



COMPUTING Year 8



NAME: _____

Target		Year 8 the work completed.			Test grade
		Working Towards	Is at the expected standard	Is above expected standard	
UNIT 1 Room Make-Over	Presentation Skills				
	Spreadsheets Skills				
	Evaluation Skills				
	Foundations for Learning				
	Resilience				
	Personal Study				
Overall unit performance					
UNIT 2 Web Design	Basic HTML Design Skills.				
	Page and Site Structure.				
	Evaluation Skills				
	Foundations for Learning				
	Resilience				
	Personal Study				
Overall unit performance					
UNIT 3 Computer Hardware	Knowledge of Binary				
	Computer Hardware				
	Networks				
	Foundations for Learning				
	Resilience				
	Personal Study				
Overall unit performance					

You will start with a project to make a proposal for a bedroom makeover, this will involve using different pieces of software to put together your ideas and show how much the new design will cost.

The second unit of work will allow you to learn how a website actually works and to create your own website based on a topic of your choice.

The third unit investigates what the different parts of a computer are and how they work. One of the key parts of this is how computers store pictures, text and sound.



For explanation of the judgements (shaded rows), see the back of this page (inside).

Unit 1—Room Make Over



This unit is about designing a new bedroom (a bedroom makeover) and calculating the costs of the new proposal. During the unit of work you will be required to evaluate alternative pieces of design software and whether they are fit for purpose. The second main area is to use a spreadsheet to calculate the proposed costs and whether they fit within a determined budget.

The overall outcome will be a presentation detailing the new proposals and cost analysis.

Lesson Overview	Key Words
<ol style="list-style-type: none"> Spreadsheet Modelling—Moving Home Evaluating Design Software Using Spreadsheet Functions and Charts Creating a 3D Graphic of your room (1). Creating a 3D Graphic of your room (2). Creating your Cost Model. Presenting your Room Make Over. 	<p>Spreadsheet: An electronic document in which data is arranged in rows and columns of and can be manipulated and used in calculations.</p> <p>Formula: A formula is an expression which calculates the value of a cell.</p> <p>Data model: To simulate a set of results based on varying inputs</p> <p>Data series: A sequence of data</p> <p>Bar chart: A type of graph in which the data values are represented horizontally</p> <p>Column chart: A type of graph in which the data values are represented vertically</p> <p>Pie chart: type of graph in which a circle is divided into sectors that each represent a proportion of the whole.</p> <p>CAD: Computer Aided Design</p> <p>Prototyping: A model or graphic representation of a product that is created before actual production</p> <p>Scanning: Inserting a paper based image into a document using a scanner</p> <p>Design: A plan or drawing produced to show the look and function of a product before it is made.</p> <p>Area—width x length</p> <p>Volume—width x length x height</p>
Home works	
<p>Draw a plan of your room and measure the basic room sizes. Show where the windows and doors are and any fixed wardrobes.</p>	
<p>Produce a mood board for your room. Create a list of items you want in your room and their costs. You will need the costs of wall, floor and ceiling coverings.</p>	
<p>Excel Charts question sheet. Using the given worksheet, analyse the given charts and answer the questions.</p>	
Suggested Reading	Cross Curricular
	<p>E-Safety—working online and staying safe.</p>

Over the year, you will be judged on your skills and learning. There are different ways you will be judged, the descriptions of these are below.

Computing Criteria: ability to use IT skills across a range of problems.	
<i>Working towards</i>	I can use different skills but sometimes I need to be told which skills I need to use and where to apply them.
<i>Expected</i>	I can confidently use my skills to solve problems and tasks that I am given. I can select my own skills to use without having to be told.
<i>Above expected</i>	I can work highly independently and apply my well developed skills to produce high quality work and solve new problems I have not met before.
Foundations for Learning	
<i>Working towards</i>	Could be better at following the Behaviour Standards and meeting the Foundations for Learning.
<i>Expected</i>	Good at following the Behaviour Standards and meeting the Foundations for Learning.
<i>Above expected</i>	Shows pride in behaviour and the Foundations for Learning; supports others in achieving this.
Resilience: Has self-belief, confidence, tries new challenges, manages emotions and bounces back from setbacks. Is engaged and committed.	
<i>Working towards</i>	Skills could be better ; can sometimes apply these in lessons.
<i>Expected</i>	Good understanding; can apply these skills in lessons.
<i>Above expected</i>	Outstanding understanding; seeks out challenges and applies skills in life.
Personal Study: Can organise Personal Study (PS), completing work fully.	
<i>Working towards</i>	PS could be better and is either not given in on time or is not completed with the required effort.
<i>Expected</i>	PS is good , showing they can meet deadlines and produce work of an acceptable standard.
<i>Above expected</i>	PS is outstanding ; consistently handed in on time and completed to a high standard.

Comments / Targets

Date

When the unit is finished, stick your

End of Unit Review Sheet

here on this page.

Learning this lesson

The questions get tougher as you go, how much of chatter box are you? Get a partner to test you!



What are you learning today?

What new skills have you learnt?

What have you learnt today that you didn't already know?

What's the point of this task?

How do you know if you have improved today?

Learning over time

The questions get tougher, how much of chatter box are you? Get a partner to test you!



Which piece of work are you proud of?

Why?

What have you learnt this term?

What skills have you learnt?

What's the point of this unit?

How do you know you have improved this year?

Can you show me in your work that you are improving?

Unit 3: Computer Hardware



This unit examines the hardware related to computers and networks. It looks at what is inside a computer and how computers are connected together. Underlying all of this is the fact that computers use BINARY to store data. This is a key part of this unit, what is BINARY and how it is possible that text, pictures, audio, video etc can be stored as BINARY.

The outcome of this unit will be a Presentation (in PowerPoint) of Binary Computer Systems.

Lesson Overview

- 1 What is a computer?
- 2 Binary and representing images in binary.
- 3 Representing audio and text in binary.
- 4 The Internal parts of a computer .
- 5 Programming the MicroBit (1).
- 6 Programming the MicroBit (2).
- 7 Controlling Devices with the Microbit.

Key Words

Computer: combination of hardware and software working together.

Hardware: Physical components used in, or can attach to a computer, such as the HDD, RAM, Motherboard, CPU, PSU, Graphics card, Printer, Keyboard, Monitor.

Software: Programs that are stored in memory for the computer to work.

Operating System: The program which runs the computer.

Application Software: a program that is designed for a specific task. e.g e-mail, word.

Transistor: microscopic electronic switch in a silicon chip.

Binary: base 2 number system of 1,0.

Bit: single unit of data which can be 1 or 0 **Nibble:** 1 nibble = 4 bits **Byte:** 1 byte = 8 bits **Kilobit:** = 1000 bits **Megabit:** = 1000000 bits **Gigabits:** = 1000000000 bits

Network: 2 or more computers and peripherals linked together.

WAN: Wide Area Network, how computers and peripherals around the world connect.

LAN: Local Area Network, how computers and peripherals at home or school connect.

WIFI: Wireless network which allows electronic devices to communicate with each other.

IP Address: Internet Protocol, a unique address which identifies the device and its location.

Router: A device which connects to a minimum of 2 networks, which forwards data between them.

Hub: Connects computers and peripherals to a local network and sends data to all devices.

Switch: Similar to a hub but records IP and MAC addresses and sends data to a specific device.

Home works

- 1 PowerPoint on the history of the development of Computers. In your examples say how computers have changed our lives.
- 2 Research how a silicon chip is made and create a Single Quality PowerPoint slide on the process.
- 3 Presentation of what computers in the future might be able to do i.e. in around 20-30 years time. Explain your findings, include a final paragraph that explains your concerns about the future of technology.

Suggested Reading

BBC BiteSize Computing
Teach ICT

Cross Curricular

Ethics and benefits of Technology in society.

Unit 2 Targets—Web Design

S	Done Date	E
/10		/10

I can / I know how to

I know that all web pages are made up of HTML and what HTML looks like.

I can understand basic HTML and can use it to write code for a simple webpage using Notepad.

I can design, write and correct HTML pages I know how to construct static webpages using an HTML editor (Dreamweaver).

I can use tables to design the layout of my web pages.

I can use rollover images to improve the look of my web pages and also use them to link to other pages.

I can create links on my webpages using Flash Buttons.

My website comprises of at least four linked pages providing suitable information for my target audience.

I can evaluate the quality of my work and use the feedback to make improvements.

I can make judgements about digital content when researching for a particular audience, and know how to make it interesting for the audience.

I understand the issues of copyright and can safely and legally use various media in my website.

I know how search engines rank results.

I know what a web server does and how databases are used for websites.

Comments / Targets

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- Why?
- What have you learnt this term?
- What skills have you learnt?
- What's the point of this unit?
- How do you know you have improved this year?
- Can you show me in your work that you are improving?