

Progression in Computing Systems and Networks

Computer Science - Systems and Networks:

Class 1

- You need to:
 Name the parts of a <u>computer</u>. (<u>monitor</u>, <u>keyboard</u>, <u>mouse</u>)
- Develop mouse and keyboard skills.



Can you...

- Find technology in the class?
- Explain it helps us?

<u>Computer Science</u> - Systems and Networks:

You need to:

- Know that a computer is a pert of IT.
- Identify and discuss the use of IT in school and out of school.

Class 2

Can you...

- Explain how IT helps us?
- Explain how to use IT safely?





Computer Science - Systems and Networks:

You need to:

- Describe how networks connect to each other.

Know how to add content to the internet.



Think about how reliable information on the internet really is.

Know how networked devices make the internet.



Computer Science - Systems and Networks:

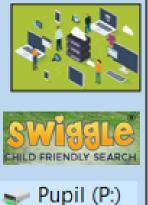
The Internet is a network of computers connected to each other all around the world.

When using search engines (such as Swiggle) online, the results are organised in many different ways including:

- •the number of links from other webpages to this webpage
- the number of time the keywords appear in the text on the page
- the use of the keywords in the URL
 how often the webpage is updated
- •There are many different search engines which are designed for different purposes. Swiggle is perfect for children to search for information safely.

Networks

- A computer network is a group of connected devices, such as computers, printers, smartphones, routers and hard drives.
- They link together to 'communicate' with each other and share information - The Pupil section of our network!













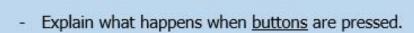


Progression in Programming and Coding

Computer Science - Programming and Coding: Programming is giving instructions to computers.

You will...

Class 1



- Solve problems by making a Beebot move.
- Create instructions (or commands) for a Beebot.
- <u>Predict</u> what will happen and improve your instructions.



Help an <u>onscreen</u> Beebot <u>navigate</u> around a course.

Predict what will happen on screen.



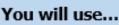
<u>Computer Science</u> - Programming and Coding: Programming is giving instructions to computers.

You will...

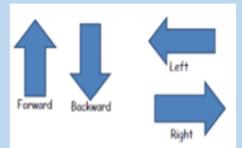
Know how remote controls can control <u>devices</u> e.g. <u>TV</u>, <u>DVD</u> and <u>screens</u>.

Class 2

- Create a sequence of instructions.
- Coding = Creating instructions for a computer to follow.
- <u>Debugging</u> = Finding and fixing an issue/problem.



- Scratch Junior and Purple Mash











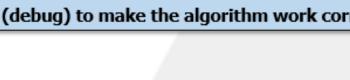


• An algorithm is a clear, precise set of instructions. - e.g. fd (forward), bd (backwards), rt (right), [t (left)



- You can use algorithms to solve problems.
- You can use repetitions and selection to shorten code. e.g. 'repeat 10.'

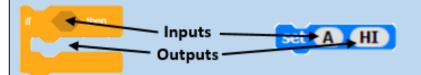


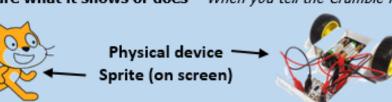


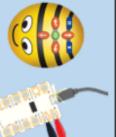


Computer Science - Programming and Coding:

- · Programming is giving instructions to computers.
- Computers can control many things in our daily lives These can include: traffic lights, sensors, vending machines etc.
- Mistakes are called errors or bugs, and debugging helps fix them Imagine if traffic lights stayed on green!
- Variables are something that can change and hold different information Think of a scoreboard in football!
- <u>Inputs</u> are what we give to the program, and <u>outputs</u> are what it shows or does When you tell the Crumble kit to light up (input), guess what, it lights up (output)!







Class 4

Class 3



Progression in Using the Internet and Online Safety

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Class 1

- <u>Digital Literacy</u> Using the internet and online safety:
- You will...
- Know how to use ICT to find information.
- Use the <u>correct buttons</u> on a <u>website</u>.
- Follow the school <u>internet safety rules</u>.
- Know where work is stored.

<u>Digital Literacy</u> – Using the internet and online safety:

Using the internet and online safety: You will....

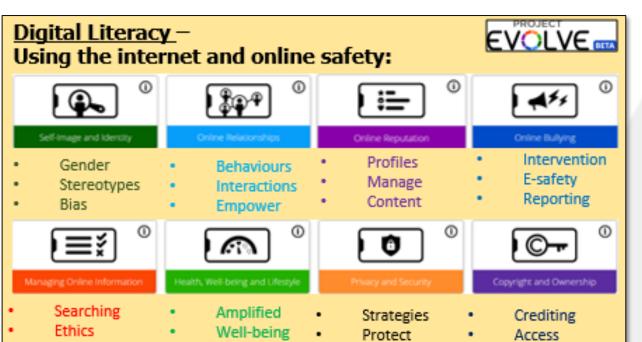
Class 2

- Know that some information is more useful than others.
- Be able to <u>navigate</u> a webpage and search engine.
- Use a <u>safe search engine</u> e.g. <u>Swiggle</u> to find answers to questions.
- Follow the school rules and know where to go for help and support.

Digital Literacy - Using the internet and online safety:

- You can use key words to find information online you don't need to ask full questions- e.g. Brazil capital
- Scan through search results to decide which is most useful.
- Websites have addresses! e.g. www.bbc.co.uk.
 You can copy these to make a link in your work.
- Remember, some websites share false information. Check first!
- If you see something inappropriate, TAG (Tell A Grown up).

Class 3



Compromised •

Distribution

Strategies



Class 4

Cookies





Progression in Communication & Collaboration

<u>Digital Literacy</u> – Communication and collaboration



Class 1

You will...

- Know how to use technology and tools safely.
- Know how to <u>stay safe online</u>.



<u>Digital Literacy</u> – Communication and collaboration

You will...



Class 2

- Know how to communicate safely.
- Know the e-safety rules and where to go for help and support.
- Share content on <u>Seesaw</u> and know how to.

<u>Digital Literacy</u> – Communication and collaboration

- Speak to people online how you would in person – appropriate behaviour and communication.
- Class 3
- Don't give out personal information online name, address, phone number.
- You can share your work using Seesaw or Purple Mash.

<u>Digital Literacy</u> – Communication and collaboration



Create content that can be shared on the school website or on Seesaw. Use programs (like Book Creator) to:

- Insert Hyperlinks
- Insert tables, flash files and games
- Embed videos
- Contribute the blog entries and make appropriate, supportive comments about the work of others.

Consider LANGUAGE, LAYOUT and FORMAT to best suit the task







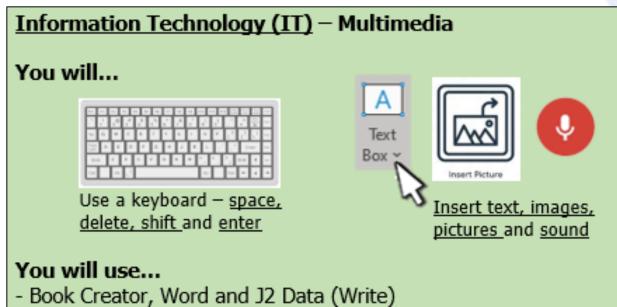






Progression in Multimedia

Class 1



<u>Information Technology (IT)</u> – Multimedia

Class 2



Edit – font size, colour and style.



Add sound, background, images to change the mood and atmosphere.







You will use...

Microsoft Word, Purple Mash and Book Creator

Information Technology (IT) - Multimedia

 Always think about what makes a good design — layout, colour, pictures, font...

Class 3

- You can make a presentation more exciting by adding sounds, videos and pictures.
- Some pictures are owned and shouldn't be copied copyright and plagiarism.



Information Technology (IT) - Multimedia

Audience: Who are you making the media for? Is it suitable?

<u>Purpose:</u> What do you want the media to do? How best can you achieve this?



PowerPoint Presentations Non-linear

(any order)

(in order)

Linear

Insert actions :

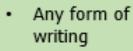








<u>Word</u>



 Create your own documents



E FONTS

<u>Publisher</u>

 Any form of writing

Professional document layouts





Progression in Digital Imagery

<u>Information Technology (IT)</u> – Digital Imagery

Class 1

- Use a <u>paint package</u> to create a picture.
- Explore with shape, line and colour.
- Take a photo and talk about the tools used.
- Talk about images and who sees them.

You will use...

You need to:

- 2Paint Purple Mash



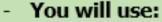


Information Technology (IT) - Digital Imagery

You need to:

- Get images from devices, edit and store them.
- Copy, paste, crop, delete, change.
- Evaluate their and others work.
- Take photos/ videos for a purpose.
- Choose between landscape and portrait.
- Build awareness of sharing images online.





Book Creator, Purple Mash, Pic Collage, Moldiv

<u>Information Technology (IT)</u> – Digital Imagery

 To make an animation/ cartoon, you put together a sequence of still images.



Class 3

Class 2

- Be careful who you share images and work with.
- You can get images from different sources.
- You can edit or change an image to make it look different.

Class 4

<u>Information Technology (IT)</u> – Digital Imagery Audience - Who is our video for? Purpose - What do we want our video to achieve?



- Storyboards Animation **Titles**

 - Credits
 - Angles Perspective









Progression in Music & Sound

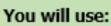
Class 1

Information Technology (IT) - Music and Sound



You need to:

- Listen to a range of music and sound.
- Record, share and talk about recordings.



Seesaw – microphone button.



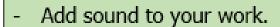
Information Technology (IT) - Music and Sound

You need to:

- Use different devices to record sound.



Explore sound to <u>create</u>, <u>edit</u> and <u>refine</u> music.





You will use:

Chrome Music Lab, Book Creator, Seesaw,

<u>Information Technology (IT)</u> — Music and Sound

Class 3

Class 2

- When recording your voice or sound, speak clearly and consider background noise.
- Layer sounds to make backing tracks.



- You can share your work using Seesaw.
- Be careful who you share work with.



Information Technology (IT) - Music and Sound



Garageband

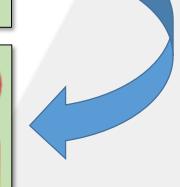
- Consider the audience and purpose of the music for a particular theme.
- Create phrases of beats / music into bars.
- These can be saved as <u>MP3s</u> which can then be added to your presentations in iMovie!

Audacity

- Podcasting. Consider the audience and purpose of your broadcast.
- Evaluate the effectiveness of
- Record. Edit. Upload!











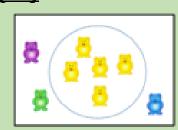


Progression in Data

<u>Information Technology (IT)</u> - Data

You need to:

- Sort objects on screen.



You will use...

- Purple Mash Pictograms
- J2 Pictograms

Class 1

Class 2

- Create <u>pictograms.</u>



Compare...

Is it better doing these things in real life or using a computer?

Information Technology (IT) - Data

You need to:

- <u>Create</u> a <u>bar chart</u> including <u>numbers</u> and <u>labels</u>.



 Talk about how ICT helps you <u>organise</u>, <u>edit</u>, and make changes.

You will use...

J2 Data

Information Technology (IT) - Data



- Spreadsheets are a good place to collect, sort, present data and perform calculations.
- Data loggers are used to collect data e.g. heart rates, noise levels
- Continuous data is something that can be measured over time
 e.g. height of a sunflower.
- Discrete data is something that can be counted in whole numbers - e.g. favourite animal.
- Know that you can use data to spot patterns and answer questions.

Information Technology (IT) - Data

Spreadsheets - Excel

- Frequency tables, pictograms, bar graphs, line graphs – Use the correct one!
- Using the formulae
 — Calculating your totals in Theme Park Maths or Dream Job Maths!

Databases - 2Investigate

- Useful to track, compare, sort and search for information.
- Remember to enter your information accurately!
- Design suitable fields to sort your information.





Class 3

