Computing

One Voice

The Main Strands of Computing

At the core of everything we teach, the three predominant areas of computing are a prime focus and the scheme we use is carefully designed to ensure this coverage.

It is vital that children develop the skills and knowledges related to these strands, becoming successful learners, confident individuals and responsible citizens.

Information Technology

Digital Literacy

Computer Science

The Computing Curriculum at Cheadle Catholic

To ensure high standards of teaching and learning in computing, we implement a curriculum that is progressive throughout the whole school. Our implementation of the computing curriculum is in line with 2014 Primary National Curriculum:

Aims
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.

Attainment targets
Pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Key stage 2
Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output

- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

iMedia Progression Map

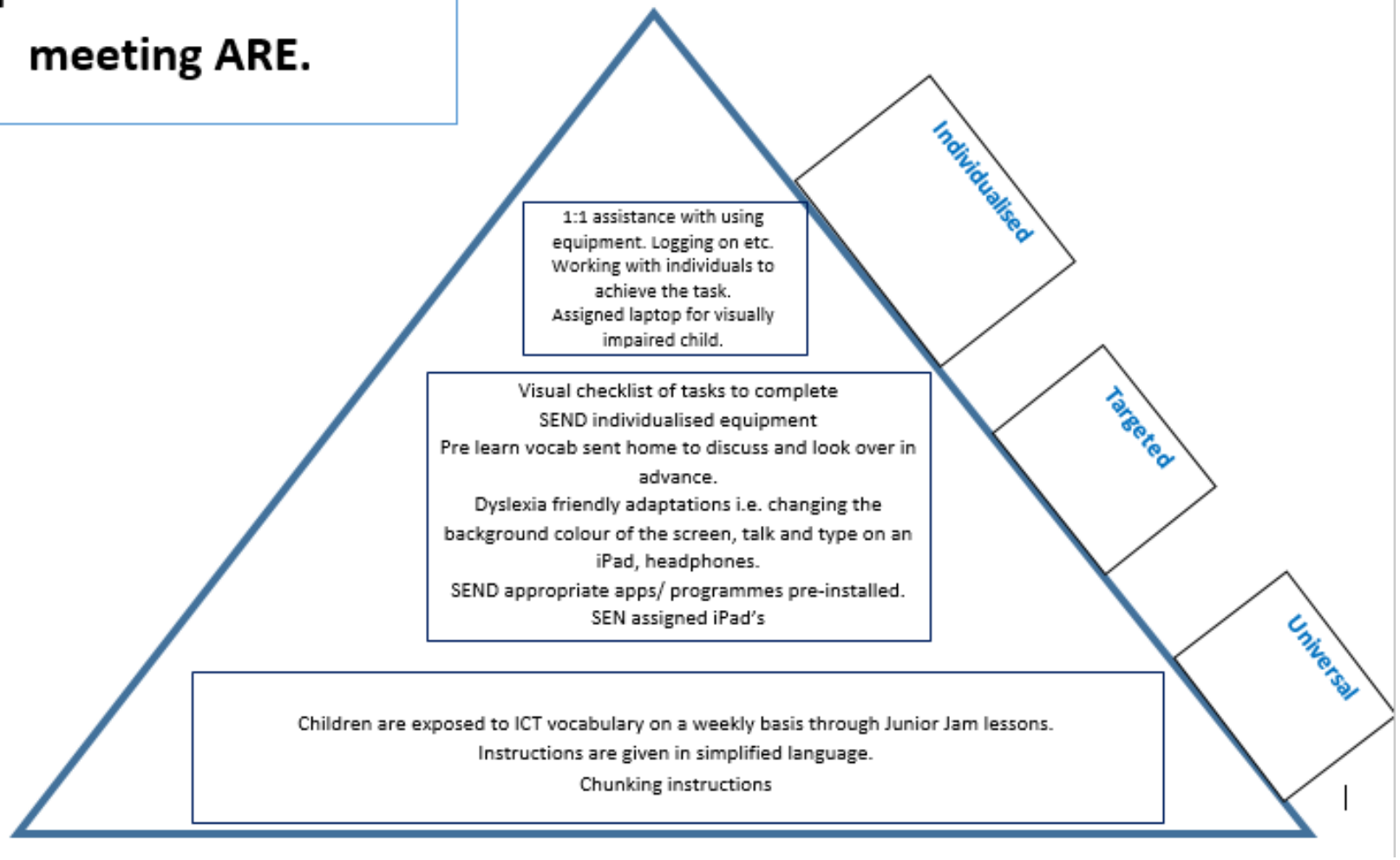
Junior Jam

	EYFS Lite Level 1R	Year 1 Lite Level 1	Year 2 Lite Level 2	Year 3 Level 1	Year 4 Level 2	Year 5 Level 3	Year 6 Level 4
iJam	**rJam** Pupils to: - name instruments - clap to beats - create basic rhythms on apps	**iLoop** Pupils to: - understand song structure - use live loops to create music	**iGenre** Pupils to: - understand the term Genre - use genre filters on GarageBand	**iSong** Pupils to: - understand Music Production - use Live instruments to create music	**iDance** Pupils to: - understand sub genres of dance - create songs to specific BMPs	**iHipHop** Pupils to: - understand characteristics of HipHop - create a HipHop based song	**iRemix** Pupils to: - understand sampling + Remixing - remix a popular song.
iProgram	**rProgram** Pupils to: - recognise technology - name parts of a computer	**iCode** Pupils to: - know that computers use code - create simple algorithms	**iBlockly** Pupils to: - know what an algorithm is - Write code in Blockly	**iLogic** Pupils to: - understand Computer Science - create patterns using code	**iFunction** Pupils to: - Know what a function is - Use conditionals and variables to code	**iDebug** Pupils to: - know what debugging is - Create a game using programming	**iDevelop** Pupils to: - recreate real-world programs - code with complex variables and functions
KS1 iAnimate KS2 iOffice	**rAnimate** Pupils to: - know that cartoons are animated - animate a basic character on IOS	**iMove** Pupils to: - understand stopmotion films - animate using stopmotion	**i2D** Pupils to: - understand that 2D means flat - draw a 2D animation	**iSafety** Pupils to: - understand basic instant safety - use basic functions of Word	**iSocial** Pupils to: - use more advanced functions of word - understand when to use them	**iCompany** Pupils to: - use basic function of Excel - understand how Excel is used in business	**iC.V** Pupils to: - Use apps word, keynote and Excel to create a C.V
iCreate	**rCreate** Pupils to: - learn how to take a photo on an iPad - create digital art	**iPhotograph** Pupils to: - understand focal point, fore/ background - photograph using their key words	**iMagazine** Pupils to: - layout and create a magazine and it's content	**iStopMotion** Pupils to: - create own stop motion - edit animation using sound FX and green screen	**iEdit** Pupils to: - create a storyboard - Splice and fast cut existing footage	**Advanced i2D** Pupils to: - understand that 2D is drawn then animated - create 2D animations	**iDigital** Pupils to: - edit a master cut - create a gif, 3D Art and a Cinemagraph
iCommunicate	**rComm** Pupils to: - name ways to communicate - understand pros and cons of those ways	**iSecure** Pupils to: - know basics of internet safety - discuss topics surrounding trust	**iConnect** Pupils to: - discuss methods of communication - layout and compose an email	**iCollaborate** Pupils to: - create a podcast, a blog and a vlog - create content for an audience	**iPublish** Pupils to: - discuss distribution of media - understand an editors role	**iAdvertise** Pupils to: - understand branding and taglines - Create a radio, tv, and print ad	**iGraphics** Pupils to: - create a website homepage - Understand WYSIWYG
iTech	**rTech** Pupils to: - Know differences between photos and videos - Create basic storylines	**iInvent** Pupils to: - Discuss and understand the technological timeline	**iFilm** Pupils to: - Name different camera angles - Shoot footage using those angles	**iControl** All KS2 2020/21 Pupils to: - Use java and Blockley to code an external device	**iCSI** - Evidence trace All KS2 2021/22 Pupils to: - Use and understand technology used to solve crime	**iCSI** - Cold case All KS2 2022/23 Pupils to: - Understand and use technology used to solve cyber crimes.	**iBuild** All KS2 2023/24 Pupils to: - How Minecraft can reused to create worlds and fulfil briefs.

ICT Provision Map

ICT:

Support for children not meeting ARE.



Adaptive Teaching

The majority of challenge and extension is embedded into the activities set by Junior Jam. Typically, teachers will intervene and support where necessary but no specific differentiation has been used, with this being a creative and explorative lesson which relies heavily on children overcoming obstacles and challenges themselves.

Some teachers have used helpful approaches such as buddying lower attaining children with higher ability children in computing lessons and having key information such as student usernames displayed in the classroom to enable faster logins when memory is an issue.

All teachers have intervened when necessary to offer guidance, moved children closer to themselves or had them working with a TA.

Curriculum Overview

		Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
iJam	Level 1	X	X			X		X
	Level 2	X	X			X	X	X
	Level 3	X	X			X	X	X
	Level 4	X	X			X	X	X
iProgram	Level 1	X	X	X			X	X
	Level 2	X	X	X			X	X
	Level 3	X	X	X			X	X
	Level 4	X	X	X			X	X
iOffice	Level 1				X		X	X
	Level 2						X	X
	Level 3					X	X	X
	Level 4					X	X	X
iCreate	Level 1		X		X	X	X	X
	Level 2	X			X	X		X
	Level 3	X	X			X	X	X
	Level 4		X	X	X		X	X
iCommunicate	Level 1		X		X	X	X	X
	Level 2	X			X	X	X	X
	Level 3	X			X		X	X
	Level 4	X	X	X	X		X	X
iTech	Level 1	X	X	X			X	X
	Level 2						X	X
	Level 3	X			X		X	X
	Level 4	X	X	X			X	X

Curriculum Links - Deep Dive

Cheadle Catholic Junior School

Forward in Faith
Following in the footsteps of Jesus

Computing

Intent

At Cheadle Catholic Junior School, we recognise that technology is evolving all the time. We therefore strive to exploit the opportunities that technology brings to engage children's learning in all subjects, as well as ensuring they are well equipped with key computing skills needed for their digital future.

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, express themselves and develop their ideas through, information and communication.

Implementation

Computing teaching is practical and engaging. A variety of teaching approaches and activities are provided based on teacher judgement and pupil ability. The children are given every opportunity to apply skills they have learnt across the curriculum e.g. creating graphs and chart within Science. We have iPads in the school supporting children's learning in all subjects using a range of apps and online learning portals.

We take internet safety very seriously at the school. Through assemblies and lessons, we ensure that all children know their rights and responsibilities and teach them how to stay safe when using the internet. Pupils are always supervised when using technology and accessing the internet.

Computing and safeguarding go hand in hand and a we provide a huge focus on internet safety inside and outside of the classroom. Additional to all pupils studying an online safety unit through their computing lessons, every year we also take part in National Safer Internet Day in February. The Computing co-ordinator alongside class teachers will plan additional internet safety lessons and activities to take part in following a specific yearly theme. Internet Safety assemblies are also held as well as parent internet safety information.

Impact:

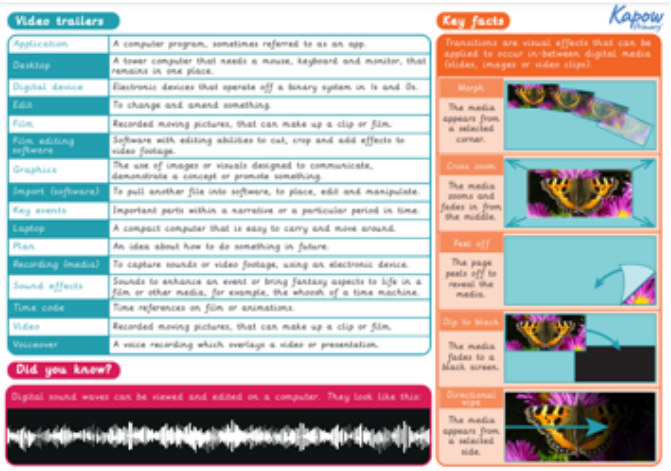
Our Computing Curriculum is planned to demonstrate progression, build on, and embed current skills. We focus on progression of knowledge and skills in the different computational components and alike other subjects discreet vocabulary progression also form part of the units of work. We inspire our children to use technology creatively to change the future of the digital world and make a positive contribution to the real world.

ICT Lesson Plan

Alongside Junior Jam's weekly computing sessions I am trialling an extended unit with Year 4 currently looking at creating trailers. As this is done fortnightly on a carousel basis all children in Year 4 are having extra exposure to the computing curriculum. If this is successful I hope to roll this out to other year groups gradually.

Cheadle Catholic Junior School

Sequence document

	Medium Term Plan - ICT
	Year 4
	Key Knowledge • To know that different types of camera shots can make my photos or videos look more effective. • To know that I can edit photos and videos using film editing software. • To understand that I can add transitions and text to my video.
	Hook: 
	Topic Outcomes: Pupils who are **secure** will be able to: Describe the purpose of a trailer, Create a storyboard for a book trailer, Consider camera angles when taking photos or videos, Import videos and photos into film editing software., Add text to a video, Incorporate transitions between images, Evaluate their own and others' trailers.

Knowledge Organisers

Junior Jam

iOffice: Level 2 iSocial

Course Evaluation Criteria

Y4: We would expect all children in Y4 to attain statements 1-6. If any of statements 7-10 are attained, those pupils are exceeding expectations.

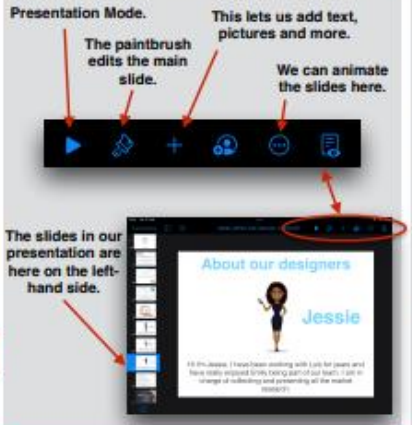
1. Pupils can explain how font style and bold changes text
2. Pupils know why you would use strikethrough and highlight on text
3. Pupils know what a target market is
4. Pupils can explain why pitching is important
5. Pupils understand what a focus group is and what it's used for
6. Pupils understand how to edit photos when inserting them into a document
7. Pupils can give examples in which a presentation is more suitable than a document
8. Pupils understand the difference between what makes a good and bad pitch
9. Pupils can give examples of industries where focus groups are essential
10. Pupils can explain the function justify on a word processing document

Course Overview

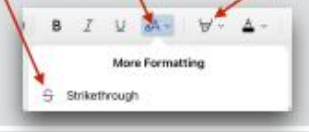
Course overview: Pupils will be presented with a hypothetical scenario where all social media platforms have been removed from the internet. They will then be tasked with designing and creating their own social media platform to fill the gap in the market. Throughout the half term, pupils will use more advanced functions in word processors to plan their ideas before finally collating them into a Keynote ready to be presented to their peers.

Learning objective for the course: The main purpose of iSocial is to build on the word processing skills learnt within Level 1 to enable pupils to use the program to its full potential. Pupils will learn how to use more advanced functions like ~~Strikethrough~~ and Highlight. More advanced pupils/classes will be taught how to track changes and how this is a useful tool for collaboration. At the end of the course pupils will learn how to present their work, creating a Keynote presentation collating all the work they have done throughout the half term.

Keynote



Microsoft Word



Vocabulary Bank

Word Processing *Using a computer to create and edit .*	***Edit*** *Making changes to a document.*
Highlight *Marking bits of text by giving it a coloured background.*	***Strikethrough*** *Putting a line through the middle of the text.*
Centre *Putting text in the centre of a document.*	***Align Left*** *Putting text against the left side of the document.*
Align Right *Putting text against the right side of the document.*	***Target Market*** *The type of people you aim to sell your product to.*
Audience *The people giving attention to something.*	***Pitch*** *A type of presentation where you are trying to persuade someone.*
Presentation *Talking about and giving information on a certain subject.*	***Justify*** *To prove that something is correct or right.*

Apps used

- ***Microsoft Word***
- ***Logo Foundry***
- ***Keynote***

Junior Jam

iCreate: iEdit Level 2

Course Evaluation Criteria

Y4: We would expect all children in Y4 to attain statements 1-6. If any of statements 7 -10 are attained, those pupils are exceeding expectations.

1. Pupils can explain what fast cutting is.
2. Pupils know why a storyboard is used before filming.
3. Pupils can explain what a fan video is.
4. Pupils are able to name three different camera angles that are being used.
5. Pupils can explain what splicing means and how to do it.
6. Pupils can use lyrics to help choose suitable clips for their video.
7. Pupils can explain the advantages and disadvantages of fast cutting and when it would be used.
8. Pupils can use their emotional reactions to different editing techniques to assess their work.
9. Pupils can explain the difference between a storyboard and a call sheet.
10. Pupils are able add text to appear alongside matching lyrics.

Course Overview

Course overview: During this module pupils will learn basic and advanced editing techniques and video effects to produce a music video. Pupils will edit, cut and splice footage supplied to them in order to create their final video. Pupils will utilise search functions within the app iMovie to sift through stock videos and choose appropriate clips to match the audio.

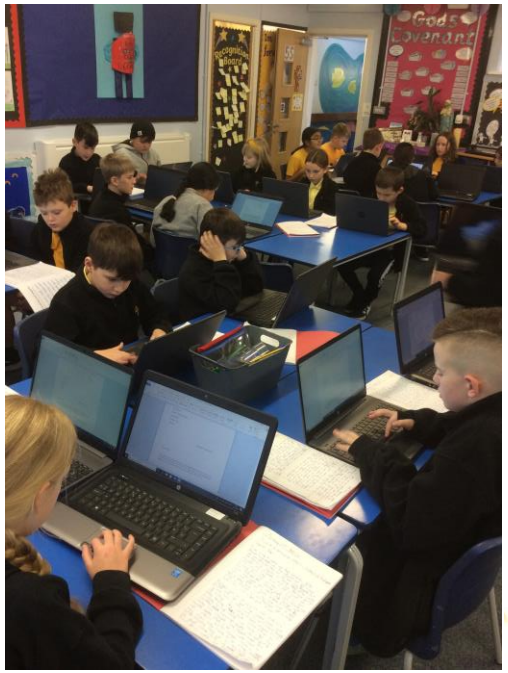
Learning Outcome for the course: During iEdit the pupils learn advanced editing skills on the app iMovie. They will learn how to Splice, Cut, Trim, add sounds, record their own voice, add text over video and build in transitions to complete a short animation by the end of the course. Pupils will learn about Chroma Key and Sound FX before adding these techniques to their animation to create a finished piece.

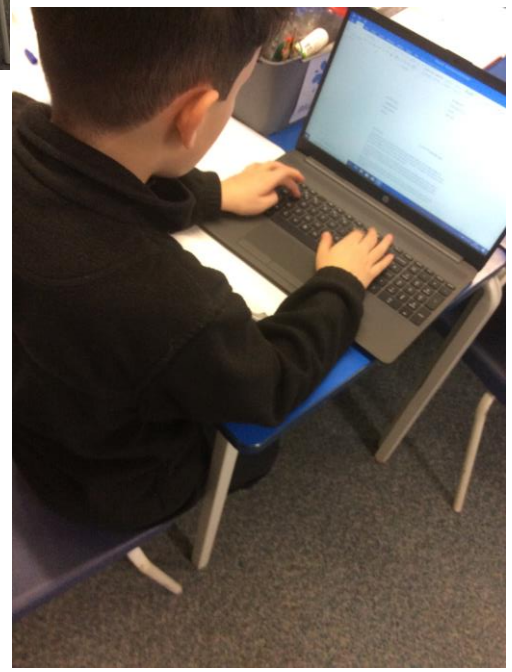
iMovie

Vocabulary Bank

Fast Cutting	*Consecutive films shots that only appear briefly.*	***Camera Angles***	*The location of the camera to the subject when filming.*
Long/Mid/Close-up Shot	*Filming from a long, medium or close distance.*	***Cutting***	*Transitioning between different film takes.*
Editing	*The process of cutting and arranging film shots.*	***Splicing***	*A shot that has been broken up and put back together.*
Cue Sheets	*A document that outlines all the music used in a film.*	***Fan Video***	*A film made by a fan of a person/show/film.*
Pre-Production	*The process of planning the filming for a film.*	***Post-Production***	*The process of editing a film after filming has finished.*

Computing in our school.





Linking Learning

It is encouraged that learning is linked where appropriate to other units studied in computing, previous learning in other year groups and to other curriculum areas.

For example, spreadsheets and graphs are easily embedded into Maths and Science units and writing for different audiences, blogging, tweeting, typing letters and text adventures can link with English.

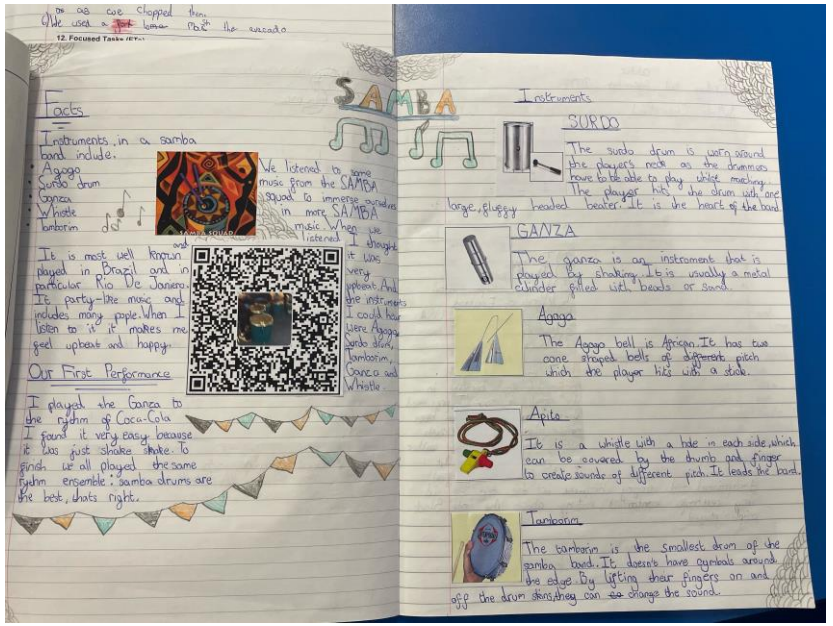
Children should have a clear understanding of the purpose of this connection in order for it be an effective link.

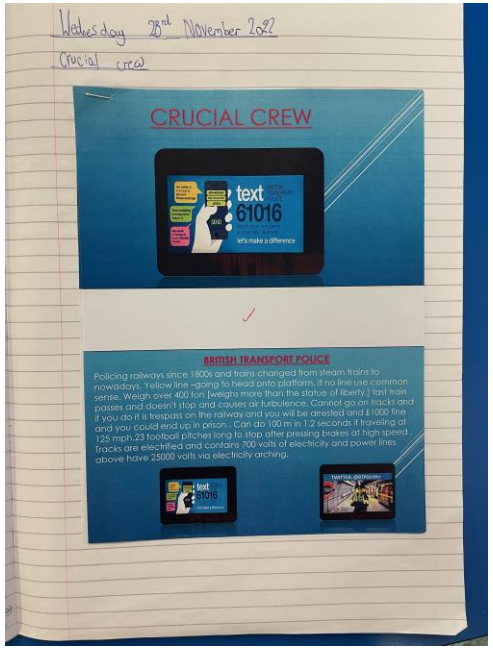
Examples of work

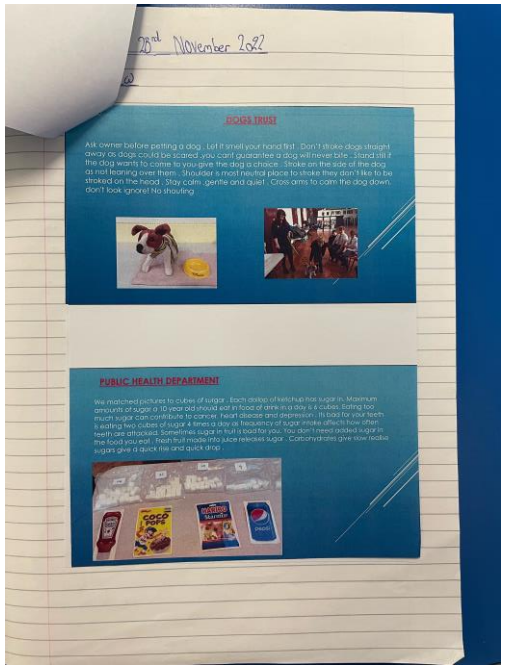
Monday 19th December 2022

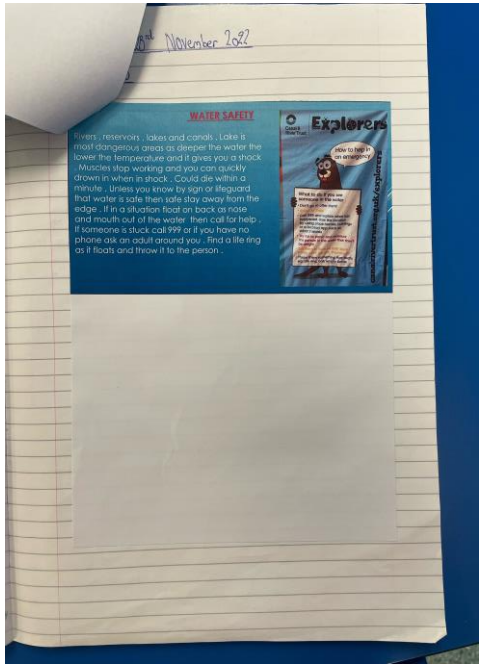
Group 5

We designed our product, name and logo. We then planned our advert and once we completed our storyboard, we recorded our advert.









Safer Internet Day

Tuesday 7th February 2023

Safer Internet Day is an important date in our school calendar. Each year we plan activities across our school to remind children how to stay safe online.

On Tuesday we have a selection of lessons planned across the school to look at this years theme: Want to talk about it?

How we measure progress?

- Pupil voice
- Book looks
- Lesson observations
- Partner teaching
- Learning walks
- Classroom displays with working walls
- Green pen reflections

The Future of Computing Next Steps

1. Ensure that computing has been embedded across the curriculum and there is evidence of this in books.

2. For more staff training to be completed on areas they would find useful.

3. Working alongside SENCo to discuss strategies to enable further attainment among SEN children in school.

4. Pupil Voice to be undertaken more regularly to listen to the children's thoughts and ideas.

5. To have a long term plan in place to improve and enhance computing equipment across the school.