



Year 7 ICT Medium Term Plan

Spring Term 2A

Learning Overview (Contents)	The aim of this unit and the following unit ('programming 2') is to build learners' confidence and knowledge of the key programming constructs. Importantly, this unit does not assume any previous programming experience, but it does offer learners the opportunity to expand on their knowledge throughout the unit. The main programming concepts covered in this unit are sequencing, variables, selection, and count-controlled iteration • Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures (e.g. lists, tables, or arrays); design and develop modular programs that use procedures or functions • Understand several key algorithms that reflect computational thinking; use logical reasoning to compare the utility of alternative algorithms for the same problem • Understand simple Boolean logic (e.g. and, or, and not) • Create, reuse, revise, and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability
Assessment Opportunities	End of half term project
Textbooks Published Lesson Resources	https://teachcomputing.org/
Home Learning Resources	Computing, secondary, Year 7 - Lesson listing Oak National Academy
Knowledge organisers	Knowledge Organizer Scratch Part1 Y7.pdf

Week Number	Learning Overview / objective	What should pupils know, understand and be able to do by the end of the week?
1	Introduction to programming and sequencing	• Compare how humans and computers understand instructions (understand and carry out)

		• Define a sequence as instructions performed in order, with each executed in turn • Predict the outcome of a simple sequence • Modify a sequence
2	Sequence and variables	• Define a variable as a name that refers to data being stored by the computer • Recognise that computers follow the control flow of input/process/output • Predict the outcome of a simple sequence that includes variables • Trace the values of variables within a sequence Make a sequence that includes a variable
3	Selection	• Define a condition as an expression that will be evaluated as either true or false • Identify that selection uses conditions to control the flow of a sequence • Identify where selection statements can be used in a program • Modify a program to include selection
4	Operators	• Create conditions that use comparison operators (>,<=) • Create conditions that use logic operators (and/or/not) • Identify where selection statements can be used in a program that include comparison and logical operators
5	Count controlled iteration	• Define iteration as a group of instructions that are repeatedly executed • Describe the need for iteration • Identify where count-controlled iteration can be used in a program • Implement count-controlled iteration in a program • Detect and correct errors in a program (debugging)
6	Problem solving (project)	• Independently design and apply programming constructs to solve a problem (subroutine, selection, count-controlled iteration, operators, and variables)
7	Problem solving (project)	• Independently design and apply programming constructs to solve a problem (subroutine, selection, count-controlled iteration, operators, and variables)



Year 7 ICT Medium Term Plan

Spring Term 2B

Learning Overview (Contents)	The spreadsheet unit for Year 7 takes learners from having very little knowledge of spreadsheets to being able to confidently model data with a spreadsheet. The unit uses engaging activities to progress learners from using basic formulas to writing their own COUNTIF statements. This unit will give learners a good set of skills that they can use in computing lessons and in other subject areas. • Design, use, and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems • Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users
Assessment Opportunities	End of term assessment
Textbooks Published Lesson Resources	https://teachcomputing.org/
Home Learning Resources	Computing, secondary, Year 7 - Lesson listing Oak National Academy
Knowledge organisers	Knowledge Organizer Spreadsheets Y7.pdf

Week Number	Learning Overview / objective	What should pupils know, understand and be able to do by the end of the week?
1	Getting to know a spreadsheet	• Identify columns, rows, cells, and cell references in spreadsheet software Use formatting techniques in a spreadsheet
2	Quick calculation	• Use basic formulas with cell references to perform calculations in a spreadsheet (+, -, *, /)

		• Use the autofill tool to replicate cell data
3	Collecting Data	• Explain the difference between data and information • Explain the difference between primary and secondary sources of data • Collect data
4	Become a data master!	• Analyse data • Create appropriate charts in a spreadsheet • Use the functions SUM, COUNTA, MAX, and MIN in a spreadsheet
5	Level up your data skills!	• Use a spreadsheet to sort and filter data • Use the functions AVERAGE, COUNTIF, and IF in a spreadsheet
7	Assessment preparation	• Use conditional formatting in a spreadsheet • Apply spreadsheet skills covered in this unit
7	Practical Assessment	• Use conditional formatting in a spreadsheet • Apply spreadsheet skills covered in this unit



Year 7 ICT Medium Term Plan

Autumn Term 1A

Learning Overview (Contents)	This unit is designed to build upon learners' experience in key stage 2. It requires learners to use a range of different skills across several pieces of software. Learners will work between different applications to create a poster and slides on a given theme. The central theme focuses on embedding online safety and secure ways of working. The unit is designed so that learners can concentrate on applying skills that they may have previously learnt as well as those developed in the unit. Learners are given clear tasks for which they need to first plan and then implement a solution. • undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users • Create, reuse, revise, and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability • Understand a range of ways to use technology safely, respectfully, responsibly, and securely, including protecting their online identity and privacy; recognise inappropriate content, contact, and conduct and know how to report concerns
Assessment Opportunities	Half term project
Textbooks Published Lesson Resources	https://teachcomputing.org/
Home Learning Resources	Computing, secondary, Year 7 - Lesson listing Oak National Academy
Knowledge organisers	Knowledge Organizer Clear Messaging_Y7 (1).pdf

Week Number	Learning Overview / objective	What should pupils know, understand and be able to do by the end of the week?
1	Welcome back and Introduction	• Gain understanding about the ICT subject expectations and prospects • Learn about the ICT lab rules and regulations

2	Get the message across	● Choose search terms relating to a particular issue – online safety ● Use tools to copy an image into another application ● Identify key features of a good poster focusing on online safety
3	Poster Making	● Plan a poster to clearly convey a message ● Choose and download a suitable image following the theme ● Create a poster using a desktop publishing application
4	Brand	● Modify a logo using a graphic editing program ● Choose how to combine text and graphics in a slide ● Use digital tools to provide feedback on design choices
5	Creating a brand	● Plan a consistent layout for a set of slides ● Modify a logo so that it fits in with the planned slide styles ● Create a styled set of slides based on a plan
6	Adding content	● Search for suitable text for slides ● Search for and add a suitable image ● Evaluate content against a rubric
7	Presenting	● Plan how to deliver a presentation ● Explain work to others through a presentation ● Evaluate work against a rubric



Year 7 ICT Medium Term Plan

Autumn Term 1B

Learning Overview (Contents)	This unit begins by defining a network and addressing the benefits of networking, before covering how data is transmitted across networks using protocols. The types of hardware required are explained, as is wired and wireless data transmission. Learners will develop an understanding of the term's 'internet' and 'World Wide Web', and of the key services and protocols used. Practical exercises are included throughout to help strengthen understanding. ● Explain the term 'connectivity' as the capacity for connected devices ('internet of things') to collect and share information about me with or without my knowledge (including microphones, cameras and geolocation). ● Describe how internet-connected devices can affect me.
Assessment Opportunities	End of term assessment
Textbooks Published Lesson Resources	https://teachcomputing.org/
Home Learning Resources	Computing, secondary, Year 7 - Lesson listing Oak National Academy
Knowledge organisers	Knowledge Organizer Networks Y7.pdf

Week Number	Learning Overview / objective	What should pupils know, understand and be able to do by the end of the week?
1	Computer networks and protocols	Define what a computer network is and explain how data is transmitted between computers across networks. Define 'protocol' and provide examples of non-networking protocols
2	Networking hardware	● List examples of the hardware necessary for connecting devices to networks
3	Wired and wireless networks	● Compare wired to wireless connections and list examples of specific technologies currently used to implement such connections

		● Define 'bandwidth', using the appropriate units for measuring the rate at which data is transmitted, and discuss familiar examples where bandwidth is important
4	The internet	● Define what the internet is ● Explain how data travels between computers across the internet ● Describe key words such as 'protocols', 'packets', and 'addressing'
5	Internet services	● Explain the difference between the internet, its services, and the World Wide Web ● Describe how services are provided over the internet ● List some of these services and the context in which they are used ● Explain the term 'connectivity' as the capacity for connected devices ('Internet of Things') to collect and share information about me with or without my knowledge (including microphones, cameras, and geolocation) ● Describe how internet-connected devices can affect me
6	The world wide web	● Describe components (servers, browsers, pages, HTTP and HTTPS protocols, etc.) and how they work together
7	End of term assessment	Test the students' knowledge of the covered topics



Year 7 ICT Medium Term Plan Summer Term

Learning Overview (Contents)	Learners will build on their understanding of the control structures' sequence, selection, and iteration (the big three), and develop their problem-solving skills. Learners will learn how to create their own subroutines, develop their understanding of decomposition, learn how to create and use lists, and build upon their problem-solving skills by working through a larger project at the end of the unit. • To use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; to make appropriate use of data structures (for example, lists, tables, or arrays); to design and develop modular programs that use procedures or functions • To understand several key algorithms that reflect computational thinking; use logical reasoning to compare the utility of alternative algorithms for the same problem • To understand simple Boolean logic (for example, AND, OR, and NOT) • To create, reuse, revise, and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability
Assessment Opportunities	End of term assessment Practical project
Textbooks Published Lesson Resources	https://teachcomputing.org/
Home Learning Resources	Computing, secondary, Year 7 - Lesson listing Oak National Academy
Knowledge organisers	Knowledge Organizer Scratch Part2 Y7.pdf

Week Number	Learning Overview / objective	What should pupils know, understand and be able to do by the end of the week?
1	You've got the moves!	• Define a subroutine as a group of instructions that will run when called by the main program or other subroutines

		• Define decomposition as breaking a problem down into smaller, more manageable subproblems • Identify how subroutines can be used for decomposition
2	Fly the cat	• Identify where condition-controlled iteration can be used in a program • Implement condition-controlled iteration in a program
3	Loop the loop!	• Evaluate which type of iteration is required in a program
4	Treasure those lists!	• Define a list as a collection of related elements that are referred to by a single name • Describe the need for lists • Identify when lists can be used in a program Use a list
5	Project	• Apply the gained skills from the unit
6	Project completion	• Apply the gained skills from the unit
7	End of term assessment	• Apply the gained skills from unit