

KS3 Computing – Knowledge Organiser

KS3 COMPUTING: Year 7 Autumn Term Unit 1 Functional Skills, Getting Started

Overview

Folder	A folder is a storage space that can hold many files. For example if you created a 'Computing' folder, you would save all your Computing work in there.
Sub Folder	A folder within a main folder
Email	An electronic message that is sent via the internet
Phishing	Criminals use Phishing to obtain information about you, sometimes they pretend to be big companies like a Bank and try to trick you to pass personal information
Privacy Settings	You can change your profiles to be private or public. Privacy settings are where you will find options to control who can and cannot see your information and online profiles such as social media accounts.
Hacking	Unauthorised access to an account, file, folder or IT system
Email Signature	This is a digital signature that you can place at the end of an email that appears automatically.
Carbon Copy (CC)	Sending a copy of an email to someone else. For example if your tutor sends an email to your parents, they may CC in your head of year.
Attachment	A file that is inserted into an email and sent with it, for example, a picture

Key Learning that will take place in this unit

- Setting up user accounts for use of computers at St Ivo
- Understanding the need to creating a strong password to prevent unauthorised access
- Understanding the threats that exist when operating online.
- Understanding the school network, in particular 'Projects'
- Set up and learn how to access your school account
- Set up and learn how to use Go4Schools
- Create your Schoology account.
- Understand the purpose and need for good file and folder management.



Software and resources that will be used:

- Gmail Account
- Google Classroom
- Microsoft Windows
- Internet Explorer/Chrome
- Microsoft Word/Powerpoint

User Account and Passwords At Henlow Academy, you will be given your own User Account which requires a password. This account will be used to access the computers in the school.

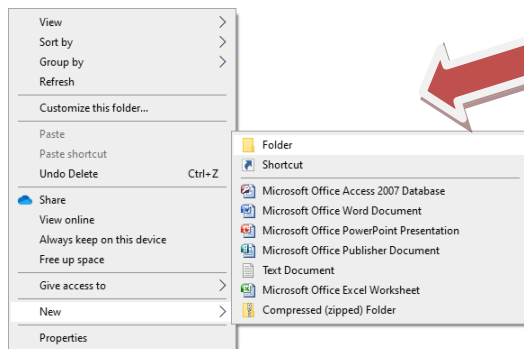
Starts with the year you joined the school: **20**

Then, the initial of your first name, followed by your surname.

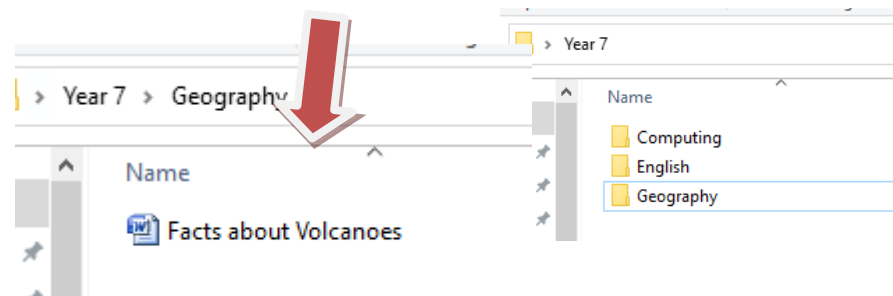
There for John Smith who joined in September 2023, his username is **20jsmith**

File and Folder Management:

During this unit you will learn how to create a new folder by right clicking, selecting 'New' and clicking on 'Folder'



Appropriate file and folder management allows you to be able to stay organised throughout your St Ivo career. Effective management of this will allow you to be able to find files easily and quickly



PASSWORD

You will need to create a strong password

Strong passwords help better secure your accounts.

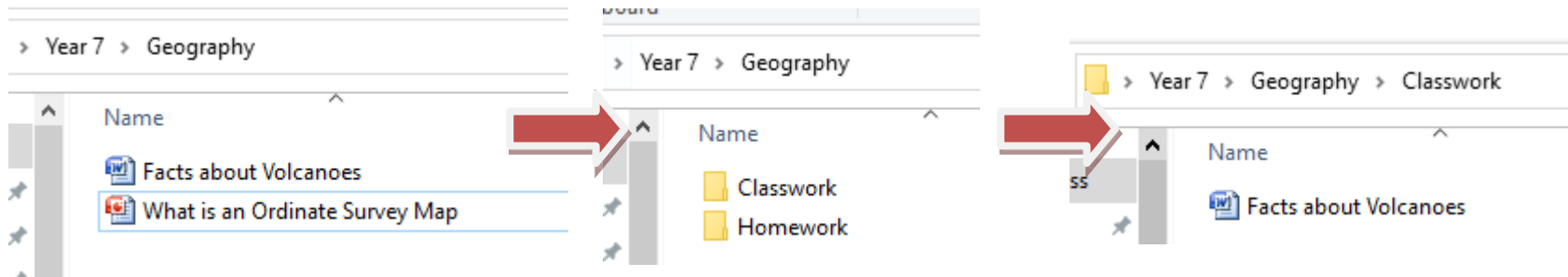
Passwords should be

- At least 8 characters long
- Mixture of capital and small caps letters
- Mixture of letters and numbers
- Use of special characters such as !
- Example '5tr4WberRies!'

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Sub Folder: You will often do Classwork and Homework. There for it is important to create sub folders to organise the files within a folder

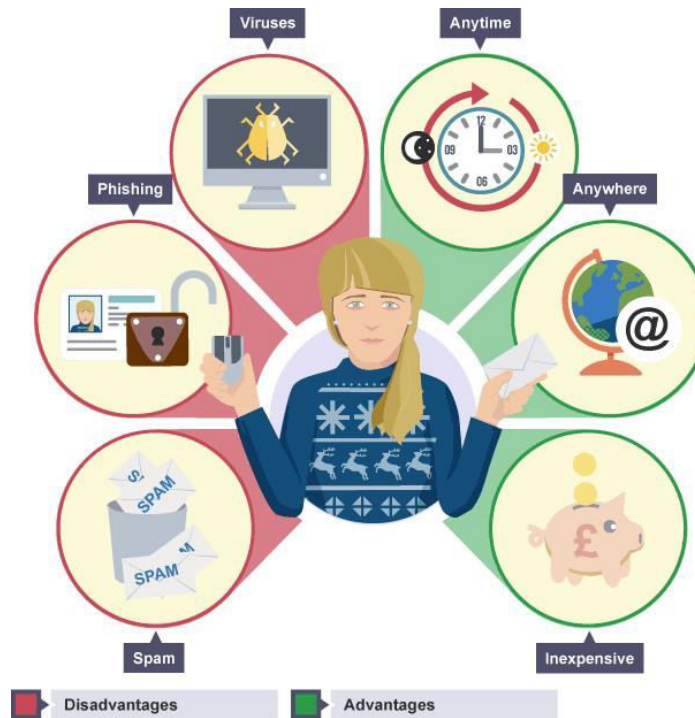


Use of Emails: You will be given your own school email address to use in school

Features of email

The many different features of email include:

- automatic reply to messages
- auto-forward and redirection of messages
- facility to send copies of a message to many people
- automatic filing and retrieval of messages
- addresses can be stored in an address book and retrieved instantly
- notification if a message cannot be delivered
- emails are automatically date and time stamped
- signatures can be attached
- files, graphics or sound can be sent as attachments, often in



Identity Theft

Could someone else find out enough about you online to pretend to be you?

What would they need?

Could you fall victim to a scam?



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Your school email address:

23jsmith@henlowacademy.org.uk

It is made up of your username for your computer log on with

@henlowacademy.org.uk You will create your password in class.

If you forget your password, you should see ICT network office or Mr Abedin in the ICT Suite

Phishing

Trying to trick someone into giving out information over email is called 'phishing'. You might receive an email claiming to be from your bank or from a social networking site. They usually include a link to a fake website that looks identical to the real one. When you log in it sends your username and password to someone who will use it to access your real accounts. They might steal your money or your identity.

Your bank will never send you an email asking for your personal information or your username and password.

TEST YOURSELF

1. The many different features of email include:
2. List 3 advantages of using emails
3. List 3 disadvantages of using emails
4. Explain why effective file and folder management is important
5. Give 3 tips to creating a strong password
6. Give an example of a strong password
7. What are 4 features of an email?
8. Michael has received an email from a company asking to confirm his personal information. Give 3 tips for Michael to use to identify if this is a phishing email.

Tips to identify Phishing Emails

Greeting: The phishers don't know your name, so the greeting is not personalised.

The **sender's address** is often a variation on a genuine address.

Forged link: The link looks genuine, but it may not link to the website given.

Request for personal information: Genuine organisations never ask you to provide personal information via email.

Sense of urgency: Criminals try to persuade you that something bad will happen if you don't act fast Poor spelling and grammar: Generally phishers are not good proof readers!

Useful Links

BBC Bitesize

Emails: <https://www.bbc.co.uk/bitesize/guides/zghfr82/revision/1>

File and Folder Management: <https://www.bbc.co.uk/bitesize/guides/z9n9q6f/revision/2>

Spam Emails and Phishing: <https://www.bbc.co.uk/bitesize/guides/zrtrd2p/revision/2>



At Home

How many different email addresses do you use?

Find out how members of your family use emails

If you have a family laptop or pc, check if your home files are organised, if not, sit with your parents and help them organise files and folders

Log into your school email account from the school website

KS3 Computing – Knowledge Organiser

KS3 COMPUTING: Year 7 Autumn Term Unit 2 Digital Citizenship

Overview

KEY WORDS

Digital Media	Content (text, audio, images, video) or devices that allow people to share information, communicate, and collaborate over internet or computer networks
Media Balance	Using media in a way that feels healthy and in balance with other life activities (family, friends, school, hobbies, etc.)
Digital Habits	Behaviors we do often or regularly with digital media and devices
Red Flag Feeling	When something happens on digital media that makes you feel uncomfortable, worried, sad, or anxious
Unplug	To engage in activities that don't involve devices, apps, or the internet
Phishing	Illegal method of obtaining personal information through forms of deception. This could be a fake email pretending to be a bank asking for details
Identity Theft	A type of crime in which your private information is stolen and used for criminal activity
Private Information	Information that can be used to identify you because it is unique to you (e.g., your full name or your address)
Digital Drama	When people use devices, apps, or websites to start or further a conflict between people

Software and resources that will be used:

- Google Classroom
- Internet Explorer/Chrome
- Microsoft Word/Powerpoint

Key Learning that will take place in this unit

- To be aware of what makes a good digital citizen
- Develop a better understanding of good practice when using digital devices
- Be more self aware of the use of social media and develop safe practice of online platforms

Why is it not ok for people to text and drive at the same time?

Drivers need to keep their concentration on the road at all times

Become distracted could cause serious accidents.

Media Balance

It is important to develop a safe and healthy balance between the time spent in consuming digital media through your digital devices as well as the type of content.

Other activities such as a exercise, socialising with friends, hobbies are vital for a health mind!



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KS3 COMPUTING: Year 7 Autumn Term Unit 2 Digital Citizenship



How to spot a Phishing email

- Sense of urgency
- Will often use Dear Customer, and not your actual name
- Spelling and grammar mistakes
- Need to click on a link for whatever reason they state
- Email sent at random times of the day

Phishing

When someone poses as an institution, like a bank or a school, and sends you a personalized message asking you to provide private information

Emails will often be disguised to look like a real company. They are quite sophisticated and will use the same fonts, colours and overall looks of the company. We have to be smarter!

What are some ways that you can stay safe online and protect yourself from Phishing emails?

Red flag feeling

When something happens that makes you feel uncomfortable, worried, sad, or anxious

It is vital that we always speak to someone we trust. ALL of your teachers are trained in SAFEGUARDING and will be able to support you. There is always going to be content around that causes upset, offense and sadness.

**PARENTAL
ADVISORY
EXPLICIT CONTENT**

Communicate and do not hold it in.

Finsta and 'fake' news and accounts

A Finsta is what is known as a fake Instagram account. This could be in a form of taking someones identity or a fake account created just to gather followers in order to market scams or propaganda to them. You must do the following!

Questions to consider about finstas...

Gut check

Do I feel good about making this account, or does it feel wrong?

My actions

Would I use it to post something harmful or mean?
Would I say the same things in person?

My impact

Am I using it to post things that could be hurtful to someone else?
Am I staying true to who I am, and my values as a person?



There are 3 main laws to consider

- Computer Misuse Act
- Copyright, Designs and Patents Act
- Data Protection Act (GDPR)

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KS3 COMPUTING: Year 7 Autumn Term Unit 2 Digital Citizenship

Feelings and Options

Identify - Who are the different people involved in the scenario? What dilemma or challenge are they facing?

Feel - What do you think Sara is feeling? Why might the situation be hard or challenging for her?

Imagine - Imagine options for how the situation could be handled. Come up with as many ideas as possible. Then, choose which option might lead to the most positive outcome.

Say - Thinking more about the idea you chose for handling the situation, what could Sara do or say? Be as specific as possible.



There is always going to be help out there. Communication is so vital for whenever we witness something that upsets us. Especially when you see something like Cyberbullying taking place.

Digital Drama and De-escalate

Social media is right there in your faces, almost every day of your lives, across all your free time. The most common method of socializing now is through the comfort of our devices. Due to the easy to share nature, a conflict between two people can be shared that much quicker and to a wider audience. It is important to be one that can de-escalate a situation, and not add to it!



Finding Credible News

Credible is the ability to be believed, something is trust worthy. We live in an age, in the words of Donald Trump, 'FAKE NEWS!' You should be someone who strives to be a fact finder, research what you read and hear from people. Where did it come from, is the source trustworthy, are they biased?

Useful Links

Common Sense Education

<https://www.commonsense.org/education/digital-citizenship/curriculum>

Test Yourself

1. Why is it important to research a new story?
2. State 3 ways to identify a phishing email
3. What does Phishing mean?
4. Think of a situation where you have had the 'Red Flag Feeling'.

At Home

Communicate with parents about your use of Digital Media. You need to reflect on screen time and what is your media balance between this and off screen time.

KS3 Computing – Knowledge Organiser

KS3 COMPUTING: Year 7 Spring Term Unit 3 Kodu Game Development

Overview

KEY WORDS

Software and resources that will be used:

- Google Classroom
- Kodu

Key Learning that will take place in this unit

- To understand what makes a game appealing
- To plan, develop and create a function 3D game in Kodu
- Students will also learn key programming concepts such as Sequencing, Iteration and Selection







Selection	The concept of using an IF Statement. If the life of a character is = to 0, then game over.
Iteration	Using loop and repetition
Sequencing	Running code in order
Flowchart	A visual diagram to show how a system works
Variable	A temporary storage location for data, for example SCORE and LIFE
Target Audience	A group of people who the product is specifically for. For example, a particular toy would be made with a specific target audience, or a group of people who would really enjoy it, not necessarily for everyone!

Variables

Within a game, there are MANY variables. In Sonic for example, the game will show how many rings Sonic has collected.

In the screenshot below you will see the variables for SCORE, TIME and RINGS

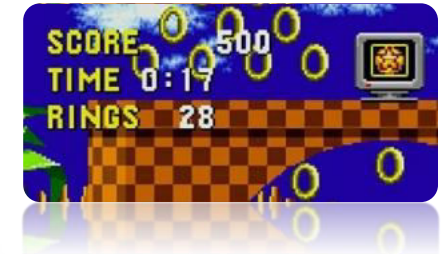
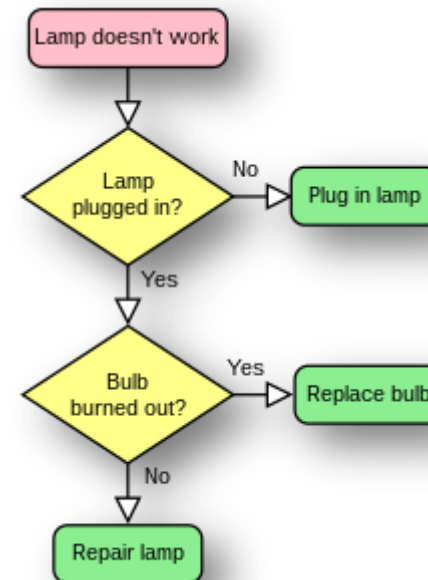


Name	Symbol	Usage
Start or Stop		The beginning and end points in the sequence.
Process		An instruction or a command.
Decision		A decision, either yes or no.
Input or Output		An input is data received by a computer. An output is a signal or data sent from a computer.
Connector		A jump from one point in the sequence to another.
Direction of flow		Connects the symbols. The arrow shows the direction of flow of instructions.

Flowchart Symbols

Take a look at the symbols on the table (left)

These symbols help create flowcharts to show how a system or program will work.



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KS3 COMPUTING: Year 7 Spring Term Unit 3 Kodu Game Development



Line 1: WHEN keyboard Arrows + DO move quickly +

Line 2: WHEN keyboard 1 + DO 1st person

Line 3: WHEN keyboard 2 + DO follow

Line 1: When Keyboard Arrows are pressed, Move Quickly
Line 2: When Keyboard 1 is pressed, go to 1st person camera
Line 3: When Keyboard 2 is pressed, go to 'Follow' Camera

Line 4: When Keyboard S is pressed, Shoot Blip
Line 5: When Bumped into Heart, Eat It
Line 6: When Bumped into Heart, Heal me with Max Health



Line 4: WHEN keyboard S + DO shoot blip +

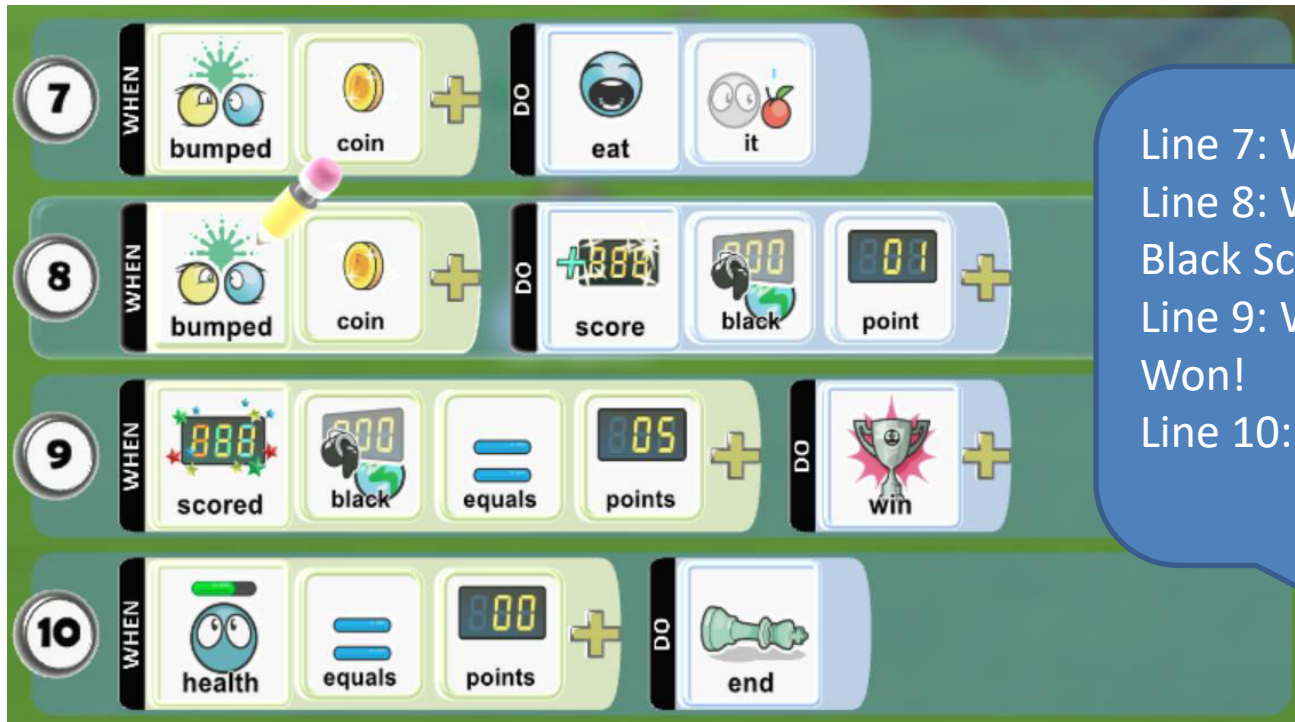
Line 5: WHEN bumped heart + DO eat it

Line 6: WHEN bumped heart + DO heal me max health +



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KS3 COMPUTING: Year 7 Spring Term Unit 3 Kodu Game Development

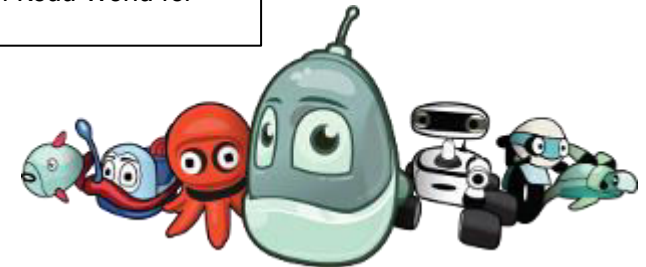
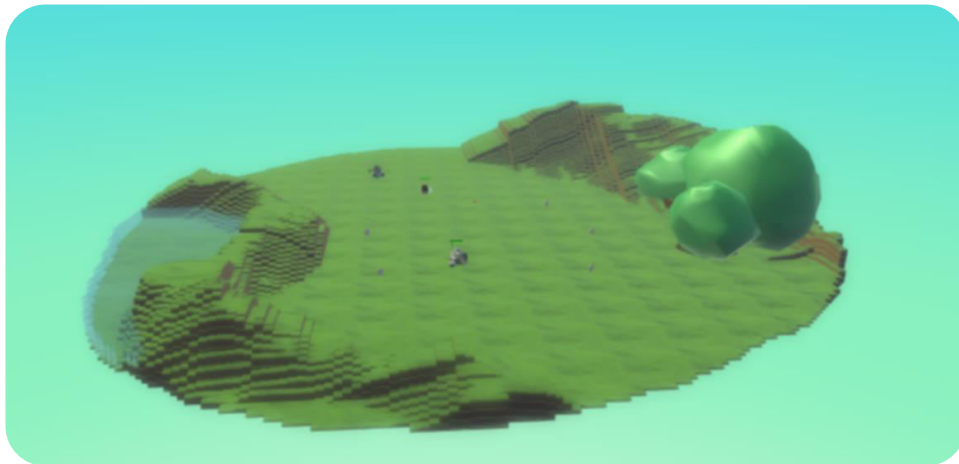


Line 7: When Bumped into Coin, Eat It
Line 8: When Bumped into Coin, Add 1 to Black Score
Line 9: When Black Score equals 5, Game Won!
Line 10: When Health equals 0, Game Over!



World Development

You will use your current skills with Minecraft to be able to build your own Kodu World for the game to run.



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KS3 COMPUTING: Year 7 Summer Term Unit 4 Graphics

Overview

KEY WORDS

Software and resources that will be used:

- Google Classroom
- Adobe Photoshop

Key Learning that will take place in this unit

- Introduction to vector and bitmap graphics.
- Exploring the range of graphic file types.
- Developing graphics using available tools.
- Creating digital artefacts for promotion of their Kodu game

JPG	Small file size, used by cameras and for images on the internet.
GIF	Small file size, used on the internet for images that have large blocks of colour.
BMP	Large file size, rarely used these days.
TIFF	Very large file size, primarily used in the print industry.
PNG	Small to medium file size, designed to replace GIF. It is slowly growing in use.
Vector Images	An image stored as mathematical instructions for how to draw it. This means its width and height can be increased without the loss of quality.



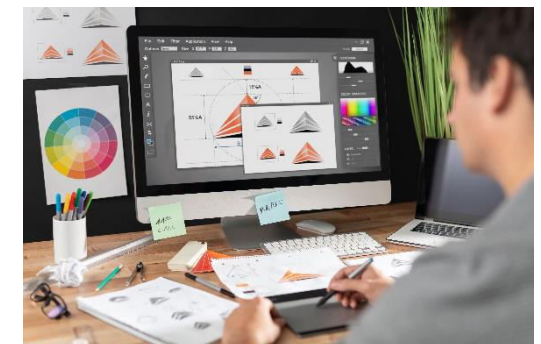
Lossy vs Lossless Compression

With lossless compression, every bit of data originally in a file remains after it is uncompressed, and all the information is restored. Lossy compression reduces a file by permanently eliminating certain information, especially redundant information.

Photo Editing Software

Not all photo-editing software is equal. Some have more **features** than others, but here are some of the common features you might find:

- Air brushing can cover up skin imperfections, change eye colour and make people look slimmer.
- Red-eye removal is used to correct the effect a flash can have on eye colour.
- Cropping allows you to select part of the image and get rid of the rest.
- Special effects can make the photo look like an oil painting, sketch or cartoon.
- Brightness and contrast can brighten the photo if it's too dark or darken it if it's too light. You can change the contrast or adjust the richness of colours.
- Layers allow you to add elements to an existing photo.



**SENIOR GRAPHIC DESIGNERS
CAN EARN OVER £60K!**

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KS3 COMPUTING: Year 7 Summer Term Unit 4 Graphics



You will be producing a DVD cover and Magazine Poster for your Kodu game from Unit 3 Kodu Games Development. Your target audience will be 3 to 6 year olds.



Dictionary
Definitions from [Oxford Languages](#) · [Learn more](#)

house style
noun

a company's preferred manner of presentation and layout of written material.
"the document will automatically be set out according to the house style"

Understanding House Style and Colours

When you think of McDonalds what colours do you think of? Red and Yellow
When you think of KFC, what colours? Red and White

House style is when ever document of a company, even website, posters, leaflets, all follow a very similar style in terms of font, images and colours.

Think of what the Henlow house stale and colours are?

KS3 Computing – Knowledge Organiser

KS3 COMPUTING: Year 7 Summer Term Unit 5 ICT in Business

Overview

KEY WORDS

Artificial Intelligence	The theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages
Privacy Issues	Our data is private to us. Privacy is to do with how our data is kept and stored. Is it safe? Is it in the right hands?
Cookies	Small files that are used to track our use of a website
Open Source Software	Software that can be developed further by the user. The original developer has left it open for this.
Proprietary Software	Software that is locked by the developer so that it cannot be amended or developed further.
Stakeholders	An individual or group of individuals who are directly involved or have an interest in a particular thing.
Legislation and Privacy	Laws that are in place for issues such as a data protection and copyright. Laws must be followed to protect our privacy and information
Multifunctional Devices	Devices that have multiple functions. For example a printer that is also a photocopier, scanner, printer
Digital Device	A physical unit of equipment that contains a computer or microcontroller. Today, myriad devices are digital including a smartphone, tablet and smartwatch
GPS	Global Positioning System. Used to give the location of a device.
Input Devices	A device that connects to the PC such as a mouse or keyboard which sends signals and data IN to a device
Output Devices	A device that connects to the PC such as a printer, monitor, speaker which sends data OUT of a device, such as an image or sound
Accessibility Issues	These are issues surrounding the use of computers. Such as visual impairment, hard of hearing and using Narrator on the computer
Storage Device	A device that stores data, such as a hard drive, SD card etc

Software and resources that will be used:

- Microsoft Office Package/Google Classroom

Key Learning that will take place in this unit

- Exploring how ICT is used in the world of business
- Designing and developing a business brand
- Creating a variety of business documents.
- Understanding the use of IT in business and basic security.
- Membership Letter
- Membership Card
- Poster

Ethical Issues

Recycling of electrical waste that is no longer needed

Countries around the world run illegal landfill sites where young people are made to work to collect raw material to sell to illegal traders.

Why is this an ethical issue?



Computer Systems used for:

- Travel
- Food
- Navigation
- Hospitals
- Monitoring the environment.



Environmental Considerations

- Organisations such as schools and hospitals have an obligation to dispose of old computers by recycling
- Some organisations will refurbish old but working computers and sell them or donate them to people who cannot afford to buy a computer

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KS3 COMPUTING: Year 7 Summer Term Unit 5 ICT in Business

Accessibility and Equality

People are diverse! - Some people are not able to use the 'standard' devices that you or I use in our every-day lives. And so, devices have been specially developed to allow for these differences. Impairments include

- Visually impaired (partial or total blindness)
- Motor impaired (difficulty in movement)
- Auditory impaired (difficulty in hearing)

Some disabilities mean that the input devices themselves need to be placed at convenient locations for the person. For example mounted on a wheel-chair.



There is a need to have certain types of equipment to meet the needs of all users.

Specialist Hardware

- High contrast keyboard for people with dyslexia
- Foot mouse for those who cannot use a hand mouse
- Braille keyboard / number pad for blind people
- Microphone for dictation voice commands
- Speaker / headphones for speech synthesis



Useful Links

GCSE Bitesize

<https://www.bbc.co.uk/bitesize/guides/zkhykqt/revision/5>

<https://www.bbc.co.uk/bitesize/guides/zbxbkqt/revision/1>

Test Yourself

1. Name three of the main laws that need to be followed in ICT
2. Name 3 Input Devices
3. Name 4 Output Devices
4. Give an example of an Ethical Issue surrounding ICT

At Home

Try having a look at the settings on your mobile phone to see what accessibility options exist.

Next time you use a keyboard, look out for the raised line on J and F and the brail notches on a keypad at the Cash Machines

KS3 Computing – Knowledge Organiser

KS3 COMPUTING: Year 7 Summer Term Unit 5 ICT in Business



Your tasks

Membership Letter
Membership Card
Poster

You will create the documents to promote your games production company and the release of your Kodu Game



BUSINESS CARD



MEMBERSHIP LETTER

MAGAZINE POSTER