Tweedmouth West First School

Computing Progression of Skills

2023/2024

Computing Lead

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Computing is advancing all the time and we really love how the national curriculum uses the phrase ‘change the world’ as we feel that when we are teaching computing we’re teaching children the skills that they will need for equipment that hasn’t even been invented yet.

Curriculum

Our computing curriculum is taught through Project Evolve, Teach Computing and ilearn2. We feel that the Teach computing, Project Evolve and ilearn2 curriculum equips our children with the best skill set to use computers independently. We want our children to be able to make the correct choices on which programmes to use when given a specific task. We believe that this curriculum gives the best coverage and enables everyone to access it.

Progression

Our curriculum is sequential and you can see in our whole school overview how these skills progress through the school for example programming-
Early years use Bee-bots and Coding Critters during child led play as more of an exploration. In year 1 this then develops into more structured lessons about creating a simple algorithm for a robot to follow. In year 2 this is then developed into Online activities where children begin to see the use of coding blocks.
In KS2 we teach our coding through scratch and this progresses through the use of variables in programmes.

Evidencing Work

In EYFS we evidence their work using Seesaw. In Key Stage 1 we are currently evidencing their work using school360 J2E and photographs. We are going to start using Seesaw. In Key Stage 2 we are starting to evidence their work using google classroom - google slides.

Assessment

We assess learning through the use of Teacher Assessment. We are looking into making Microsoft forms to give us instant feedback and also collate data making it clear to teachers where the strengths and weaknesses lie. We also assess learning through the use of ‘I can’ statements and by looking into the learning that has taken place.

Supporting SEN learners

It is really important for us to consider the capabilities of children with SEN when it comes to computing. We often discover that children with SEN thrive during our computing lessons. We have 1 to 1 adults to support and will adapt activities to fit their needs.

Reception EYFS

Ensure children's '***school readiness***' and '***give them a broad range of knowledge and skills that provide the right foundation for good future progress through school and life'*** - Statutory Framework for EYFS September 2021.
Computational Thinking ideas Rationale from Barefoot Computing here

Year	Skills	Resource
EYFS	Sheffield elearning Service - Use different digital devices. - Recognise that you can access content on a digital device. - Use a mouse, touchscreen or appropriate access device to target and select options on screen. - Recognise a selection of digital devices. - Recognise the basic parts of a computer, e.g. mouse, screen, keyboard. - Select a digital device to fulfil a specific task, e.g. to take a photo.	Barefoot Computing - Unplugged Activities EYFS Computational Thinking activities https://www.barefootcomputing.org/earlyyears Bee-Bots Coding Critters iPads

Online safety

Year	Unit	National Curriculum	Skills	Resource
Y 1	Online Safety	*Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.*	Autumn 1- Online relationships Autumn 2 - Self Image and Identity Spring 1 - Online Bullying Spring 2 - Managing Online Information Summer 1- Privacy and Security Summer 2 - Online reputations/Copyright and Ownership	https://projectevolve.co.uk/toolkit/years/year-one/
Y 2	Online Safety		Autumn 1- Online relationships Autumn 2 - Self Image and Identity Spring 1 - Online Bullying Spring 2 - Managing Online Information Summer 1- Privacy and Security Summer 2 - Online reputations/Copyright and Ownership	https://projectevolve.co.uk/toolkit/resources/years/year-two/
Y 3	Online Safety	*Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.*	Autumn 1- Online relationships Autumn 2 - Self Image and Identity Spring 1 - Online Bullying Spring 2 - Managing Online Information Summer 1- Privacy and Security Summer 2 - Online reputations/Copyright and Ownership	https://projectevolve.co.uk/toolkit/years/year-three/
Y 4	Online Safety		Autumn 1- Online relationships Autumn 2 - Self Image and Identity Spring 1 - Online Bullying Spring 2 - Managing Online Information Summer 1- Privacy and Security Summer 2 - Online reputations/Copyright and Ownership	https://projectevolve.co.uk/toolkit/years/4/

We teach e safety through project evolve which has been mapped over the year. We prefer to teach these as 1 lesson per half term rather than a block at the start of each academic year. We feel that dripping this into children keeps it current and consistent. We also teach a lot of e safety through our PSHE curriculum, e safety day, specialised assemblies for any current events, and wake up wednesday posters which are shared on our Facebook page and emailed to parents through parentmail. We also encourage staff to take the opportunity to explain to children what is happening if there are 'teachable moments' in the classroom - "I'm walking away from my laptop so I will lock it" "that picture is blocked because it is not safe and our school filters out bad images" etc. We use the Senso filtering system which monitors all our computers and chrome books. We are aware that ipads are not currently monitored by this system. We are currently using an iPad

to take photos. NCC are currently trailing new software to include monitoring ipads, this should be resolved by Autumn half term. We are subscribed to all the computing SLA's and we will be notified by them.

Using a computer				
Year	**Unit**	**National Curriculum**	**Skills**	**Resource**
Y1	Keyboard and mouse skills.	*Use technology purposefully to create, organise, store, **manipulate** and retrieve digital content.*	1. Move cursor and left click to select an object. 2. Drag and drop with a mouse to move objects around the screen. 3. Find letters on a keyboard and begin touch typing. 4. Begin touch typing with home rows.	https://www.ilearn2.co.uk/eyfsyear-1-mouse-and-keyboard-skills.html/ 
Y2	Year 2 typing resources		The Computer keyboard 2. Use correct hand position and fingers for touch typing 3. Develop and assess touch typing skills 4. Put a keyboard back together	https://www.ilearn2.co.uk/touch-typing.html/ 
Y3	Creating Media- Desktop Publishing	*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*	Key Skills (Sheffield elearning Service) Know where to save and open files (e.g. in shared folder). Save files with appropriate names. Use a keyboard effectively to type in text. Use left-, right- and double-click on the mouse. Add an image to a document from the internet. Resize and move an image in a document.	Google Drive Google slides - saving evidence 
Y4	Creating Media- Desktop Publishing		Key Skills (Sheffield elearning Service) Recognise that you can organise files using folders. - Explain what a good file name would look like. - Delete and move files. - Use key parts of a keyboard effectively, e.g. shift, arrow	Google Drive Google slides - saving evidence

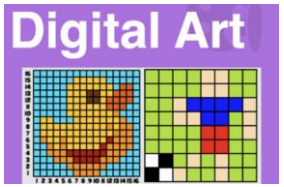
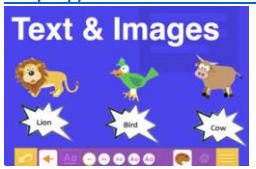
			keys, delete). - Know how to copy and paste text or images in a document. - Crop an image and apply simple filters	

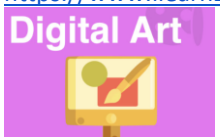
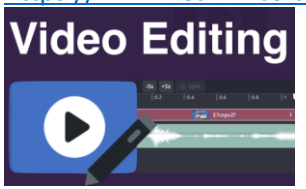
Computing in the Wider World

Year Group	Unit	National Curriculum	Skills	Resource
Y 1	Recognise use of IT	*Use technology purposefully to create, organise, store, **manipulate** and retrieve digital content.* *Recognise common uses of information technology beyond school..*	1. Recognise common uses of information technology beyond school. 2. Understand computers store and follow instructions. 3. Spot digital technology in school or at home. 4. Understand how different technology helps us	https://www.ilearn2.co.uk/year-2-uses-of-it.html/ 
Y 2	Internet research	*Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.*	1. Understand how a web-page can display information in different ways; text, images, videos and interactive elements. 2. Use a web-page to answer questions using keywords Teach Computing - Tech around us visit.	https://www.ilearn2.co.uk/year-2-research.html/  
Y3	Internet research	*Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.*	1.Appreciate how search results are selected and ranked to show awareness of different strategies for finding specific information. 2. Understand the features of an Internet Browser. 3. Use search technologies to find specific pieces of information. 4. Reference the correct source of information. 5. Be discerning in evaluating digital content. 6. Check the internet for fake news by cross-referencing facts.	https://www.ilearn2.co.uk/year-4-research.html/ 
Y4	Document editing and creation	*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.*	1. Understand what important parts of inside a computer or mobile device do to help with the performance (CPU, Fan, Hard Drive, RAM, Graphics Card). 2. Understand that memory is measured in bytes and gigabytes. 3. Use search filters on websites to find suitable information.	https://www.ilearn2.co.uk/year-4-inside-a-computer/ 
Y4	Computing systems and		1 Connecting networks 2 What is the internet made of?	https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-the-internet

	networks- The Internet		3 Sharing information 4 What is a website? 5 Who owns the web? 6 Can I believe what I read?	

Multimedia, text and images

Year Group	Unit	National Curriculum	Skills	Resource
Y 1	Digital art	*Use technology purposefully to create, organise, store, **manipulate** and retrieve digital content.*	Year 1: 1. Change the colour of individual pixels to accurately re-create basic artwork. 2. Make changes where required. 3. Change the colour of individual pixels to accurately re-create detailed artwork. 4. Use zoom controls to help fill small shapes.	https://www.ilearn2.co.uk/year1digitalart.html/ 
	Text and images		1. Change the background colour of a page. 2. Add, resize and position images on a page. 3. Type and position text on a page, if possible using capital letters and punctuation. 4. Label pictures with text. 5. Use word-banks for writing sentences about pictures.	https://www.ilearn2.co.uk/year-1-text--images.html/ 
Y2	Animation		1. Add a background and objects to a frame (including text) 2. Copy/clone a frame and move objects to create an animation, including flipping objects. 3. Create an animation with multiple objects moving simultaneously. 4. Create animated drawings of characters by cropping photos and adjusting points of movement.	https://www.ilearn2.co.uk/year-2-animation.html/ 
	Creating Media- Digital Music		1 How music makes us feel 2 Rhythms and patterns 3 How music can be used 4 Notes and tempo 5 Creating digital music	https://teachcomputing.org/curriculum/key-stage-1/creating-media-making-music National Centre for Computing Education

Y3	Digital Art	*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.*	1.Use various lines and fill tools plus copy/paste and rotation to create pattern effects. 2.Use shapes, fill, copy/paste, zoom and flip to create reflective symmetry effects. 3.Use stamps, copy/paste, layers and multiple frames to create animated GIF computer game graphics.	https://www.ilearn2.co.uk/year3digitalart.html/ 
	Canva Desktop Publishing		1 Can a picture move? 2 Frame by frame 3 What's the story? 4 Picture perfect 5 Evaluate and make it great! 6 Lights, camera, action!	https://teachcomputing.org/curriculum/key-stage-2/creating-media-animation
Y4	Animation		1. Create a stop-motion video by duplicating slides that include backgrounds and shapes. 2. Create animation using transition and animation effects (morph, motion paths, pulse etc) including taking and editing a screenshot. 3. Animate individual elements of objects. 4. Create animated GIF files by animating pixels.	Outside Agency 
	Video editing		1. Add scene images. 2. Add scripted voice over audio, adjust the volume and crop clips. 3. Add more clips and transition effects. 4. Add titles. 5. Use elements such as shapes. 6. Add background music and adjust the volume. 7. Export a project.	https://www.ilearn2.co.uk/imovieteachers-html/ 

Data handling

Year Group	Unit	National Curriculum	Skills	Resource
Y1	Introduce data handling	*Use technology purposefully to create, organise, store, manipulate and retrieve digital content.*	1. Understand what data is and collect it as a tally. 2. Use software to label a pictogram and add data to each column. Whole class	https://www.ilearn2.co.uk/year-2-data-handling.html/ J2E 
Y2	Data Handling		1 Counting and comparing 2 Enter the data 3 Creating pictograms 4 What is an attribute? 5 Comparing people 6 Presenting information	https://teachcomputing.org/curriculum/key-stage-1/data-and-information-pictograms National Centre for Computing Education
Y 3	Branching Databases	*Collecting, analysing, evaluating and presenting data and information.*	1 Yes or no questions 2 Making groups 3 Creating a branching database 4 Structuring a branching database 5 Using a branching database 6 Two ways of presenting information	https://teachcomputing.org/curriculum/key-stage-2/data-and-information-branching-databases National Centre for Computing Education
Y4	Data Logging		1 Answering questions 2 Data collection 3 Logging 4 Analysing data 5 Data for answers 6 Answering my question	https://teachcomputing.org/curriculum/key-stage-2/data-and-information-data-logging National Centre for Computing Education

Algorithms and programming

Year	Unit	National Curriculum	Skills	Resource
Y1	Introduction to programming	*Understand what algorithms are; how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous instructions.* *Create and debug simple programs.* *Use logical reasoning to predict the behaviour of simple programs.* .	1. Place instructions in the correct order (sequence) to make something work. 2. Use direction arrows to move an on-screen object (character/sprite) to achieve an objective. 3. Predict a route and sequence direction commands (algorithm) Correct the errors if necessary (debug). 4. Predict a route and sequence distance commands to program an on-screen object to achieve an objective. 5. Predict and sequence movement and pen commands to programme the drawing of 2D shapes. 6. Sequence code blocks, including movements and execute (start program) blocks to write a program to achieve an objective.	https://www.ilearn2.co.uk/year-1-programming.html/  Are you going to add a TC one here too so you have two units?
Y1	Programming A- Moving a Robot		1 Buttons 2 Directions 3 Forwards and backwards 4 Four directions 5 Getting there 6 Routes	https://teachcomputing.org/curriculum/key-stage-1/programming-a-moving-a-robot National Centre for Computing Education
Y2	Develop Programming		1. Create and debug simple programs by selecting code blocks, placing them in the correct sequence and executing a program. 2. Use logistical reasoning to predict the behaviour of a simple programs. 3. Simplify a program by using a loop. 4. Use inputs in a program.	https://www.ilearn2.co.uk/year-2-programming.html/ 
Y2	Programming A - Robot algorithm		Lesson 1 Giving instructions Lesson 2 Same but different Lesson 3 Making predictions Lesson 4 Mats and routes Lesson 5 Algorithm design Lesson 6 Debugging	https://teachcomputing.org/curriculum/key-stage-1/programming-a-robot-algorithms National Centre for Computing Education

Y3	Programming A - Sequencing sounds	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 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	1 Introduction to Scratch 2 Programming sprites 3 Sequences 4 Ordering commands 5 Looking good 6 Making an instrument	https://teachcomputing.org/curriculum/key-stage-2/programming-a-sequence-in-music National Centre for Computing Education
	Programming B - Events and actions in programs		1 Moving a sprite 2 Maze movement 3 Drawing lines 4 Adding features 5 Debugging movement 6 Making a project	https://teachcomputing.org/curriculum/key-stage-2/programming-b-events-and-actions National Centre for Computing Education
Y4	Programming A – Repetition in shapes		1 Programming a screen turtle 2 Programming letters 3 Patterns and repeats 4 Using loops to create shapes 5 Breaking things down 6 Creating a program	https://teachcomputing.org/curriculum/key-stage-2/programming-a-repetition-in-shapes National Centre for Computing Education
	Programming B – Repetition in games		1 Using loops to create shapes 2 Different loops 3 Animate your name 4 Modifying a game 5 Designing a game 6 Creating our games	https://teachcomputing.org/curriculum/key-stage-2/programming-b-repetition-in-games National Centre for Computing Education