Year group objectives for Computing - Year 1

See individual lesson plans (link) for knowledge, skills, assessment opportunities, activities and slides.

Autumn 1 (Technology around us)

	1	Autumi 1 (Technology around us)
Session no.	Objective	Assessment
1	To identify technology	Activity 1: Assess whether learners understand which items can be defined as technology. Activity 2: Assess whether learners are able to identify technology within their school or classroom environment. Activities 3: Assess whether learners understand how different technology can help them.
2	To identify a computer and its main parts	Activity 1: Assess whether learners are able to demonstrate their knowledge of the different parts of a computer. Activity 2: Assess whether learners are able to turn on and log into a computer, and whether they can use a mouse to click and drag objects on the screen
3	To use a mouse in different ways	Introduction: Assess whether learners can name different parts of a computer and explain what it does. Activity 1: Assess whether learners are able to use a double-click to open a program/browser Activity 2: Assess whether learners are able to create a simple picture using a mouse.
4	To use a keyboard to type on a computer	Introduction: Assess whether learners can explain that the process of writing using a keyboard is called typing. Activity 1: Assess whether learners are able to type their name using a keyboard. Activity 2: Assess learners' ability to save a file.
5	To use a keyboard to edit text	Activity 1: Assess whether learners are able to locate and open their saved file. Activity 2: Assess whether learners can use arrow keys to move their cursor and backspace to delete letters. Plenary: Assess whether learners can understand the importance of naming their files sensibly.
6	To create rules for using technology responsibly	Introduction: Assess whether the learners can explain the reason for rules. Activity 1: Assess whether learners are able to list rules they know of in the school setting.

Activity 2:Assess whether learners are able to list rules for using
computer technology safely.

Autumn 2 (digital painting)

		Autumn 2 (digital painting)
Session no.	Objective	Assessment
1	To learn how we paint using computers	Introduction: Provides an opportunity to examine learners' prior knowledge and to determine their awareness of the tools used for digital painting. Activity 1: Provides an opportunity to assess whether learners understand which tools would be appropriate for use in today's lesson. Activity 2: Allows learners the opportunity to use the tools you have modelled to create their own digital painting. Plenary: Allows learners an opportunity to self-assess their own painting.
2	To use the shape tool and the line tool	Introduction: Provides an opportunity to examine learners' prior knowledge and to determine their awareness of the tools used for digital painting. Activity 1: Provides an opportunity to assess whether learners understand which tools would be appropriate for use in today's lesson. Activity 2: Allows learners the opportunity to use the tools you have modelled to create their own digital painting. Plenary: Allows learners an opportunity to self-assess their own painting.
3	To make careful choices when painting a digital picture	Introduction: Provides an opportunity to examine learners' prior knowledge and to determine their awareness of the tools used for digital painting. Activity 1: Provides an opportunity to assess whether learners understand which tools would be appropriate for use in today's lesson. Activity 2: Allows learners the opportunity to use the tools modelled by the teacher to create their own digital painting.
4	To explain why I choose the tools I use	Introduction: Provides an opportunity to assess learners' current understanding of the jobs of the different paint tools. Activity 1: Provides an opportunity to assess the learners' understanding of tools used so far in the unit and how these might help them to recreate the work of the chosen artist.

		Activity 2: Provides learners with the opportunity to demonstrate their use of the paint tools and make choices regarding the best
		tools to use.
		Assessment: Allows learners time to reflect on the tools that they
		have used and how effective they were.
		Conclusion: Allows learners the opportunity to verbalise what
		the different tools in the paint package can do and how
		effective/helpful they were when creating their digital paintings.
		Activity 1: Provides an opportunity for learners to discuss which tools they will use to create work in the style of the chosen artist.
		Activity 2: Provides learners with the opportunity to demonstrate
_	To use a computer	their independent use of the brush size, style, colour, and undo
5	independently to paint	tools.
	a picture	Conclusion: Provides learners time to share and discuss their
		work and the amount of independence they have used in this
		task.
		Introduction: Provides an opportunity to assess learners' current
	To compare painting a picture on a computer and on paper	understanding of how different pictures are made and what clues
		they use to recognise this.
		Activity 1: Provides an opportunity for learners to compare the
6		painting process on a computer and on paper.
6		Activity 2: Provides an opportunity to assess learners' likes and
		dislikes with regards to using computers or paint on paper as a
		medium for their paintings.
		Plenary: Provides an opportunity to assess the learners'
		preferred medium of painting and allows time for discussion.

Spring 1 (Digital writing)

Session no.	Objective	Assessment
1	To explore the computer keyboard	Introduction: Learners will demonstrate their understanding that text can be created on a computer. Activity 1: Learners will begin thinking about what a word processor could be used for. Activities 2 and 3: Learners will demonstrate their ability to recognise and use keys on a computer keyboard.
2	To add and remove text	Activity 1: Learners will demonstrate their ability to use the keyboard to add text. Activity 2: Learners will use the Space and Enter keys.

		Plenary: Learners will demonstrate their ability to use the
		Backspace key to remove text, and their ability to use the mouse
		to move the text cursor.
		Activity 1: Learners will demonstrate their understanding of using
		the Caps Lock key to add capital letters.
3	To explore the toolbar	Activity 2: Learners will demonstrate their understanding of the
	To explore the toolbar	keys that they have learnt about so far.
		Activity 3: Learners will use bold, italic, and underline from the
		toolbar.
		Activity 1: Learners will select text through double-clicking and
		format the highlighted text.
4	To make changes to	Activity 2: Learners will demonstrate they can change the font of
	text	writing.
		Plenary: Learners will demonstrate their knowledge of the
		formatting tools that they have learnt about so far.
	To explain my choices	Introduction: Learners will demonstrate their understanding of
_		some of the toolbar buttons that they have learnt about so far.
		Activity 1: Learners will demonstrate their understanding of
5		removing changes using the 'Undo' button.
		Activity 2: Learners will demonstrate their understanding of how
		to change the look of their text, and think about what tool they
		have used to make these changes. Activity 1: Learners will demonstrate their understanding of how
		to make changes to a piece of writing on a computer.
	To compare typing on	Activity 2: Learners will compare writing on paper and writing on
6		a computer and think about how these are the same and
	a keyboard with	different.
	writing on paper	Plenary: Learners will reflect on their experience of using a
	Witting on paper	computer to write and whether they like writing on paper or a
		computer best. Learners can also demonstrate their ability to
		justify their reasoning.
		Justify their reasoning.

Spring 2 (Grouping data)

Session no.	Objective	Assessment
1	To label objects	Introduction and Activity 1: Assesses learners' understanding that objects are labelled using the object's name. Activity 2: Assesses learners' ability to match an object to a predefined group.

		Activity 3: Assesses learners' understanding that a group of objects is labelled with a group name.
		Plenary: Assesses learners' understanding that an object can
		belong to more than one group.
		Activity 1: Assesses learners' ability to count a number of
		assorted objects.
		Activity 2: Assesses learners' ability to count a number of objects
		from a large group.
	To group and count	Activity 3: Assesses learners' ability to classify objects and count
2	objects	the groups, and to understand that objects that are the same but
		look different can still be grouped together.
		Plenary: Assesses learners' understanding of the fact that
		computers are not intelligent and require human input to
		perform tasks.
		Activity 1: Assesses learners' ability to describe an object, using
		different descriptive words, and you can assess their ability to
		understand that the descriptive words relate to the properties of
		an object.
	T. J	Activity 2: Assesses learners' ability to identify the property of an
3	To describe an object	object.
	in different ways	Activity 3: Assesses learners' ability to find objects with similar
		properties.
		Plenary: Assesses learners' ability to understand that labels are
		given to images of objects so that computers are able to find
		what humans are looking for.
		Introduction and Activity 1: Assesses learners' ability to group
	To count objects with the same properties	objects with the same properties and count the number of
		objects within these groups.
4		Activity 2: Assesses learners' ability to use properties to separate
		a collection of objects into groups.
		Plenary: Assesses learners' ability to recognise what property the
		objects have been grouped by.
5	To compare different groups	Activity 1: Assesses learners' ability to choose how to group
		different shapes.
		Activity 2: Assesses learners' ability to describe groups of 2D
		shapes.
		Activity 3: Assesses learners' ability to describe groups of objects
		and record how many are in each group.

		Plenary: Assesses learners' ability to compare different groups of
		objects.
		Introduction: Assesses learners' ability to begin to understand
		comparative language and to use this language to compare
		groups of objects.
	To answer questions	Activity 1: Assesses learners' ability to understand that you can
		answer questions by sorting objects into groups.
6	about groups of	Activity 2: Assesses learners' ability to group a number of objects
	objects	in order to answer a question, and their ability to record this on
		their activity sheet.
		Activity 3: Assesses learners' ability to demonstrate how they
		have grouped the objects, and whether this has allowed them to
		answer the questions.

Summer 1 (Moving a robot)

Session no.	Objective	Assessment
1	To explain what a given command will do	Activity 1: Learners should be able to use the visual clues that buttons provide to help them make predictions about the robot's direction of travel. Activity 2: Learners should be able to relate the movement of the robot to the command button that was used to cause that movement. Activities 1–3: Learners should have used the buttons as guided during the lesson and be able to relate the buttons to different outcomes.
2	To act out a given word	Activity 1: Learners should be able to act out each instruction given and limit their response to just that. Activity 2: Learners should be able to recall words they have previously heard that can be acted out. Activity 3: Learners should be able to give instructions to each other, as modelled in Activity 1. They should be able to follow instructions they are given by a partner.
3	To combine forwards and backwards commands	Activity 1: Learners should be able to say that the robot moves the same amount backwards as forwards for each Forwards or Backwards button press Activity 2: Learners should be able to start the robot from the same start square each time a program is run

		Activity 4: Learners should be able to step through forwards and
		backwards commands in a given program and predict where the
		robot will move to
4	To combine 4 different commands to make a sequence	Activity 1: Learners should be able to identify that left and right commands turn the robot equal amounts left or right. Activity 2: Learners should apply their knowledge of the robot's movement to input commands to move the robot to a given square. Activity 3: Learners should be able to step through a given program one command at a time, to predict where the robot will move to from a given start position.
5	To plan a simple program	Activity 1: Learners should be able to identify routes and point out squares that will be travelled over. Activity 2: Learners should be able to identify appropriate command cards and place them on the route they have identified. Activity 3: Learners should enter commands into the robot from the program they have planned.
6	To find more than one solution to a problem	Activity 1: Learners should be able to identify at least two different routes to get from the same start position to the same end square Activity 2: Learners should plan programs for each of the routes they have selected Activity 2: Learners should test their programs and address any bugs they find

Summer 2 (Introduction to programming)

Session	Objective	Assessment
no.	Objective	
1	To choose a command for a given purpose	Introduction: Assess the learners' current knowledge of ScratchJr. Activity 1: Assess the learners' ability to make sprites move in ScratchJr. Activity 2: Assess the learners' ability to predict which blocks will make something happen on screen in ScratchJr. Plenary: Assess the learners' ability to make comparisons between Bee-Bots and ScratchJr.

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to create a program program their sprites.		To use my algorithm	Activity 2: Assess the learners' ability to use their algorithms to
Activity 3: Assess the learners' ability to test their programs		to create a program	program their sprites.
received of the learners ability to test their programs.			Activity 3: Assess the learners' ability to test their programs.
Plenary: Allow the learners time to share their projects with			Plenary: Allow the learners time to share their projects with
teachers and other learners and discuss the success of their			teachers and other learners and discuss the success of their
project.			project.

Year group objectives for Computing – Year 2

Year 2 – Autumn 1 (IT around us)

Session no.	Objective
1	To know what IT is
2	To identify the uses of information technology in the school
3	To identify information technology beyond school
4	To know the benefits of information technology
5	To explain how to use IT safely
6	To explain how to use IT in different ways

Year 2 – Autumn 2 (Digital photography)

Session no.	Objective
1	To use a digital device to take a photograph
2	To make choices when taking a photograph
3	To describe what makes a good photograph
4	To decide how photographs can be improved
5	To use tools to change an image
6	To recognise that photos can be changed

Year 2 – Spring 1 (Robot algorithms)

Session no.	Objective
1	To describe a series of instructions as a sequence
2	To explain what happens when we change the order of instructions
3	To use logical reasoning to predict the outcome of a program
4	To explain that program projects can have code and artwork
5	To design an algorithm
6	To create and debug a program that I have written

Year 2 – Spring 2 (Pictograms)

Session no.	Objective
1	To recognise that we can count and compare objects using tally charts
2	To recognise that objects can be represented as pictures
3	To create a pictogram
4	To select objects by attribute and make comparisons
5	To recognise that people can be described by attributes
6	To explain that we can present information using a computer

Year 2 – Summer 1 (Making music)

Session no.	Objective
1	To say how music can make us feel
2	To identify that there are patterns in music
3	To experiment with sound using a computer
4	To use a computer to create a musical pattern
5	To create music for a purpose
6	To review and refine our computer work

Year 2 – Summer (Programming quizzes)

Session no.	Objective
1	To explain that a sequence of commands has a start
2	To explain that a sequence of commands has an outcome
3	To create a program using a given design
4	To change a given design
5	To create a program using my own design
6	To decide how my project can be improved

Year group objectives for Computing – Year 3

Year 3 – Autumn 1 (Connecting computers)

Session no.	Objective
1	To explain how digital devices function
2	To identify input and output devices
3	To recognise how digital devices can change the way that we work
4	To explain how a computer network can be used to share information
5	To explore how digital devices can be connected
6	To recognise the physical components of a network

Year 3 – Autumn 2 (Animation)

Session no.

1	To explain that animation is a sequence of drawings or photographs
2	To relate animated movement with a sequence of images
3	To plan an animation
4	To identify the need to work consistently and carefully
5	To review and improve an animation
6	To evaluate the impact of adding other media to an animation

Year 3 – Spring 1 (Sequencing sounds)

Session no.	Objective
1	To explore a new programming environment
2	To identify that commands have an outcome
3	To explain that a program has a start
4	To recognise that a sequence of commands can have an order
5	To change the appearance of my project
6	To create a project from a task description

Year 3 – Spring 2 (Branching databases)

Session no.	Objective
1	To create questions with yes/no answers
2	To identify the attributes needed to collect data about an object
3	To create a branching database
4	To explain why it is helpful for a database to be well structured
5	To plan the structure of a branching database
6	To independently create an identification tool

Year 3 – Summer 1 ()

Session no.	Objective
1	To recognise how text and images convey information
2	To recognise that text and layout can be edited
3	To recognise that text and layout can be edited
4	To add content to a desktop publishing publication
5	To consider how different layouts can suit different purposes
6	To consider the benefits of desktop publishing

Year 3 – Summer 2 (Programming)

Session no.	Objective
1	To explain how a sprite moves in an existing project

2	To create a program to move a sprite in four directions
3	To adapt a program to a new context
4	To develop my program by adding features
5	To identify and fix bugs in a program
6	To design and create a maze-based challenge

Year group objectives for Computing - Year 4

Year 4 – Autumn 1 (The internet)

Session no.	Objective
1	To describe how networks physically connect to other networks
2	To recognise how networked devices make up the internet
3	To outline how websites can be shared via the World Wide Web (WWW)
4	To describe how content can be added and accessed on the World Wide Web (WWW)
5	To recognise how the content of the WWW is created by people
6	To evaluate the consequences of unreliable content

Year 4 – Autumn 2 (Audio Editing)

Session no.	Objective
1	To identify that sound can be digitally recorded
2	To use a digital device to record sound
3	To explain that a digital recording is stored as a file
4	To explain that audio can be changed through editing
5	To show that different types of audio can be combined and played together
6	To evaluate editing choices made

Year 4 – Spring 1 (Programming)

Session no.	Objective
1	To identify that accuracy in programming is important
2	To create a program in a text-based language
3	To explain what 'repeat' means

4	To modify a count-controlled loop to produce a given outcome
5	To decompose a task into small steps
6	To create a program that uses count-controlled loops to produce a given outcome

Year 4 – Spring 2 (Datalogging)

Session no.	Objective
1	To explain that data gathered over time can be used to answer questions
2	To use a digital device to collect data automatically
3	To explain that a data logger collects 'data points' from sensors over time
4	To recognise how a computer can help us analyse data
5	To identify the data needed to answer questions
6	To use data from sensors to answer questions

Year 4 – Summer 1 (Photo editing)

Session no.	Objective
1	To explain that digital images can be changed
2	To change the composition of an image
3	To describe how images can be changed for different uses
4	To make good choices when selecting different tools
5	To recognise that not all images are real
6	To evaluate how changes can improve an image

Year 4 – Summer 2 (Repetition in games)

Session no.	Objective
1	To develop the use of count-controlled loops in a different programming environment
2	To explain that in programming there are infinite loops and count-controlled loops
3	To develop a design that includes two or more loops which run at the same time
4	To modify an infinite loop in a given program
5	To design a project that includes repetition
6	To create a project that includes repetition

Year 5 – Autumn 1 (Sharing information)

Session no.	Objective
1	To explain that computers can be connected together to form systems
2	To recognise the role of computer systems in our lives
3	To recognise how information is transferred over the internet
4	To explain how sharing information online lets people in different places work
4	together
5	To contribute to a shared project online
6	To evaluate different ways of working together online

Year 5 – Autumn 2 (Vector drawing)

Session no.	Objective
1	To identify that drawing tools can be used to produce different outcomes
2	To create a vector drawing by combining shapes
3	To use tools to achieve a desired effect
4	To recognise that vector drawings consist of layers
5	To group objects to make them easier to work with
6	To apply what I have learned about vector drawings

Year 5 – Spring 1 (Video editing)

Session no.	Objective
1	To explain what makes a video effective
2	To use a digital device to record video
3	To capture video using a range of techniques
4	To create a storyboard
5	To identify that video can be improved through reshooting and editing
6	To consider the impact of the choices made when making and sharing a video

Year 5 - Spring 2 (Flat-file databases)

Session no.	Objective
1	To use a form to record information
2	To compare paper and computer-based databases
3	To outline how you can answer questions by grouping and then sorting data
4	To explain that tools can be used to select specific data
5	To explain that computer programs can be used to compare data visually
6	To use a real-world database to answer questions

Year 5 – Summer 1 (Vector graphics)

Session no.	Objective
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1	To identify that drawing tools can be used to produce different outcomes
2	To create a vector drawing by combining shapes
3	To use tools to achieve a desired effect
4	To recognise that vector drawings consist of layers
5	To group objects to make them easier to work with
6	To apply what I have learned about vector drawings

Year 5 – Summer 2 (Selection in quizzes)

Session no.	Objective
1	To explain how selection is used in computer programs
2	To relate that a conditional statement connects a condition to an outcome
3	To explain how selection directs the flow of a program
4	To design a program that uses selection
5	To create a program that uses selection
6	To evaluate my program

Year group objectives for Computing – Year 6

Year 6 – Autumn 1 (Communication)

Session no.	Objective
1	To identify how to use a search engine
2	To describe how search engines select results
3	To explain how search results are ranked
4	To recognise why the order of results is important, and to whom
5	To recognise how we communicate using technology
6	To evaluate different methods of online communication

Year 6 – Autumn 2 (Webpage)

Session no.	Objective
1	To review an existing website and consider its structure

2	To plan the features of a web page
3	To consider the ownership and use of images (copyright)
4	To recognise the need to preview pages
5	To outline the need for a navigation path
6	To recognise the implications of linking to content owned by other people

Year 6 - Spring 1 (Variables)

Session no.	Objective
1	To define a 'variable' as something that is changeable
2	To explain why a variable is used in a program
3	To choose how to improve a game by using variables
4	To design a project that builds on a given example
5	To use my design to create a project
6	To evaluate my project

Year 6 – Spring 2 (Spreadsheets)

Session no.	Objective
1	To create a data set in a spreadsheet
2	To build a data set in a spreadsheet
3	To explain that formulas can be used to produce calculated data
4	To apply formulas to data
5	To create a spreadsheet to plan an event
6	To choose suitable ways to present data

Year 6 – Summer 1 (3d modelling)

Session no.	Objective
1	To use a computer to create and manipulate three-dimensional (3D) digital objects
2	To compare working digitally with 2D and 3D graphics
3	To construct a digital 3D model of a physical object
4	To identify that physical objects can be broken down into a collection of 3D shapes
5	To design a digital model by combining 3D objects
6	To develop and improve a digital 3D model

Year 6 - Summer 2 (Sensing)

Session no.	Objective
1	To create a program to run on a controllable device
2	To explain that selection can control the flow of a program
3	To update a variable with a user input

	4	To use an conditional statement to compare a variable to a value
Ī	5	To design a project that uses inputs and outputs on a controllable device
	6	To develop a program to use inputs and outputs on a controllable device