Heelands School
Computing Progression Map

Level Expected at the End of EYFS

We have selected the most relevant statements from Developing Matters for Reception as well as highlighting the statements within the ELG which feeds into the programme of study for computing.

For more detail about linked subject progression within the EYFS Framework, please refer to **these documents**.

Understanding the World (Technology)
Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

Level Expected at the End of EYFS		Key Stage 1 National Curriculum Expectations
Personal Social & Emotional Development	• Be confident to try new activities and show independence, resilience and perseverance in the face of a challenge • Explain the reasons for rules, know right from wrong and behave accordingly	Pupils should be taught to: · 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.
Expressive Arts and Design	• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function	

This PlanIt Deep Dive into Computing: Whole-School Progression Map has been written to support practitioners who have chosen to adopt the PlanIt scheme in part or in full. The curriculum progression map comprehensively shows the progression of computing skills and concepts from year 1 to year 6.

Intent

At Heelands School we believe that computing is an essential part of the national curriculum. Computing is an integral part of modern day life and therefore provides a wealth of learning opportunities that have strong links to other subjects. We deliver a high quality computing education which gives children the necessary experiences to become digitally literate and use their logical reasoning to solve problems. Computing allows children to explore and engage with a range of programs to express themselves. We offer a structured sequence of lessons using Purple Mash, helping teachers to ensure that they have covered the skills required to meet the aims of the national curriculum. The content allows for a broad, deep understanding of computing and how it links to children's lives. It offers a range of opportunities for consolidation, challenge and variety. This allows children to apply the fundamental principles and concepts of computer science. They develop analytical problem-solving skills and learn to evaluate and apply information technology. It also enables them to become responsible, competent, confident and creative users of information technology.

Children have many opportunities to create, organise and store digital content through Purple Mash. Children take pride in the work they create and have opportunities to share their learning.

By the time children leave Heelands School at the age of seven, they will:

- Be confident in using technology and understand how technology can be used safely and respectfully
- Understand how to tell an adult if they see something unsafe online
- Know what information is appropriate to share online
- Know that there are different types of technology at school and beyond
- Be able to discuss differences between technologies
- Be able to give simple instructions to make something move
- Be able to create and debug simple programs

Implementation

Further details of timetabling and organisation of the Computing Curriculum are to be found in the Computing Subject Policy. Each lesson contains revision, analysis and problem-solving. Through the sequence of lessons, we intend to inspire pupils to develop a love of the digital world, see its place in their future and give teachers' confidence. Cross-curricular links are also important in supporting other areas of learning. Our lesson plans and resources help children to build on prior knowledge at the same time as introducing new skills and challenges. In KS1, the focus is on developing the use of algorithms, programming and how technology can be used safely and purposefully. Adult guides are offered, enabling staff to feel confident in the progression of skills and knowledge and that outcomes have been met. An example of keywords has been included in the skills progression document, showing the progression of specific language involved in children's learning so that teachers can also assess understanding and progress through vocabulary

Key implementation principles are:

- Weekly Computing lessons for EYFS, Yr1 and Yr2
- Daily opportunities to use smart boards in classrooms
- Computing is used in other areas of the curriculum
- Interactive whiteboards are used to cast children's work and demonstrate activity.

Differentiation and inclusion:

The teacher, via observation, will make opportunities for children who need additional support to be supported. Some children with SEND will participate with the support of a 1:1 adult, who gauges the appropriateness of the activity and modifies as needed. Opportunities for children to lead and develop ideas will contribute to the extension for more able children. Teachers' should plan lessons and activities that incorporate scope for elaboration, demonstration, leading, solo work etc for children who demonstrate strength in Computing.

Assessment:

In the Foundation Stage, although 'technology' has been removed from the EYFS curriculum we will still be teaching computing as we think it is vitally important. When assessing Computing, we will link to other areas of the curriculum where appropriate. See more details in the Computing Policy. In Key Stage One, Computing is mostly assessed via teachers or teaching assistants. In addition, teachers can observe children's work via Purple Mash and this will support teachers' judgement for the end of the year against the KS1 Computing National Curriculum. During the year teachers complete ongoing assessments and use this information to ensure planning meets the needs of individuals.

Impact

Learning in computing will be enjoyed across the school. Teachers will have high expectations and quality evidence will be presented in a variety of forms. Children will use digital and technological vocabulary accurately, alongside a progression in their technical skills. They will be confident using a range of hardware and software and will produce high-quality purposeful products. Children will see the digital world as part of their world, extending beyond school, and understand that they have choices to make. They will be confident and respectful digital citizens going on to lead happy and healthy digital lives.

	EYFS	KS1
Multimedia Text and Images	Children can: a) Write my name using a keyboard on different devices b) Use the caps lock for the initial sound in their name c) Use a simple paint programme with increasing mouse control	Children begin to understand the particular purposes technology can be used for and that by adding text and images you can communicate with technology. Children develop their skills in typing, selecting tools and organising information. **KS1 Computing National Curriculum** Children use technology purposefully to create, organise, store, manipulate and retrieve digital content. Children can: a add text strings, text boxes and show and hide objects and images, manipulating the features; b use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape; c use applications and devices in order to communicate ideas, work, messages and demonstrate control; d save, retrieve and organise work; use key vocabulary to demonstrate knowledge and understanding in this strand: paint, colour, brush, tools, settings, undo, redo, text, image, size, poster, launch, application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboards, keys, mouse, click, button, double click, drag, present.

Multimedia Sound and Motion	Children can: a) Explore sounds b) Use a digital device to take a photograph c) Understand the purpose of and experiment with hardware such as cameras, computers, ipads, voice recorders etc.	Children begin to develop their creativity using technology through recording sound. Children will also begin to develop their editing skills and control of the tools. **KS1 Computing National Curriculum** Children use technology purposefully to create, organise, store, manipulate and retrieve digital content. Children can: a use software to record sounds; b change sounds recorded; c save, retrieve and organise work; use key vocabulary to demonstrate knowledge and understanding in this strand: commands, add sound.

Handling Data	Children can: a) Collect and discuss data as a class b) Insert data into a pictogram, as a class c) Answer simple questions relating to the pictogram as a class	Children can: a) Know that images give information. b) Say what a pictogram is showing them. c) Put data into a program. d) Sort objects and pictures into lists or simple tables. e) Make a simple Y/N tree diagram to sort information. f) Create and search a branching database.

Technology in Our Lives	Children can: a) Recognise a range of technology that is used in places such as homes and schools? b) Select and use technology for a particular purpose? c) Name and use a keyboard and mouse with developing control? d) Access and use simple activities using touch technology with increasing control? e) Use technology appropriately through role play?	Children begin to make links to how they use technology outside of the classroom. They begin to think about the benefits of using technology in their lives, making links to learning about online safety. **KS1 Computing National Curriculum** Children recognise common uses of technology beyond school. They use technology safely and respectfully, keeping personal information private; they identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. Children can: a recognise ways that technology is used in the home and community, e.g. taking photos, blogs, shopping; b use links to websites to find information; c recognise age-appropriate websites; d use safe search filters; use key vocabulary to demonstrate knowledge and understanding in this strand: filter, Google, search engine, image, keyboard, email, internet, subject, address, communicate, sender, safe, secure.

Coding and Programming	Children can: a) Use a range of control toys and devices? b) Make a beebot move forwards and backwards?	Children begin to understand their influence on technology by developing their programming skills to determine output. They begin to understand that an algorithm is a series of steps for solving problems and a code is a series of steps that machines can execute. They begin to explore debugging, predicting when codes may not work and changing them. **KS1 Computing National Curriculum** Children understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. They create, debug and use logical reasoning to predict the behaviour of simple programs. Children can: a give commands one at a time to control direction and movement, including straight, forwards, backwards, turn; b control the nature of events: repeat, loops, single events and add and delete features; c give a set of instructions to follow and predict what will happen; d improve/change their sequence of commands by debugging; e use key vocabulary to demonstrate knowledge and understanding in this strand: algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink.

Online Safety	Children can: a) Talk about what they are doing on a computer b)Say if something they find on the internet makes them feel bad c) Speak to an adult about what they have seen d) Follow the school's safer internet rules	Children begin to consider their activity on the internet and learn about ways to keep themselves safe and why it is important to do so. They also compare appropriate and inappropriate activity on the internet and decide what to do next. **KS1 Computing National Curriculum** Children can use technology safely and respectfully, keeping personal information private; they identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. Children can: a identify what things count as personal information; b identify what is appropriate and inappropriate behaviour on the internet; c agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords; d seek help from an adult when they see something that is unexpected or worrying; e demonstrate how to safely open and close applications and log on and log off from websites; use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, tell, safe, share, stranger, danger, internet.