Heelands School Curriculum Intent:

Computing

Intent:

Principles:

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.

Children will have many opportunities to create, organise and store digital content through the use of Purple Mash. Children take pride in the work that they create and have the 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
- Use logical reasoning to predict the behaviours of programs

Implementation:

Further details of timetabling and organisation of the Computing Curriculum are to be found in the Computing Subject Policy.

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.

Heelands school Computing skills progression and vocabulary.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Foundation These statements are not taught explicitly but are woven throughout the foundation stage curriculum	**Theme: Introduction to computing suite/rules** • I can understand how to operate simple equipment • I can turn a computer on • I can use a mouse to click • I can login to a computer • I can use a keyboard to type • I can explain what Hector is used for • I can understand the rules of the computing suite. Hardware: Computer & Keyboard **Key Vocab:** Computer, listening, mouse, click, left, right, Hector, keys, keyboard, login, start	**Theme: Online Safety & Technology in Our Lives.** • I can understand how to operate simple equipment • I can be ware of dangers of using the Internet and how to do so safely • I can understand the importance of asking for help from an adult when on the internet • I can improve my mouse control • I can log off/shut down the computer • I can improve my click and drag and mouse skills • I can be aware that marks can be made on screen as well as paper and that a range of tools can be used to change the effects • I can start to find my way around the school computer system **Hardware:** Poisson Rouge 2Publish+, 2count, Simple City/ Maths City 1 **Key Vocab:** Mouse, Hector, safe, Online Safety, E-safety, clicking, turn on, turn off, internet, danger.	**Theme: Coding & Programming, Data Handling & Multimedia Sound & Motion.** • I can complete a simple program on a computer • I can interact with age-appropriate computer software • I can operate simple equipment • I can show an interest in technological toys with knobs or pulleys or real objects. • I can show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images. • I can interact with age-appropriate computer software • I can make decisions and choices using a computer • I can find out about different occupations and ways of life • I can begin to understand that computers can represent real or imaginary situations • I can explore how devices respond to commands • I can recognise that a range of technology is used in places such as homes or schools. • I can select and use technology for particular purposes.	**Theme: Multimedia Text & Images - Making words.** • I can be aware that text and images on a computer can be printed out • I can be aware that text comes in different styles, colours and sizes • I can begin to understand that ICT can be used to communicate through text, images and sound • I can be aware that a keyboard and mouse are tools for communicating with a computer **Hardware:** Espresso word machine Story sequencing **Key Vocab:** Text, image, story, sequence, computer, word, phonics	**Theme: Technology in Our Lives, Multimedia Text & Images, Multimedia Sound & Motion.** • I can develop my mouse control through click and drag and drop activities • I can play back a moving image, become familiar with play, stop and pause • I can drag & drop, scene building activities • I can be aware that some information can be sorted both practically and by using a computer programme • I can type own name using the keyboard • I can use the shift key to make a capital letter • I can use the return button to get the cursor to the line below • I can change the colour of text **Hardware:** Espresso, Espresso Literacy, Espresso labelling, Microphone **Key Vocab:** click, drag, computer, keyboard, type, shift key, change, cursor, mouse, sound.	**Theme: Technology in Our Lives, Data Handling & Multimedia Text & Images.** • I can be aware of how a computer allows objects to be moved around the screens • I can be aware of everyday devices that sense data such as bar codes • I can be aware the information can be sorted both practically and on a computer programme • I can be aware that they can interact with multimedia software to make something happen on the screen • I can develop mouse control through click and drag and drop activities. • I can type own name using keyboard • I can use the shift key to make a capital letter • I can use the return button to get the cursor to the line below • I can change the colour of text **Hardware:** Espresso, Simple City, Espresso Maths, Espresso Literacy, keyboard.

		- I can play back a moving image, becoming familiar with play, stop and pause - I can drag and drop, scene building activities, in which pupils can construct their own nursery rhyme images that incorporate icons, sounds and words. **Hardware:** 2Publish+ Espresso team, Bee-bot, espresso scene builder **Key Vocab:** Drag and drop, play, stop, pause, sound, movement, lift, press, sound.			**Key Vocab:** click, drag, computer, keyboard, type, shift key, change, cursor, mouse., bar code, move, information.

| Year 1 | Theme: Unit 1.1 Online Safety & Exploring Purple Mash. (4 weeks) Unit 1.2 Grouping & Sorting. (2 weeks)

Unit 1.1 Online Safety
• I can keep my login information safe
• I can save my work in a safe place such as 'My Work' folder

Unit 1.2 Grouping & Sorting
• I can sort sound, pictures and text
• I can name my work
• I can save my work
• I can find my work

Hardware: Purple Mash, Avatar creator, Paint projects, Writing templates, 2Count (Pictograms), 2Explore (Music), 2DIY.

Key Vocab:
Safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, tell, safe, share, stranger, danger, internet Paint, colour, brush, tools, settings, undo, image, size, poster, launch application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboard, keys, mouse, click, button, double click, drag, present.

Google, search engine, image, keyboard, email, internet, subject, address, communicate, sender, safe, secure, log on, log off, keyboard, keys, mouse, click, button, double click, drag, present. Save, print, avatar, grouping, sorting. | Theme: Unit 1.3 Pictograms (3 weeks) & Unit 1.4 Lego Builders (3 weeks).

Unit 1.3 Pictograms
• I can change content on a file such as text, sound and images
• I can name my work
• I can save my work
• I can find my work

Unit 1.4 Lego Builders
• I can explain that an algorithm is a set of instructions
• I know that a computer program turns an algorithm into code and that computers can understand
• I can work out what is wrong when the steps are out of order in instructions

Hardware:
Purple Mash, 2Count, 2DIY

Key Vocab: Pictogram, data, insert, table, pictogram, data, sort, graph, classify algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink | Theme: Unit 1.5 Maze Explorers (3 weeks) & Unit 1.6 Animated Story books (3 weeks)

Unit 1.5 Maze Explorers
• I can explain that an algorithm is a set of instructions
• I know that a computer program turns an algorithm into code and that computers can understand
• I can work out what is wrong when the steps are out of order in instructions
• I can make good guesses of what is going to happen in a program. For example, where the turtle might go.

Unit 1.6 Animated Story books
• I can add sound, pictures and text to a program such as 2Create a story
• I can change content on a file such as text, sound and images
• I can name my work
• I can save my work
• I can find my work

Hardware:
Purple Mash, 2Go and 2Create A Story.

Key Vocab: Algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink.

Story, animate. eBook, recording, backgrounds, sharing, paint, colour, brush, tools, settings, undo, image, size, poster, launch application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboard, keys, mouse, click, | Theme: Unit 1.6 Animated story books (2 weeks) (cont) & Unit 1.7 Coding (3 weeks).

Unit 1.6 Animated Story books
• I can add sound, pictures and text to a program such as 2Create a story
• I can change content on a file such as text, sound and images
• I can name my work
• I can save my work
• I can find my work

Unit 1.7 Coding:
• I know that a computer program turns an algorithm into code and that computers can understand
• I can say that if something does not work how it should it is because my code is incorrect
• I can try and fix my code if it isn't working properly
• I can make good guesses of what is going to happen in a program. For example, where the turtle might go.
• I can change content on a file such as text, sound and images
• I can name my work | Theme: **Unit 1.7 Coding continued** (4 weeks) & Unit 1.8 Spreadsheets (1 week)

Unit 1.7 Coding:
• I know that a computer program turns an algorithm into code and that computers can understand
• I can say that if something does not work how it should it is because my code is incorrect
• I can try and fix my code if it isn't working properly
• I can make good guesses of what is going to happen in a program. For example, where the turtle might go.
• I can change content on a file such as text, sound and images
• I can name my work
• I can save my work
• I can find my work

Unit 1.8 Spreadsheets
• I can change content on a file such as text, sound and images
• I can name my work
• I can save my work
• I can find my work

Hardware:
2Code and 2Calculate

Key Vocab:
Algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, forever, invisible, grow, shrink | Theme: Unit 1.8 Spreadsheets continued (2 weeks) & Unit 1.9 Technology outside our school. (2 weeks)

Unit 1.8 Spreadsheets
• I can change content on a file such as text, sound and images
• I can name my work
• I can save my work
• I can find my work

Unit 1.9 Technology outside our school
• I can say what technology is
• I can say what examples of technology are in school
• I can say what examples of technology are at home
• I know that a chair uses old technology and a smart phone uses new technology

Hardware: 2Calculate and various other programmes e.g. camera, whiteboard, calculators, telephones etc.

Key Vocab: spreadsheet, image, toolbox, speak, count, technology, camera, whiteboards, calculators, telephones. |

| | | | | button, double click, drag, present, commands, add sound | • I can save my work
• I can find my work

Hardware:
2 Create A Story, 2Code & Beebot.

• **Key Vocab:** Algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink. minimise, restore, size, move, screen, close, click, drag, log on, log off keyboard, keys | | |

Year 2	Theme: Unit 2.1 Coding (5 weeks) & 2.2 Online Safety (2 weeks).	Theme: Unit 2.2 Online Safety continued (1 week) & Unit 2.3 Spreadsheets (4 weeks).	Theme: Unit 2.4 Questioning. (5 weeks)	Theme: Unit 2.5 Effective Searching (3 weeks) & Unit 2.6 Creative Pictures (2 weeks)	Theme: Unit 2.6 Creative Pictures (3 weeks) & Unit 2.7 Making Music (2 weeks)	Theme: Unit 2.7 Making Music (1 week) & Unit 2.8 Presenting Ideas (4 weeks).
	Unit 2.1 Coding: • I can explain an algorithm is a set of instructions to complete a task. • I know I need to carefully plan my algorithm so it will work when I make it into code • I can design a simple program that uses 2Code that achieves a purpose • I can find and correct some errors in my program • I can say what will happen in a program • I can spot something in a program that has an action or effect (does something) • I understand that my creations such as programs in 2Code, need similar skills to the adult world, e.g. the program used for collecting money for school trips. **Unit 2.2 Online Safety:** • I know the consequences of not searching online safely • I can share work and communicate electronically – for example using 2Email or the display boards • I can report unkind behaviour and things that upset me online, to a trusted adult • I can see where technology is used at school such as in the office or canteen **Hardware:** 2Code, Hector, youtube, various programmes **Key Vocab:** Safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, tell, safe, share, stranger, danger, internet Algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink	**Unit 2.2 Online Safety:** • I know the consequences of not searching online safely • I can share work and communicate electronically – for example using 2Email or the display boards • I can report unkind behaviour and things that upset me online, to a trusted adult • I can see where technology is used at school such as in the office or canteen **Unit 2.3 Spreadsheets** • I can organise data – for example, using a database such as 2Investigate • I can name, save and find my work **Hardware:** Purple Mash: 2 Calculate **Key Vocab:** Spreadsheet, tools, settings, undo, image, size, poster, launch application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboard, keys, mouse, click, button, double click, drag, present, copy, paste, graph, data, email, insert, table, pictogram, data Email, sender, safe, secure, communicate, Google, search engine, image, keyboard, email internet, subject, address, communicate, sender, safe, secure.	**Unit 2.4 Questioning:** • I can organise data – for example, using a database such as 2Investigate • I can use several programs to organise information – for example, using binary trees from 2Question or spreadsheets such as 2Calculate. • I can name, save and find my work **Hardware:** 2Question and 2Investigate. **Key Vocab:** Pictogram, information, questions, binary tree, database, search tool.	**Unit 2.5 Effective Searching:** • I can find data using specific searches – for examples using 2Investigate • I can find information I need using a search engine • I know the consequences of not searching online safely **Unit 2.6 Creative Pictures:** • I can name, save and find my work • I can include photos, texts and sound in my creations. **Hardware:** Internet browser, 2PaintAPicture **Key Vocab:** Tools, settings, undo, image, size, poster, launch application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboard, keys, mouse, click, button, double click, drag, present, leaflet, internet, William Morris, Monet, Degas, Renoir, William Morris, surrealism, eCollage.	**Unit 2.6 Creative Pictures:** • I can name, save and find my work • I can include photos, texts and sound in my creations. **Unit 2.7 Making Music** • I can edit digital data such as data such as data in music composition software like 2Sequence • I can name, save and find my work **Hardware:** 2PaintAPicture and 2Sequence. **Key Vocab:** Tools, settings, undo, image, size, poster, launch application, software, window, minimise, restore, size, move, screen, close, click, drag, log on, log off, keyboard, keys, mouse, click, button, double click, drag, present Commands, add sound	**Unit 2.7 Making Music:** • I can edit digital data such as data such as data in music composition software like 2Sequence • I can name, save and find my work **Unit 2.8 Presenting Ideas:** • I can use several programs to organise information – for example, using binary trees from 2Question or spreadsheets such as 2Calculate. • I can name, save and find my work • I can include photos, texts and sound in my creations. **Hardware:** 2Sequence, various programmes. **Key Vocab:** Presentation, fact file, story, quiz, topic.