



Read

# Computing Year 9 Autumn Term 1: Bus & ICT

Quiz



## Market Research

There are two Types of Market Research Primary and Secondary. Primary is doing it yourself e.g: Survey  
Focus Group  
Secondary is someone else's' work  
Internet Research  
It's important as it tells businesses what people want to buy so you can ensure your selling what people want

## Market Segmentation

There are different Market Segments:  
Age  
Gender  
Lifestyle  
Location  
These are important because it lets the business target its products to the right people through advertising etc.



## Key Terms

**Market Research:** This is carrying Out research of members of the public

**Market Segmentation:** Splitting Customers into target audience

**Spreadsheet:** Software designed To let you deal with numbers And calculations

**Adobe Fireworks:** Software to Let you do graphical work like Create a web page or poster

**Web Design:** Lets you design Website, can be done through Web authoring software or HTML

**Word:** Designed for typing and Formatting letters and other Documents that need to be Typed up

## Spreadsheet

Spreadsheets are good as they allow you to carry out calculations quickly and accurately.

Formulas must start with = sign and use cell referencing- B4

	F1		F6		=75/10	
	A	B	C	D	E	F
1	/	Division	50	/	10	7.5
2	*	Multiplication	10	*	8	80
3	+	Addition	50	+	10	60
4	-	Subtraction	10	-	5	5
5						

## Fireworks

Adobe Fireworks has many tools Which can be used to change images:

- Remove Background
- Create Shapes
- Move parts of an image

## HTML

This is the code used to create a website there is a 'tag' for instructions:

<img> means insert an image

<h1> means a main Heading

<P1> means a paragraph



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# Computing Year 9 Autumn Term 2: Logic Gates

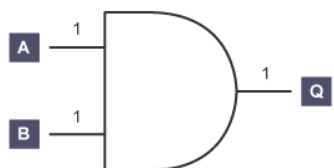
Quiz



## Logic Gates

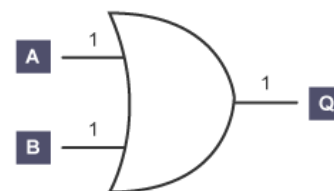
Logic Gates represent how a circuit Board within a computer works:

### Truth Tables



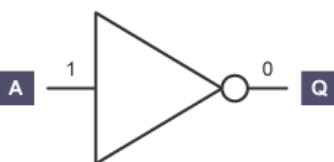
AND Gate

INPUT		OUTPUT
A	B	
0	0	0
1	0	0
0	1	0
1	1	1



OR Gate

INPUT		OUTPUT
A	B	
0	0	0
1	0	1
0	1	1
1	1	1



NOT Gate

INPUT		OUTPUT
A		
0		1
1		0



## Key Terms

**Binary:** This is a number system that only uses two digits: 1 and 0. All information that is processed by a computer is in the form of a sequence of 1s and 0s.

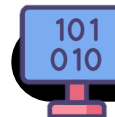
**Logic Gate:** This is a circuit within a Computer

**AND Gate:** When both switches on the circuit are on the output will be on. Eg both light switches need to be on for the light to come on.

**OR Gate:** Only one switch needs to be on for the output to go on, eg in either a hall light switch or landing light switch is on the landing light will go on.

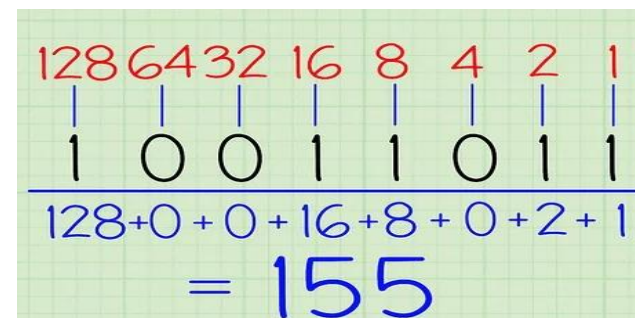
**NOT Gate:** This is the opposite, if the switch is on the light will be off and vice versa

**Truth Table:** This is a table which shows how the Logic Gate is working on is represented by 1 and 0 means it is off



## Binary

Computers use something called binary code. Binary code is made up 1s and 0s.



## Binary Addition

$$0 + 0 = 0$$

$$1 + 0 = 1$$

$$1 + 1 = 10$$

$$1 + 1 + 1 = 11$$





Watch

# Computing Year 9 Spring Term 3: Graphics

Quiz

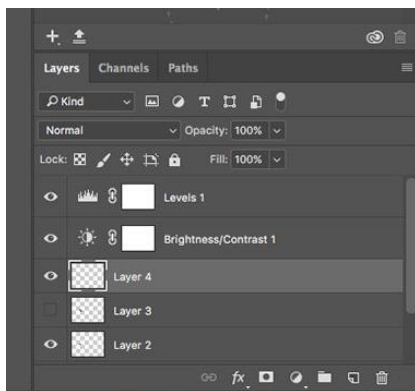


## Graphics

Graphic design is the art or skill of combining text and pictures in advertisements, magazines, or books.

## Tools

Layers are used to change parts of an image



Magic Wand



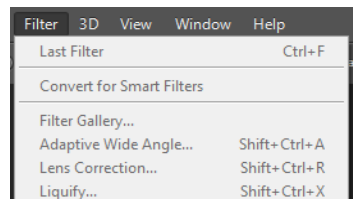
Add text



Zoom



Spot Healing Tool



## Key Terms

**Bitmap:** An image made up of pixels. This type of image loses quality if its width and/or height are increased.

**Vector:** Vector graphics are based on mathematical relationships with control points that make up the image. Vectors are used for cartoon images or logos

**Pixel:** One individual unit or dot which makes up an image

**Editing:** Changing the way an image looks

**Photoshop:** Software that allows you to change images

**Audience:** Who your graphical work is designed for

**Layout:** How the page is set out

**Mood board:** A group images put together about a topic

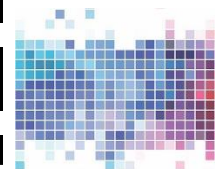
## Repurpose

This is changing or editing an image in some way. This could either be hanging the colour, making it black an white, adding things to an image or changing something within the image.

## Copyright

Copyright is to stop people copying each others work.

Copyright is a legal means of ensuring that content creators can protect what they create. It only applies to certain types of creative work, including art work, books and computer programs. In general, copyright does not apply to ideas.



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# Computing Year 9 Spring Term 4: CyberSecurity

Quiz



## Forms of Attack

There are different forms of attack  
That can happen to a network or  
Computer system. These are attacks  
Are designed to either cause  
Annoyance, to steal money or to steal  
Money. They can take the form of:

Insider Attack	Brute Force Attack
Passive Attack	Denial of Service
Active Attack	

## Malware

There are different types of Malware  
that can effect a Computer:  
Trojan, pretends it will be a useful  
and safe program, when actually  
it will try to attack your device  
Worms can spread from device to  
device, but unlike a virus they  
don't need to attach themselves  
to other programs  
Spyware secretly goes onto your  
computer and watches what your  
doing stealing passwords etc.



## Key Terms

**Cyber Attack:** A cyberattack is an  
attempt to gain access to, steal,  
modify or delete data on a network

**Malware:** Malicious Software which is  
designed to harm, delete or modify  
files in a computer

**Insider Attack:** Someone within an  
organisation stealing, deleting or  
modifying information from the  
business

**Passive Attack:** where someone  
monitors data travelling on a network  
and intercepts

any sensitive information they find.

**Active Attack:** where someone hacks  
Brute Force: Repeatedly trying  
passwords

**Denial of Service:** Lots of traffic on a  
website to stop it working

## Hackers

White Hat Hacker- Good hackers who  
Are legitimate and hack to find issues  
In a system which can then be fixed  
Grey Hat Hackers- Hack in for fun or to  
Cause annoyance  
Black Hat Hackers- illegal hackers who  
Hack for money or to steal data

## Prevention

There are different ways of preventing  
Malware and computers being  
Attacked. These include:  
Anti- Virus, this scans a computer for  
virus' and then deletes them when  
found  
Encryption, Makes it so when the  
Information is stolen it can't be  
Understood  
Firewall, stops unauthorised users  
getting access to the computers.



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# Computing Year 9 Summer Term: Programming

Quiz



## Python

Python is a really popular textual programming language. It uses a syntax which lets you type in a line of code and press enter to execute that code.

Python is increasingly popular and used to create apps such as Instagram and Spotify.

### Selection

Selection is where decisions are made that affect which instruction are carried out next.

```
score = INPUT("Enter your score")
IF score > 40 THEN
    print("You have passed!")
ELSE
    print("You have failed")
```

### Iteration

Iteration is where a certain set of instructions are repeated. The number of times that the instructions are repeated can be fixed, or can depend on a condition.



## Key Terms

**Programming:** writing computer code to create a program, to solve a problem

**Text based Programming:** Programming using text such as Small Basic or Python

**Sequence:** Sequence means to set down instructions one after another for the computer to run

**Algorithm:** This sets out a sequence of steps, that, when ran, will carry out a specific task.

**Loop:** Repeatedly doing a piece of code

**Selection:** Choosing between possible actions

**Variable:** A piece of data that you can alter

## Loops

### FOR Loops

Will repeat the code inside them a fixed number of times. The number of times that the code repeats will depend on an initial value and the end value.

### WHILE Loops

Controlled by a condition at the start of the loop, keeps going while the condition is true, never running the code if the condition is initially false. Will repeat forever if the condition remains true.

## Errors

If there is an error in your code it will either not work, or work but not in the way that you want it to. This could be the smallest of errors, errors are called bugs.



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