropriate for your class						
Planning	According to school						

Summer 2	1	2	3	4	5	6	7
Topic	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project
Lesson	Brainstorm and plan: children create game/animation and design and plan own version	Create sprites, backgrounds for project	To start adding in functionality	To start adding in functionality	To start adding in functionality	Review and improve	Children play each other's games and assess/feedback on success compared to initial plan.
LO	To plan an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation
Planning	LINK (link to existing scratch projects for ideas)						

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Computing Year 6

Year 6

I can statements

Year 6	
E-safety	Understands the opportunities computer networks offer for collaboration
	Is discerning in evaluating digital content
Computing / Digital Literacy	Combines a variety of software to accomplish given goals
	Selects, uses and combines software on a range of digital devices
	Analyses and evaluates data
	Designs and creates systems
Coding	Solves problems by decomposing them into smaller parts
	Uses selection in programs
	Works with variables
	Uses logical reasoning to explain how some simple algorithms work
	Uses logical reasoning to detect and correct errors in algorithms
	Understands computer networks, including the internet
	Appreciates how search results are ranked

Year 6 Coding Toolkit

Toolkits are to help guide what should be included in a coding project and to aid assessment.

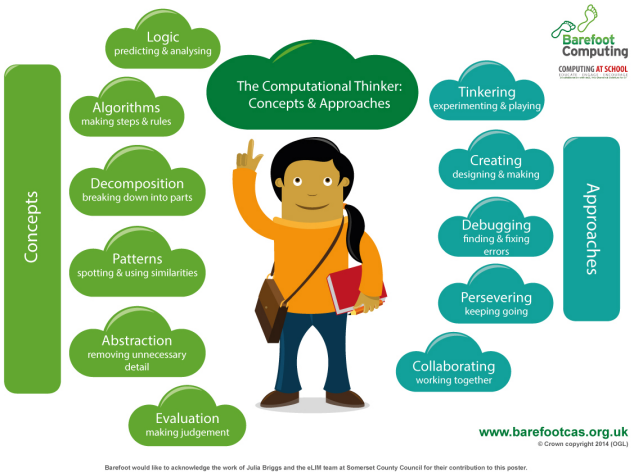
Toolkits for the different genres can be found in the Resources folder.

A sample assessment document can be found in the Resources folder.

Toolkits can be introduced in the same way that a toolkit or success criteria might be in English (Talk for Writing) and developed in the series of lessons outlined in the planning.

Particular focus should be placed on use of full sentence answers (including correct vocabulary), success in achieving goals and use of the toolkit.

Year 6 Computing Vocabulary



Algorithm
An algorithm is a sequence of instructions or a set of rules to get something done.
Please note: a piece of code is not an algorithm.

Decomposition
The process of breaking down a problem into smaller manageable parts is known as decomposition. Decomposition helps us solve complex problems and manage large projects.

Sequences
This means that the computer will run your code in order, one line at a time from the top to the bottom of your program. It will start at the first block of code, then execute the next block of code then the next and so on until it reaches the last code block of your program.

Repetition
Sometimes you want the computer to execute the same lines of code several times. This is done using a loop. There are three types of loops: Forever loops, repeat n time loops and repeat until loops. That's handy as it enables you not to have to copy the same blocks of code many times.

Selection
Sometimes you only want some blocks of code to be run only if a condition is met, otherwise you want the computer to ignore these blocks and jump over them. This is achieved using IF statements. e.g. If a condition is met then blocks contained within the IF block are executed otherwise the computer jumps to the next code blocks without even looking at them.

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Coding focus areas

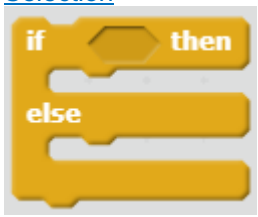
Sequences

More info

Repetition

More info

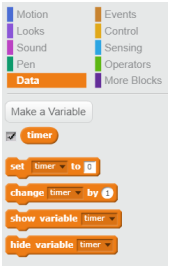
Selection



More info

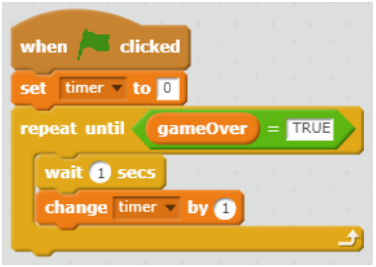
Additional code

Variables



More info

Timer LINK



Assessment

Use the following for a rounded assessment for all 3 areas:

Assessment document, inc toolkit
Code progression

Quantum Project Quiz (registration required)
Links in planning. Quizzes are multiple choice and have 10 questions. 0-2: significantly below; 2-3: below; 4-6: at; 7-8: just above; 9-10: significantly above. See document in Resources folder on how to set up.

I can statements

Mastery example questions

What happens if you change..?

If you change the order of the blocks, does it have the same result?

Can you get the same result with a different type of repeat block?

How do you make the conditional false?

Exemplar lesson and planning material

Exemplar complete unit, including planning, scaffolding, questioning and assessment

Lesson plan for a similar maths game, including slides (requires registration)

Example slides using PRIMM in resource folder.

Autumn 1	1 & 2	3	4	5	6	7	8
Topic	E-safety:	E-safety: It's cool to be kind	E-safety: It's cool to be kind	E-safety: It's cool to be kind	E-safety: It's cool to be kind	E-safety: It's cool to be kind	E-safety: It's cool to be kind
Lesson	I am internet awesome	How can I be an upstander?	Upstander options	…but say it nicely!	Mind your tone	Walking the walk	Interland: Kind Kingdom
LO	To agree to the Be Internet Awesome pledge & E-safety assembly	To respond to bullying online	To discuss different ways to respond to bullying	To turn negative interactions not positive ones	To interpret emotions behind texts and messages	To model behaviour to others	To put my learning into practice
Planning	To read and sign the Be Internet Awesome pledge	Link	Link	Link	Link	Link	Link

Autumn 2	1	2	3	4	5	6	7	8
Topic	Digital Literacy: explore a topic	Digital Literacy: explore a topic	Digital Literacy: explore a topic	Digital Literacy: explore a topic	Digital Literacy: explore a topic	Coding: Hour of Code	Digital Literacy: explore a topic	Coding
Lesson	Test for Credibility	Test for Credibility	Explore a Topic with Research and Collaboration	Explore a Topic with Research and Collaboration	Explore a Topic with Research and Collaboration	Select an appropriate activity	Wrap Up and share	Christmas card competition
LO	To test the credibility of sources on the internet	To create and share a Google Document	To conduct an internet search	Use Google Docs to record information	To write a research based article	TBD	To share a Google Doc	To create an animation in Scratch
Planning	Link Lesson Plan	Link Lesson Plan	Link Lesson Plan	Link Lesson Plan	Link Lesson Plan	Link	Link Lesson Plan	Slides in resource folder.

Year 6

Spring 1	1	2	3	4	5	6
Topic	E-safety	E-Safety	Coding: scratch maths Building with Numbers	Coding: scratch maths Building with Numbers	Coding: scratch maths Building with Numbers	Coding: scratch maths Building with Numbers
Lesson	I am internet awesome		Playing with Place Value Pg 7 - 11	Playing with Place Value Pg 20 - 23	Place Value Models: Sequences Pg 24	Place Value Models: Sequences, Extension Recording Pg 27
LO	An e-safety lesson appropriate for your class		To switch a sprites costumes using a variable	To use broadcast to send notifications	To use input to change the output	To record the output
Planning	According to school	LINK				
						Assessment

Spring 2	1	2	3	4	5	6
Topic	Coding: Scratch Memory game	Coding: Scratch Memory game	Coding: Scratch Memory game	Coding: Scratch Memory game	Coding: Scratch Memory game	Coding: Scratch Memory game
Lesson	View and plan project: children to play game and to design and plan their own version	Create a colour sequence	Create a colour sequence (2nd half)	Repeating the sequence	Multiple levels	High Score
LO	To plan an interactive game	To create a list	To add items to a list	To use broadcast as a notification	To create and use a variable to track scores	To create and use a variable to track a high score
Planning	LINK					
						Assessment

Summer 1	1	2	3	4	5	6	7
Topic	E-safety	Digital Literacy: Childnet video competition	Digital Literacy: Childnet video competition	Digital Literacy: Childnet video competition	Digital Literacy: Childnet video competition	Digital Literacy: Childnet video competition	Digital Literacy: Childnet video competition
Lesson	I am internet awesome	Initial lesson to explain the project	To create and plan the contents of the video	Script writing (Literacy links)	Making props (DT/Art)	Using iMovie or similar	Using iMovie or similar
LO	An e-safety lesson appropriate for your class	To discuss the video competition and the theme	To plan a storyboard	To write a script	To create props	To record a video	To edit a video
Planning	According to school	LINK					

Summer 2	1	2	3	4	5	6	7
Topic	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project	Coding: Scratch Project
Lesson	Brainstorm and plan project: children to create game/animation and to design and plan their own version	Create sprites, backgrounds for project	To start adding in functionality	To start adding in functionality	To start adding in functionality	Review and improve	Children play each other's games and assess/feedback on success compared to initial plan.
LO	To plan an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation	To create an interactive game or animation
Planning	LINK (link to existing scratch projects for ideas)						