Computing Progression of Skills

OUR VISION FOR TREWIRGIE INFANTS'SCHOOL

'We care, we help, we succeed'

OUR MISSION:

- To inspire children to engage in learning, and be valued members of a caring, supportive, and successful school.
- For all our children to develop life- long learning skills; to be independent and creative thinkers and to be socially confident.
- To enable children to be successful through a curriculum that captures their interests, stimulates their ideas, encourages inquisitiveness and critical thinking and meets their needs.

At Trewirgie Infants' & Nursery School, our aim is to equip children for their future lives in an ever changing technological world. We ensure children are equipped with the skills they need to thrive in the current climate which has technology at its heart. Computing is taught to foster a passion and enthusiasm for a range of technologies through cross-curricular and progressive skills.

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 supports pupils to become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Our school uses Purple Mash to support the learning of each strand of the Computing curriculum. Each child has a log in and password to use at school and at home meaning children can access their school work at home as a way of extending their Computing learning. Purple Mash also offers opportunities for children to complete cross curricular work, helping to embed their Computing skills at every opportunity.

INTENT (curriculum design, coverage and appropriateness)	IMPLEMENTATION (curriculum delivery, teaching and assessment)	IMPACT (attainment and progress)
At Trewirgie, our goal is to equip children with the skills and knowledge necessary to use technology safely, creatively, and responsibly. As students progress through our school, they will become more independent in their use of technology, collaborate effectively to solve complex problems, and develop resilience through learning from mistakes. Technology is an integral part of daily life and will play a significant role in the future of our students. As such, we aim to guide our pupils in using technology positively, safely, and responsibly. We believe in empowering students to be creators, not just consumers, and our comprehensive curriculum in computer science, information technology, and digital literacy reflects this vision. To achieve this, we follow a structured programme from the National Centre for Computing Education, known as Teach Computing. We also deliver all of our Esafety teaching through Natterhub, which enables pupils to practise key skills which will keep them safe online. Computing is taught across all subjects, and students experience a wide variety of applications and software throughout EYFS and KS1. In EYFS, technology is integrated into lessons to support all areas of learning, enabling students to engage with technology from the outset as appropriate. We recognise the importance of making cross-curricular connections, allowing students to reinforce their learning and apply skills across subjects. Each lesson is carefully planned, aligned with the 2014 National Curriculum, and designed to ensure that the statutory requirements are met.	Across the school, children are encouraged to use hardware and software, safely and with purpose. They use technology to handle data, record their work, further their learning and express themselves. The promotion of E-Safety is incredibly important for all children, staff and parents. At Trewirgie Infants' and Nursery School, the computing curriculum follows a retrieval approach, revisiting key themes throughout each Year group. This ensures that students regularly consolidate and deepen their understanding of core concepts. By revisiting topics annually, we help reduce knowledge loss and ensure that students continue to build on their prior learning, even if taught by different teachers. Across KS1, students will study six core units each year, alongside dedicated e-safety lessons (Natterhub). The core units are: • Creating Media A • Creating Media B • Data and Information • Programming A • Programming B In addition to these core units, all students have the opportunity to use a range of devices and software across the wider curriculum.	By thoroughly implementing the Teach Computing curriculum, we aim to achieve the following outcomes for our students: • Students will have a clear understanding of the computing programme of study, and be able to apply their knowledge in computing science, digital literacy, and information technology. • Students will be able to confidently articulate key concepts in computing, explain ways to stay safe online, and recognise acceptable and unacceptable behaviour in the digital world. • Children will develop enthusiasm for technology, understanding how and why it is used in various contexts. • Students will enjoy and value their learning in computing, appreciating its relevance to their personal development and future opportunities. • Students will understand the importance of digital literacy, both in their personal lives and in the context of the technological, creative, and cultural industries. • Pupils will be equipped to engage confidently and responsibly in the ever-evolving digital world, ready to participate in a wide range of career paths in the future. At Trewirgie Infant School, we are committed to preparing our students to thrive in a digital world, fostering the skills, resilience, and creativity they need to succeed in the modern era.

Computing: Year overview 2025-2026

Year 1

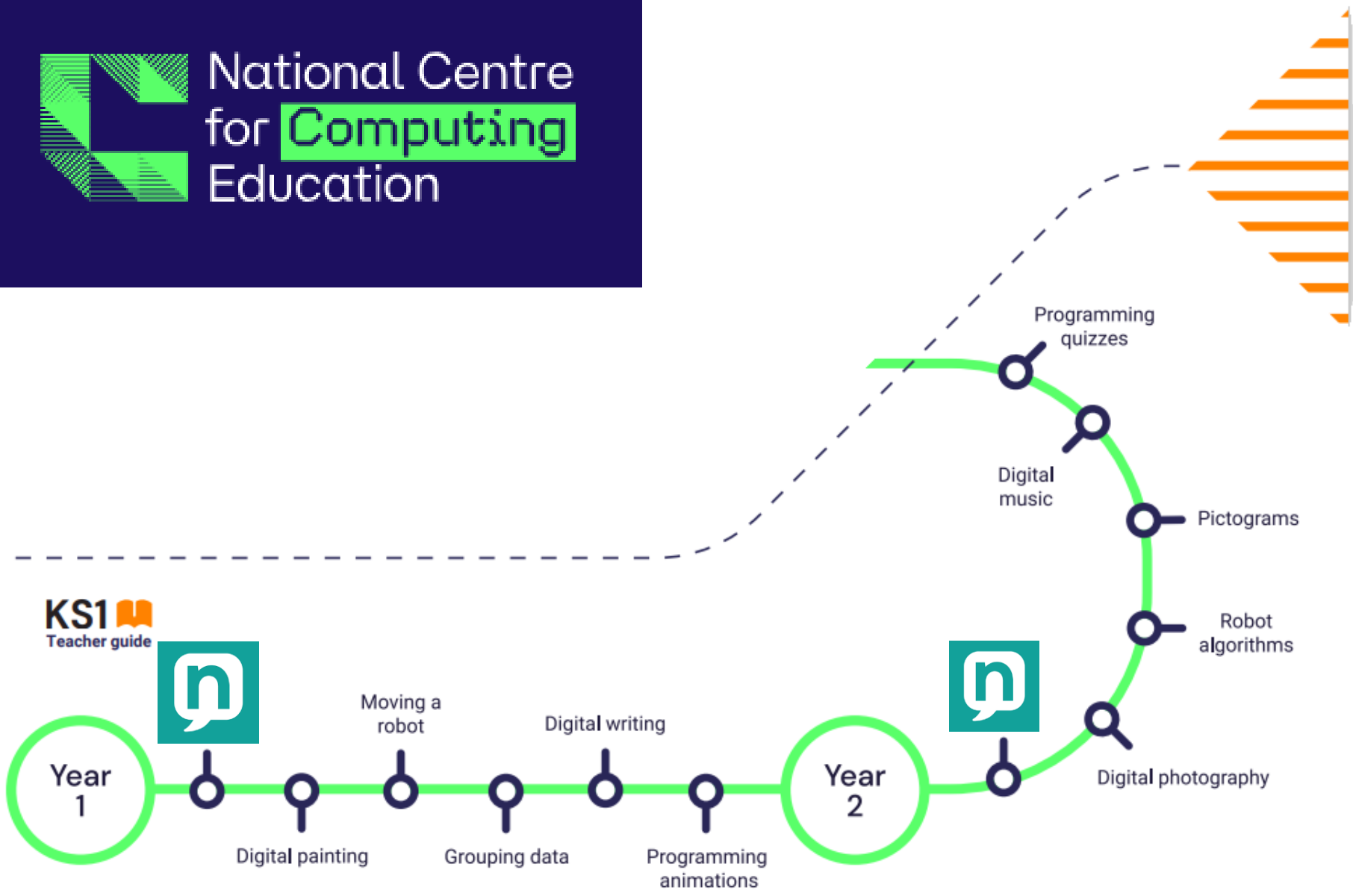
Teach computing	E-Safety – Via Natterhub See below	Creating media – Digital painting	Programming A – Moving a robot	Data and information – Grouping data	Creating media – Digital writing	Programming B - Programming animations
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Natterhub Program 4	**1 Year 1 Balance It: Lesson 1 - Rockin' Rules** To identify, follow and understand why we need rules around screen time. **2 Year 1 Chat It: Lesson 1 - My Online Avatar** To understand the function of avatars. **3 Year 1 Feel It: Lesson 1 - Villains in Our Fairy Tales** To describe ways that some people can be unkind online. **4 Year 1 Question It: Lesson 1 - Internet Quest** To identify devices that use the internet and use them to find information.		**Year 1 Learn It: Lesson 1 - My Wonderful Work** To understand that we have ownership of the work we create. **2 Year 1 Mind It: Lesson 1 - My Online Profile** To understand what an online profile is. **3 Year 1 Secure It: Lesson 2 - Why I Should Check Before I Share** To be aware of information that should or shouldn't be shared online. **4 Year 1 Think It: Lesson 1 - Goodies and Baddies** To gain an understanding of what makes someone good or bad.		**Year 1 Balance It: Lesson 2 - Sensible Screen Use** To learn when it is a good time to use screens. **2 Year 1 Chat It: Lesson 3 - Online Communication vs Face-to-Face Communication** To understand that emojis can be an effective way to communicate online. **3 Year 1 Feel It: Lesson 2 - Be Kind and Caring** To understand how being unkind to someone can make them feel. **4 Year 1 Question It: Lesson 3 - Super Searchers** To know how to use search engines efficiently and safely.	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2

Year 2

Teach computing	E-Safety – Via Natterhub See below	**Unit 2.2 Coding**	**Unit 2.3 Coding**	**Unit 2.4 Data and information**	**Unit 2.5 Creating Media**	**Unit 2.6 Q.What is programming? What is a digital quiz? Can I create a digital quiz using scratch?**
Natterhub Program 4	**Year 2 Balance It: Lesson 1 - Devices and Screen Time** To understand why online and offline time need to be balanced. **2 Year 2 Chat It: Lesson 1 - Kind Communication** To understand how to communicate kindly online. **3 Year 2 Feel It: Lesson 2 - Sticks and Stones** To understand the effect our words and actions can have on others. **4 Year 2 Question It: Lesson 1 - Online Navigators** To use keywords in search engines and demonstrate how to navigate a simple webpage to retrieve information.		**Year 2 Learn It: Lesson 1 - The Work of Others** To know that content on the internet may belong to other people and why it belongs to them. **2 Year 2 Mind It: Lesson 1 - Follow the Digital Footprint** To explain how information put online about me can last for a long time. **3 Year 2 Secure It: Lesson 2 - Protecting My Privacy** To describe and explain some rules for keeping information private. **4 Year 2 Think It: Lesson 2 - Fake Profiles** To find out how to spot a fake profile.		**1 Year 2 Chat It: Lesson 2 - Communicating with People We Don't Know** To be able to communicate safely with people we don't know. **2 Year 2 Feel It: Lesson 3 - Be Brave; Stand Tall** To understand who is responsible for bullying behaviour. **3 Year 2 Learn It: Lesson 3 - Internet Idols** To know how to learn from others online. **4 Year 2 Question It: Lesson 3 - Real and Reliable** To understand that some information we find online may not be true.	
	Autumn 1	Autumn 2	Spring		Summer	

National Curriculum Coverage — Years 1 and 2	NatterHub Curriculum	1.2 Digital painting	1.3 Moving a robot	1.4 Grouping data	1.5 Digital writing	1.6 Programming animations	NatterHub Curriculum	2.2 Digital photography	2.3 Robot algorithms	2.4 Pictograms	2.5 Digital music	2.6 Programming quizzes
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			✓			✓			✓			✓
Use technology purposefully to create, organise, store, manipulate, and retrieve digital content	✓	✓		✓	✓		✓	✓		✓	✓	✓
Recognise common uses of information technology beyond school	✓		✓				✓	✓				
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.	✓			✓	✓		✓	✓	✓	✓		

National Centre for Computing Education



Teach Computing

EYFS	YEAR 1	YEAR 2
• I can program a programmable toy • I can use simple programs	• I understand how technology can be used to create art. • I can add shapes and lines • I can create a painting and explain my choices.	• I can take a photo • I can explain the process of taking a photo • I know the difference between portrait and landscape.
Q. What does this do? Intent: Children begin to explore and use a range of technology (e.g. BeeBots, cameras, computers) Implementation : Future learning: Giving children opportunities to experiment and build up resilience with new technology will support coding and algorithm work. **Q. How does this work?** Intent: Children to use a huge range of equipment in the classroom and outside settings to gain an understanding about how it works. What do I need to do to make something happen. This could be buttons, switches, pulling, pushing, moving swiping etc Implementation: Future learning: Children will them be exposed to more opportunities for making this work using computer programs. **Q. Can you use this program?** Intent: Chn will be given opportunities to explore programs such as SketchSchool. And use the tools appropriately with exploration in mind. Implementation:	**Unit 1.2 Digital Painting:** **Q. How can we paint using computer?** Builds on: EYFS – children have had a chance to explore and use a range of equipment and to see how computers can be used for a purpose. Intent: This unit introduces learning to digital art. It then focuses on the skills needed when creating digital art with opportunities for pupils to practise before creating their own piece. Implementation: • How can we paint using computers? • Using shapes and lines. • Making careful choices • Why did I choose that? • Painting all by myself • Comparing computer art and painting Future learning: Digital photography 2:1	**Unit 2.2 Coding: Q. How can we use technology effectively to capture photographs?** Builds on: Unit 1.2 Digital Painting Intent: earners will learn to recognise that different devices can be used to capture photographs and will gain experience capturing, editing, and improving photos. Finally, they will use this knowledge to recognise that images they see may not be real. Implementation: • Taking photos • Landscape and portrait • What makes a good photograph • Lightening • Effects • Is it real? Future learning: 3:2 Stop frame animation

Future learning: Children will be given purpose when using programs and support will be withdrawn to improve independence.		
	• I can predict the outcome of a command • I can give directions • I can choose the order of commands in a sequence. • I can debug my program.	• I can describe that a series of instructions is a sequence. • I can explain what happens when we change the order of instructions. • I can choose a series of instructions that can be run as a program. • I can start to predict the outcome of a program.
	Unit 1.3: Q. Can you program a robot? Builds on: Children's experiences with electronic/digital devices in EYFS. Intent: introduces learners to early programming concepts. Learners will explore using individual commands, both with other learners and as part of a computer program. They will identify what each floor robot command does and use that knowledge to start predicting the outcome of programs. Implementation: • Introduction to Beebots (Buttons) • Directions • Forwards and Backwards • Four Directions • Getting there (testing) • Routes	**Unit 2.3 Coding: Q: What does an algorithm do? Does this algorithm work?** Builds on: Y1 – 1.3 Can you program a robot? Intent: This unit develops learners' understanding of instructions in sequences and the use of logical reasoning to predict outcomes. Learners will use given commands in different orders to investigate how the order affects the outcome. They will also learn about design in programming. They will develop artwork and test it for use in a program. They will design algorithms and then test those algorithms as programs and debug them. Implementation: • Recapping giving instructions • Same but different (same instructions difference sequence)

	Future learning: Programming unit B	• Making predictions • Mats and routes • Algorithm design • Debugging • Future learning: KS2 –3.3 Programming sequence of sounds (Programming for a purpose)
	• I can describe objects using labels • I can describe the property of an object • I can group similar objects • I can describe and compare groups.	• I can use a tally chart to collect data • I can enter data into a computer/iPad • I can use a device to view data in different formats • I can compare objects that have been grouped by attribute • I can create a pictogram
	Unit 1.4 Q. How can we can we use technology for data and information? Builds on: Intent: This unit introduces pupils to data and information. Pupils will add labels to put objects into groups, and labelling these groups. Pupils will demonstrate that they can count a small number of objects, before and after the objects are grouped. They will then begin to demonstrate their ability to sort objects into different groups, based on the properties they choose. Finally, pupils will use their ability to sort objects into different groups to answer questions about data.	**Unit 2.4 Data and information: Q: What is a pictogram?** Builds on: Y1 – 1.3 Can you program a robot? Intent: This unit builds upon 1.4 and revisits the term 'data'. Learners will begin to understand what data means and how this can be collected in the form of a tally chart. They will learn the term 'attribute' and use this to help them organise data. They will then progress onto presenting data in the form of pictograms and finally block diagrams. Learners will use the data presented to answer questions.

	Implementation: • Label and match • Group and count • Describe an object • Making different groups • Comparing groups • Answering questions Future learning: 2:4 Data and Information – pictograms.	Implementation: • Counting and comparing • Enter the data • Creating pictograms • What is an attribute • Comparing people • Presenting information Future learning: KS2 –3.4 Data and information – Branching databases.
	• I can use a keyboard • I can add text • I can use tools to change my writing (colour/font) • I can describe the differences between written and digital text.	• I can experiment with different sounds on a iPad. • I can experiment with music patterns on an iPad. • I can use a computer/iPad to create a musical pattern. • I can evaluate/review what digital music I have created.
	Unit 1.5 Q.What is digital writing? How do we create digital writing? Builds on: Intent: Promote your learners' understanding of the various aspects of using a computer to create and change text. Learners will familiarise themselves with typing on an ipad and begin using tools to change the look of their writing, and then they will	**Unit 2.5 Creating Media: Q: What is digital muisic?** Builds on: Y1 – 1.4 What is digital writing? Intent: Learners will explore how music can make them think and feel. They will make patterns and use those patterns to make music with both percussion instruments and digital tools. They will also create different rhythms and tunes, using the movement of animals for inspiration. Finally,

	consider the differences between using an iPad and writing on paper to create text. Implementation: • Exploring the keyboard • Adding and removing text • Exploring the toolbar • Making changes to text • Explaining my choices • Pencil or iPad Future learning: 2:5 Creating Media – Digital Music	learners will share their creations and compare creating music digitally and non-digitally Implementation: • Exploring music makes us feel • Rhythms and patterns • How music can be used • Notes and tempo • Creating digital music • Reviewing and editing music Future learning: KS2 –3.4 Data and information – Branching databases.
	• I can use commands • I can use a start block in a program • I can run my program • I can add/delete a sprit	• I can create a sequence • I can create and debug a program I have written • I can trace a sequence to make a prediction • I can create a digital quiz
	Unit 1.6 Q.What is programming? What does an algorithm do? Does this algorithm work? Builds on: Intent: This unit introduces learners to on-screen programming through ScratchJr. Learners will explore the way a project looks by investigating sprites and backgrounds. They will use programming blocks to use, modify, and create programs.	**Unit 2.6 Q.What is programming? What is a digital quiz? Can I create a digital quiz using scratch?** Builds on: Intent: This unit initially recaps on learning from the Year 1 Scratch Junior unit 'Programming B - Programming animations'. Learners begin to understand that sequences of commands have an

	Learners will also be introduced to the early stages of program design through the introduction of algorithms. Implementation: • Comparing tools • Joining blocks • Make a change • Adding sprites • Project design • Following my design • Future learning: 2:6 Programming – Robot algorithms	outcome and make predictions based on their learning. They use and modify designs to create their own quiz questions in ScratchJr and realise these designs in ScratchJr using blocks of code. Finally, learners evaluate their work and make improvements to their programming projects. Implementation: • ScratchJr Recap • Sequencing outcomes • Using a design • Changing a design • Designing and creating a program • Evaluating Future learning: 3:6 Programming B – Events and actions in programs.

SEN Adaptions – Teach Computing Curriculum

Adapting the curriculum for pupils with SEND The Teach Computing Curriculum has been written to support all pupils, with units containing a number of scaffolding activities and utilising effective pedagogies to ensure high quality teaching. However, you may still need to adapt resources to enable some of your pupils, for example those with special educational needs and disabilities (SEND), to access lessons fully. The following principles will help you make adaptations that benefit all learners, and these will be more effective if you identify clearly what it is your individual pupils need help with - do they have poor working memory that means that following instructions is more difficult, or do they need help to stay focussed when completing projects?

1. Identify essential learning and misconceptions: Determine the key learning in each unit that every child should know. Provide repeated opportunities for pupils to revisit this content in different ways. Identify any likely misconceptions and address these explicitly in lessons. For example, in the year 1 Moving a Robot unit, pupils might struggle with right and left turns and what this looks like for the Bee-Bot, so it is worth spending extra time modelling and practising this.

2. Pre-teach key vocabulary: Pre-teach the essential vocabulary for each unit, provide learners with a word list supported by images and use the vocabulary regularly throughout the unit with a consistent definition. Concentrate on a small number of terms and consider using a graphic organiser to highlight relationships between concepts, e.g. the Frayer model.

3. Create step-by-step instructions: Break down complex tasks and routine skills for using software and hardware into smaller steps and create pictorial instructions for children to follow. For example, in the year 2 Digital Music unit, you can adapt the Chrome Music Lab song maker help card handout to create a sequence of instructions for making their own composition. 4. Provide templates: In Creating Media or Data & Information unts, support task completion by providing a template for pupils to modify – removing the fear of the blank page and helping to build confidence. For example, in the year 2 Pictograms unit, pupils can continue to use the minibeast template rather than set up their own pictogram.

5. Consider non-computing barriers: Consider if difficulties in other areas, such as writing or maths, present barriers to completing a task and if so,

modify the task to help mitigate these. For example, in the 'What can you tell me' task within the year 2 Pictograms unit, allow pupils to dictate sentences into a digital version of the worksheet rather than writing them down.

6. Use the PRIMM framework or Parson's problems: In programming units, add extra scaffolding using PRIMM and Parson's problems. Some pupils may not be able to create a program, but they can practise reading and exploring code in a working program, then modify it to make it more personalised. For example, in the year 1 Programming Animations unit you could provide learners with the code to make the rockets move as a Parson's problem to put together in the correct order. The aim is to remove these scaffolds as children develop their skills, but some learners may not become fully independent. Adapting the curriculum | Key Stage 1 Teacher Guide | 19

7. Harness pupils' special interests: Increase engagement and make learning more relevant by incorporating pupils' special interests. This is also important in terms of culturally relevant pedagogy. For example, in the year 1 Programming Animations unit, pupils could make different animals race, or another form of transport.

8. Use unplugged activities and the semantic wave: We can use unplugged activities to help make computing concepts more relevant and understandable for learners. However, it is very important to 'repack' the knowledge of the abstract concept so that learners understand what it means in a wider context and they can use the technical language. For example, in the year 1 Moving a Robot unit pupils work in pairs to develop their understanding of algorithms. One pupil directs their 'robot' partner by giving precise instructions on where to move. Children then need to see the link between instructing their 'robot' partner and how this transfers to pressing buttons on a Bee-Bot, whilst also practising using the key language in context. Pupils with SEND may need repeated examples and smaller steps to repack the knowledge.

9. Support planning: Break down the planning process into smaller parts which can be ticked off as each one is completed, and provide a planning scaffold for learners where required. For example, when planning out algorithms for the Bee-Bot, use a scaffold with the clear and go commands already included and provide command cards to slot into the gaps in between.

10. Reinforce digital skills: A significant barrier to accessing the whole computing curriculum is a lack of key digital skills, for example being able to log on to a computer and use the keyboard effectively. Time spent revisiting digital skills across all units is important to develop fluency. Some pupils may also benefit from extra time to practise these skills in small groups, or may need image-supported help sheets to support specific repeated tasks, such as saving work

YEAR GROUP VOCABULARY