Year 8 Computer Science Scheme of Work

The national curriculum for computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- Are responsible, competent, confident and creative users of information and communication technology.

In Key stage 3

Pupils should be taught to:

- Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems
- Understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem
- 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 [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions
- Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]
- Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems. Understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits
- 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, re-use, revise and re-purpose 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.

Computing programmes of study: Key stages 3 and 4, National curriculum in England, DFE-00191-2013
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239067/SECONDARY_national_curriculum_-_Computing.pdf

Year 8 Curriculum Overview

Autumn 1	**Spring 1**	**Summer 1**
My Digital World 2	Data Modelling	Text Programming 2 (Python)
Autumn 2	**Spring 2**	**Summer 2**
Web Programming	Computer System 2: Data Representation	Computer System 3: Networks and Cyber Security

Year 8 Assessment Plan

Autumn Term	**Spring Term**	**Summer Term**
1 Class Assignment – Baseline Test	1 Class Assignment	1 Class Assignment
1 Class Assignment	1 Class Assignment	1 Class Assignment
CWA 1		
1 Class Assignment	1 Class Assignment	1 Class Assignment
1 Exam Assessment (Autumn 1)	1 Exam Assessment	1 EoY Assessment
CWA 2	CWA 3	CWA 4

Lesson Outline

Autumn 1	
My Digital World 2:Using the school network (Lesson 1)- Class Expectations, Logging-on to the school network safely, Logging on to ePraise, locate and organise files/folders sensibly on the network. General Internet knowledge: Bookmarks, Copyright	
My Digital World 2:Review of Year 7 My Digital World 1	
My Digital World 2: The World Wide Web, the difference between The Internet and WWW. How data travels on the Internet	
My Digital World 2: URL	
My Digital World 2: Search Engines: How to search effectively	
My Digital World 2 :Reliability of Websites	
My Digital World 2 : Assessment	
My Digital World 2 :Email, Cloud Computing	
Half Term	
Autumn 2	
Web Programming: Graphics: Types of Graphics: Bitmap & Vector Graphics, Logo design	
Web Programming: Graphics: Selection and cropping tools, inserting into new layers	
Web Programming: HTML Introduction: First HTML page	
Web Programming: HTML- Formatting Text & Images	
Web Programming: HTML-What makes a good website, Debugging	
Web Programming: HMTL- Designing a homepage	
Web Programming: HMTL- Duplicating pages / consistent theme / adding information	
Web Programming: Introduction to CSS, JavaScript	
Web Programming: Assessment (Online Assessment)	
Web Programming: Feedback (Think Pink Go Green)	
Christmas Holidays	
Spring 1	
Data Modelling Lesson 1: Basic Formulae, Formatting	
Data Modelling Lesson 2: Functions- Excel functions - Sum, Average, Minimum, Maximum	
Data Modelling Lesson 3: Charts/Graphs	
Data Modelling Lesson 4: Conditional Formatting	
Data Modelling Lesson 5: IF Function	
Data Modelling Lesson 6: Assessment	

Data Modelling Lesson 7: Infographics	
Data Modelling Lesson 8: VLookup	
Half term	
Spring 2	
Computer System 2: Data Representation Lesson 1: Review of Year 7 Computer System 1	
Computer System 2: Data Representation Lesson 2: Binary / Denary Conversions What is Binary	
Computer System 2: Data Representation Lesson 3: Hexadecimal	
Computer System 2: Data Representation Lesson 4: Text- Binary to ASCII	
Computer System 2: Data Representation Lesson 5: Images	
Computer System 2: Data Representation Lesson 6: Sound	
Computer System 2: Data Representation Lesson 7: Boolean Operators	
Computer System 2: Data Representation Lesson 8: Boolean Logic – AND/OR/NOT gates	
Computer System 2: Data Representation Lesson 9: End of Unit Assessment	
Easter Holidays	
Summer 1	
Text Programming 2 Lesson 1: Review of Year 7 Text Programming 1	
Text Programming 2 Lesson 2: Algorithms	
Text Programming 2 Lesson 3: Algorithms -Pseudocode	
Text Programming 2 Lesson 4: Basic python syntax Write simple expressions in python	
Text Programming 2 Lesson 6: Output, Variables	
Text Programming 2 Lesson 7: Input, Data types	
Text Programming 2 Lesson 8: Selection	
Text Programming 2 Lesson 9: Iteration	
Text Programming 2 Lesson 10: Assessment	
Half Term	
Summer 2	
Computer System 3: Networks Lesson 1: Explain what is a network? Describe the Benefits and Drawbacks of a network	
End of Year Assessment	
Feedback	

Computer System 3: Networks Lesson 2: Identify and describe the different components/devices in a network	
Computer System 3: Networks Lesson 3: Network Types, Network Topologies: Mesh, Star	
Computer System 3: Networks Lesson 4: The Internet –Hardware, software how data is transmitted on the internet, WW	
Computer System 3: Networks Lesson 5: Network Protocols	
Computer System 3: Networks Lesson 6: Network Security: Issues and Preventions	
End of Year 8	

Scheme of Work – My Digital World 2

Year Group	8
Objectives of the unit	In this unit, through the stimulating scenario of organising a World Tour for their favourite music artist or organisation, students initially get themselves organised for the unit by revisiting organisational strategies they met in the previous unit. Through exploration of the features of different search engines, students work collaboratively in teams to research their local city, research and design a World Tour schedule and plan flight routes. Student consider working safely with cloud computing services before collaboratively planning their tour itenary using an online platform. They also research about Geolocation. Finally, the students work individually to produce an assessed writeup summarising the work they have done.
Computing curriculum content	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.
National Curriculum	• 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.

Assessment outcomes from the unit	Grade 2 •I produced an on-line presentation with some content, such as information about a city using a search engine to research for information. •I have shown that I can create browser bookmarks and created folders and sub-folders. • My browser bookmarks used, sub-folders and were very well organised. Grade 3 •I have shown that I can be e-safe by carefully setting privacy controls. •I have used advanced search on search engines. •I worked out how to add the map and the flight schedule to my on-line presentation. •My browser bookmarks used sub-folders and were very well organised. Grade 4 •I am able to accurately compare and contrast the benefits of using different search engines (such as Google and Yahoo) for advanced searches. •I can evaluate the benefits of using information technology to produce a digital timeline as compared with producing a timeline using a pen and a ruler. •I can explain the dangers of cloud computing and how to be e-safe using privacy settings
Literacy curriculum content	• Writing for a wide range of purposes and audiences, including notes; • Paying attention to accurate grammar, punctuation and spelling; • Using Standard English confidently in their own writing [and speech]. Keywords: Copyright, Favourite/Bookmark, Browser, Geolocation, Search Engines, Reliability, CRAP, The Internet, world wide web, Server, Packets, URL, Domain name, Protocol, Spiders, Ranking, Reputation, Links, Synonyms, Index, Cloud
Numeracy curriculum content	• Use the number line as a model for ordering of the real numbers; • Use standard units of [mass, length,] time, [money] and other measures, including with decimal quantities; • Use scale factors, scale diagrams and maps.

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
1	Students will learn how to: • Review Year 7 Content	Students revise Year 7 content in preparation for a Baseline assessment to help with recall		
2	Students will learn how to: • Organise Folders and Files	• Logging-on to the school network; • Computing Class expectations • Create folder structure for Year 8	Research about Geolocation	

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
	• Know and be able to Use the Bookmark feature to Bookmark and organise websites • Understand the terms Copyright and Plagiarism	• Understand the importance of file names and file extensions. • Efficiently edit, delete, rename and move folders and different types of files • Download and save files to different folders. • Designing suitable folder structures; creating folder structures. • Discuss about the implications of plagiarism and copyright •		
2	Students will learn: • Know the benefits and dangers of Geolocation (e-safety) • Know and be able to Explain how the internet works • Know the difference between a web browser and a search engine • Identify the different parts of a URL	• Starter: discuss some of the points pupils wrote about for their homework; do not activate geolocation services when setting up a new phone, switch off geolocation features, and modify geolocation settings so they are not enabled for most features, could all be discussed.) • Students watch a video on the word soup between a browser and search engines especially; Google Chrome and Google	Create a presentation/poster explain how the internet works	
3	Students will learn how: • Understand how a search Engine Works • How to use Keywords to search effectively • Compare the different Search Engine	• Watch the Google video on how Google search engine works. They should be able to explain what crawlers is, spiders, index. • They should be able to answer the question: What keywords could I use in my search query?		Peer assessment- groups will grade each group performance
4	Students will learn how: • Explain how a search engine works.	• Using Advance search tools on Google search engine to search effectively	Research task on New Technology using the skills learnt in lesson	

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
	• Use some advanced tools and see how they improve our search results • Use Boolean operators to search effectively			
5	Students will learn how: • Recognise characteristics of an unreliable website • Know the CRAAP method to evaluate websites • Evaluate websites using CRAAP •	• Students look at some websites and identify whether they are reliable or unreliable • They then use Goggle X-Ray to create a fake website to show them that not everything on the internet is reliable	Sketch the design of a Logo for their band	
6	Students will learn: • Define cloud computing • Explain the advantages and disadvantages of cloud computing • Evaluate the importance of local storage on computer devices	Students understand the services provided by cloud computing is not only online data storage but other services like software services Students be able to identify common cloud computing		
6	Assessment • Combining all the knowledge from the pasts lesson to devise strategies to counteract online and mobile threats			

Unit 2: Web Programming

Year Group	8
Objectives of the unit	In this unit, students will learn how to recognise and combine elements of simple webpages into a fully functional, high quality web pages to promote their world tour. Students move on to develop a web page for a mobile platform involving separate text and animated media elements from Voki.com. Skills in handling compressed folders are revisited to enable peer assessment via an online platform and students are encouraged to improve their work based on feedback. Finally, students produce a project write up for assessment.
Assessment outcomes from the unit	At the end of the unit, students will produce a project write up for assessment **Grade 5** • I independently researched two other HTML tags and included them in my website. • All webpage elements including embedded code and linked objects display correctly and are all styled consistently- with the same layout, background colour. • I have created multiple webpages all linked together by hyperlink or buttons. • I have used external style sheet to design the layout of my pages • I have some interactive elements to my page (Javascript- date, user input) **Grade 4** • Using HTML, I included embedded and linked elements on a webpage (hyperlink to another page, images-logo) using the tags <img> and <href>. • I was able to take the code from another pupil and correctly add it to my webpage. • I have provided detailed feedback on another student's webpage. • I was able to correctly use inline styles to professionally style different webpage elements such as paragraphs and headings. My inline styles used multiple style statements such as font- size and colour. **Grade 3** • I provided feedback to another pupil for them to improve their work. • I was able to debug multiple errors on webpages. • I used a design to write HTML code to make a webpage with multiple elements. • I used inline styles to style different webpage elements such as paragraphs and headings. Grade 2 • I used HTML to make a simple webpage. • I know what is meant by HTML and inline styles. • I designed a webpage.
National Curriculum	• 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;

Literacy	Keywords definition, matching keywords to description, Learning Logbook, Check for SPG on pages Keywords: Graphics, Pixel, Logo, Bitmap, Vector, Resolution, Pixilation, Formatting features, Fireworks, Transparency, Vertical alignment, Horizontal alignment, HTML, Tags, Element, Attribute, Hyperlink, Debugging, Formatting, CSS, JavaScript
Numeracy	Canvas size; height, width, Attributes: Size of image

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
1	Students will: • **Define** what is a graphic • **Identify** a bitmap and a vector graphic • **Plan** the design of **a** graphic	Starter: Students will identify different Logos Then they will discuss about the common design features they can see in these logos Teacher: Teaches about graphic Identify a bitmap and a vector graphic Activity 1: Students Identify different Graphics Formatting Techniques Activity 2: Students plan the design of their logo.	Homework planner	Peer assessment
2	Students will: ❖ **Explore** a graphic software to **Produce** a logo using one or two graphics techniques ❖ **Apply** knowledge using transparency and layers to produce a graphic such as a logo and a wrist band. ❖ **Select and use** different advanced graphics techniques to produce a suitable logo and a wrist band**.**	Starter: label the different tools on the Fireworks tool bar Activity 1: Teacher demonstrates using Fireworks to explore the different Graphics techniques: vertically aligned text, right aligned text, transparency, text layered in front of image, image layered in front of text. Activity 2: Students create their Logo on Fireworks PAH: Students create a wrist band	Homework planner	Peer assessment of Logo Complete Web Programming Learning Logbook

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
3	Students will: • **Understand** the need for HTML and where it is used • **Edit** HTML code to experiment with the effect • **Program** a basic webpage in HTML	Students will: 1. Identify the different elements in web pages. 2. Create their first web page.	Homework planner	Complete Web Programming Learning Logbook
4	Students will learn how to: • Write Style paragraphs with inline styles. • Build and style their own web page.	1. Style paragraphs using inline styles. 2. Build and style their own web page. 3. Correct errors in web pages. PAH: *Read the "CSS Introduction" word document and create their first Internal /External Stylesheet*	Homework planner	Complete Web Programming Learning Logbook Pupils could be asked to identify some pairs of tags in a sample (and simple) HTML page.
5	Students will: • **Explain** the purpose of different HTML elements. • **Debug** errors in an HTML code. • **Produce** a web page that use HTML elements including hyperlinks and images.	Students will different codes PAH: Learn how to create interactive elements on their page using JavaScript	Homework planner	Complete Web Programming Learning Logbook
6	Students will: • Design webpage/s to promote their world tour. • Build the essential elements into their web page.	Design and build a webpage to promote their band world live tour. Create animated characters. 4 Provide informal feedback.	Homework planner	Complete Web Programming Learning Logbook

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
7	Students will: • Complete their web pages • Evaluate another student's work • Produce a self-assessment report for the task and self-assess their work against level descriptors.	Evaluate another student's work; enhance your work. Introduction section write up; design section write up; building the webpage write up; self-assessment section write up; evaluation section write up.	Homework planner	Self-assessment

Unit 3: Data Modelling

Year Group	8
Objectives of the unit	Building on the work covered in the Modelling unit, students are encouraged to take their spreadsheet skills to another level. Students start by revising simple spreadsheet formulae and graph drawing. Further useful functions are introduced and students will learn how to embed a graph from a spreadsheet into a word processed document. Students then learn the concepts of conditional formatting and use these new skills to develop a spreadsheet for a purpose. They then move into the modern, trendy world of the 'infographic' by analysing existing graphics and creating their own for a concert and finally, they produce and write-up a selection of products based on the work they have done for assessment.
Assessment outcomes from the unit	At the end of the unit, students will produce a project writeup for assessment **Grade 5** • I embedded or linked my graphs to another application and can explain the difference between object linking and object embedding. I know when to use each of these. • I analysed data and used suitable infographics to represent data. • I undertook my own research and presented my findings visually using appropriate graphs and charts. • I built a spreadsheet to compare two scenarios (such as using a tour bus or flying) and presented my findings. **Grade 4** • I used the *COUNT* and *IF* functions for a particular purpose. • I used infographics to represent data. • I correctly used conditional formatting to highlight key data in a spreadsheet. • I interpreted a paragraph of text to produce a table of data. I then used the table to produce a suitable graph.

	• I designed and created my own model and can write about how it works **Grade 3** • I was able to use a program draw a graph from data given to me in a table. • I added formulae to a spreadsheet. • I can identify rules in a model and explain what they do. • I entered numbers and text in cells in a spreadsheet model and used formatting features to improve the way it looked.
National Curriculum	• Undertake creative projects that involve selecting, using, and combining multiple applications 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.
Literacy	Keywords: Rows, Columns, Cell Reference, Label, Modelling, Formulas, Autofill, Replicating, Formatting, Ranges, Functions, Sum, Average, Minimum, Maximum, Count, Conditional Formatting, Graphs/Chart, Piechart, Barchart, Line graph, Absolute cell reference, Infographics

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
1	Students will learn how to: • Revise formulae; • revise how to complete a model • Practise using COUNT, COUNTA and IF functions.	Students will: Complete a series of worksheet helping them to cover the basics of spreadsheets including simple formula and modelling technique.	Choose an option from the Blooms HW Planner	Label exemplar spreadsheet using the key words.
2	Students will learn how to: • Use formulae and functions in Modelling. • Use functions to calculate the average, minimum, maximum and total	Students will: Use the Autofill tool to replicate functions, formulae and text. They will learn how to identify ranges which will help them to write functions. They will use Downloads spreadsheet to cover the functions average, minimum, maximum and total	Choose an option from the Blooms HW Planner	
3	Students will learn how:	Students will be able to select the most suitable graph depending on the scenario given	Choose an option from the Blooms HW Planner	

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
	• Identify the different graphs and know when they are suitable • Draw graphs and charts from given data • Embedding and linking graphs and charts.			
4	Students will learn how: • Know what is Conditional Formatting • Use Conditional Formatting to create a model • Use IF function to create model	Students will use the Minecraft model to use conditional formatting	Choose an option from the Blooms HW Planner	Peer assessment
5	Students will: • Refine sourced data for analysis. • Store and process data into information.		Choose an option from the Blooms HW Planner	Self assessment
6	**Assessment**			
7	Students Will: **TPGG** • design section write up • building the spreadsheet and infographic write up • self-assessment section write up • evaluation section write up		Choose an option from the Blooms HW Planner	
8				
9				

Unit 4 – Computer System 2: Data Representation

Year Group	8
Objectives of the unit	In this unit, students will learn how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits.
Assessment outcomes from the unit	Grade 5 • Convert Binary, Denary to Hexadecimal and vice versa • Explain the keywords pixel, resolution, pixilation, colour depth, bit rate, sample rate • Explain the effect of resolution, colour depth, bit rate, sample rate on the file size of images and sound files. • Draw combined logic gates from expressions given and give output to combined logic gates Grade 4 • Convert from Binary to Denary and vice versa • Explain the use of Hexadecimal in Computer • Know the definitions of resolution, pixilation, colour depth, bit rate, sample rate • Apply understanding to create an image using binary. • Convert an analogue sound wave to digital (Binary) • Draw and complete truth tables for each logic gate Grade 3 • Explain why computers can only understand Binary • Explain how binary is used to represent numbers. • Explain how binary is used to create images and sound. • Know the different number Bases: Binary, Denary, Hexadecimal • Know the 3 main Logic gates
National Curriculum	• Understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits
Literacy curriculum content	Keywords: Binary, Denary, Hexadecimal, Bit, Nibble, Byte, Kilobyte, Megabyte, Gigabyte, Character, ASCII, Unicode, Resolution, Pixels, Colour depth, Pixilation, File size, Boolean Operators, logic, AND, OR, NOT

Numeracy curriculum content	•

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
1	Students will learn: • **Know** how to count up to 15 using the Binary • **Understand** that computers use Binary • **Convert** from Denary to Binary	• Introduction to Binary • Extension – How to Understand how to count in Hexadecimal	• Create a poster to explain how Binary works either by • Using the dots on the cards • Using the table	
2	Students will learn: • Know the Units of measurement of data. • Understand how text is stored as binary numbers in a computer • Convert letters into binary numbers using ASCII and vice versa	• To define the terms bit, nibble, byte, kilobyte, megabyte, gigabyte, terabyte • Represent text as binary such as writing names in binary or decoding secret messages. • Basic ASCII – work out denary value of your name Decode secret message from binary – Decode Binary worksheet and message. Write your name in Binary		
	Students will learn: • Know how an image can be represented as series of pixels in binary • Explain resolution of image • Explain the effect of colour depth and resolution on the size of an image file	•		• Peer assessment- Students will present their presentation to the class.
	Students will learn: •	•		•

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
	Students will learn: • Know what we mean by Boolean Operators (AND, OR and NOT) • Identify truth tables of Boolean Operators • Apply knowledge to create program-Scratch or Python •	•		•

Unit 5: Text Programming 2-Python

Year Group	8
Objectives of the unit	In this unit, students will learn Text Programming 2 (PRIMM) following from python turtle they did in year 7. Review of Year 7 Computational Thinking skills. Revision of Programming Constructs. Algorithms writing using flowcharts and Pseudocode Introduction to Python: Outputs, Inputs and Variable, IF Statements, Problem Solving (Abstraction and Decomposition) Tasks
Assessment outcomes from the unit	Grade 6 • Use procedures and functions with parameters in your programs. • Use computational abstractions • Model state of real-world problems Grade 5 • Solve problems by decomposing them into smaller parts • Use logical reasoning to explain how some simple algorithms work • Use logical reasoning to detect and correct errors in algorithms • **Evidence** practical experience of a high-level textual language, • **Use** of nested selection statements. Grade 4 • Know the different data types

	• Be able to write output statements using the Python GUI • Know how to create and assign a variable. • Design and create simple programs • Debug programs that accomplish specific goals • Use the Programming Constructs: Sequence, Selection and Iteration in programs
National Curriculum	• 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 [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions
Literacy curriculum content	Keywords: String, Integer, Float, Syntax, Variable, Editor, Casting, Debug, Programming Constructs, Sequence, Selection, Iteration Functions/Subroutine, Procedure, Boolean, Data types
Numeracy curriculum content	Mathematical expressions on Python, Boolean operators

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
1	Students will learn: • How to interpret Flowcharts and pseudocode to solve problems. • How to write sequences of instructions. • Use flowcharts & pseudocode to solve problems	• Interpret Flowcharts to solve problems. •		
2	Students will learn: • All students will: write a program which asks a user to input a response to a question • Most students will: be able to format their output so that it	•		

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
	displays text and separate words correctly • Some students will: be able to write a multiline program which asks a series of questions and reliably takes the user input to create a tailored response			
3	Students will learn: • All students will: be able to provide suitable responses for If … Else conditions • Most students will: be able to correctly order the code for If .. Else conditions and explain what the code is doing. • Some students will: be understand the logic behind an Elif condition and be able to write code that includes an Elif	•		
		•		
	•	• given coordinates; using x and y coordinates to accurately move sprites.		• Peer assessment- Students will present their presentation to the class.
	Students will learn: • To create a variable to keep score	• Get Sprites to interact to create interest in a game. • 2 Use Variables and interactions to keep score. • Building a two player game; making sprites move with the arrow keys;	Plan the design of your simulation game. Write about: the Purpose, Target Audience, Characters(Sprites), Success criteria – things they need to do in order for their game to be successful	•

Lesson	Objectives and outcomes	Activities	Homework	Assessment opportunities
		getting sprites to interact with each other; using interactions to keep score.		
	Students will learn: • How to design a simulation game based on given criteria. • How to create a game from their design.	• Design a simulation game based on given criteria. • From your designs build Sprites for your simulation style game. •	Create a song or Poem about what you have learned in this topic so far. It will need to include at least 3 verses and have a chorus. Cover every topic, keyword, use etc. You may have to recite or sing it in class, so do your best to impress!	•