

Computing

Subject

Overview

ROUTE 1 - COMPUTING

Year 7 & Year 8

Skills and Knowledge Progression

KNOWLEDGE

- Identify opportunities within the DAPA framework to integrate ICT and computing into play, communication, learning and social development
- Integrate a range of media through cross curricular activities
- How to be safe online

SKILLS

- Be aware of different types of devices
- Remember rules without adult guidance
- Develop their fine motor skills so that they can use a range of tools competently, safely and confidently.
- Explore how things work

SPIRAL

- To continue to embed computing skills gained;
- Personal, Social and Emotional Development, Physical Development, Understanding the World and Expressive Arts and Design

	AUTUMN HALF TERM 1	AUTUMN HALF TERM 2	SPRING HALF TERM 1	SPRING HALF TERM 2	SUMMER HALF TERM 1	SUMMER HALF TERM 2
Year 7	<p>Computing delivery in 7T4 and 8T4 exists on the timetable as a discreet lesson, however it differs in pedagogy and assessment compared to the rest of the school in the following ways;</p> <ul style="list-style-type: none"> • In the designated lesson times pupils use technology to aid several tasks, such as Maths Wizz, creating artwork and using it to complete tasks specific to projects they are experiencing. This is highlighted to the pupils as their computing lesson, but each pupil may have individual tasks to perform, or experiences/actions to undertake. • Across the delivery of the curriculum technology is used where deemed appropriate by the class teachers to broaden its use. This also presents an opportunity to work towards adjusting their perceptions of technology away from solely a mechanism for play, which is common thread among this cohort. • Teachers are mindful of and apply the attainment levels S1-14 whilst working towards addressing the content of this framework where appropriate in the pupil's day to day experiences. This prepares pupils for year 9, where a more structured delivery takes place. 					
Year 8						

Year 9, Year 10 and Year 11

Skills and Knowledge Progression

KNOWLEDGE

- Build on opportunities visited within the DAPA Framework developing knowledge of ICT and computing through a less structured learning environment
- Recognise which media is required within a given situation through cross curricular pathways
- Build knowledge around Functional Skills ICT.

SKILLS

- Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.
- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Explain the reasons for rules, know right from wrong and try to behave accordingly

SPIRAL

- To continue to embed computing skills gained via the pathways of foundation learning; Personal, Social and Emotional Development, Physical Development, Understanding the World and Expressive Arts and Design

	AUTUMN HALF TERM 1	AUTUMN HALF TERM 2	SPRING HALF TERM 1	SPRING HALF TERM 2	SUMMER HALF TERM 1	SUMMER HALF TERM 2
Year 9	E-Safety Focus 9/10/11H2 Y1 – Computing Systems <i>Technology in the classroom</i>	9/10/11H2 Y1 – Creating Media <i>Painting using computers</i>	E-Safety Focus 9/10/11H2 Y1 - Programming A <i>Buttons</i> <i>Directions</i>	9/10/11H2 Y1 – Data <i>Label and match</i> <i>Group and count</i>	E-Safety Focus 9/10/11H2 Y1 – Digital writing <i>Exploring the keyboard</i>	9/10/11H2 Y1 – Programming B <i>Comparing tools</i>
Year 10	<i>Using computer technology</i> <i>Developing mouse skills</i> <i>Using a computer keyboard</i>	<i>Using shapes and lines</i> <i>Making careful choices</i> <i>Why did I choose that</i>	<i>Forwards and backwards</i> <i>Four directions</i> <i>Getting there</i> <i>Routes</i>	<i>Describe an object</i> <i>Making different groups</i> <i>Comparing groups</i> <i>Answering questions</i>	<i>Adding and removing text</i> <i>Exploring the toolbar</i> <i>Making changes to text</i> <i>Explaining my choices</i>	<i>Joining blocks</i> <i>Making a change</i> <i>Adding sprites</i> <i>Project design</i> <i>Following my design</i>
Year 11	<i>Developing keyboard skills</i> <i>Using a computer responsibly</i>	<i>Painting all by myself</i> <i>Comparing computer art and painting</i>			<i>Pencil or keyboard</i>	

Curriculum Overview

- Route 1 Pupils undertake tasks to DISCOVER, EXPLORE and EXPERIENCE knowledge and understanding through themes and opportunities within the context of the topics.
- Bespoke curriculum guided by DAPA S9-S14 and National Curriculum KS1 if appropriate
- A spiralling curriculum allows for key skills to be revisited, gaps in knowledge to be addressed and learning to be embedded.
- Much of the delivery is embedded in other subjects, where IT is utilised, opportunities are identified to develop skills.

Cross-Curricular Links

- Route 1 Computing, English opportunities to address; Reading-Word Reading.
- Route 1 Computing, Maths opportunities to address; Number-Place Value. Number-Addition Subtraction. Number-Multiplication and Division.
- Route 1 Computing, Science opportunities to address; Analysis and Evaluation. Measurement.

Destinations

- Pearson Functional Skills - ICT computing Entry level 1 – 3
- By the end of KS4 some pupils will be ready for formal assessment (Ends August 2024)

ROUTE 2 - COMPUTING

Year 7 & Year 8

Skills and Knowledge Progression

KNOWLEDGE

- Networks – Develop a basic understanding with associated risks
- Creating Media – Select and create a range of media to include text, sound and images
- Data – Develop and understanding of how information is stored
- Design & Development – Develop an understanding of how activities are planned
- Computing systems – Understand the parts of a computer and how it functions as a whole
- Algorithms – Know what an algorithm is
- Programming – Create software to solve problems
- Effective use of tools – Implement software to support computing work
- Safety and security – Understand the risks of technology and how to safeguard individuals.

SKILLS

- Have a basic understanding of what an algorithm is
- Create and debug simple programs
- Predict the behaviour of simple programs
- Use technology purposefully; organise, store, manipulate and retrieve digital content
- Use technology safely and respectfully

SPIRAL

- Build on what algorithms are
- Make simple programs
- Implement technology purposefully
- Respect the use of technology and implement safely

	AUTUMN HALF TERM 1	AUTUMN HALF TERM 2	SPRING HALF TERM 1	SPRING HALF TERM 2	SUMMER HALF TERM 1	SUMMER HALF TERM 2
Year 7	E-Safety Focus Digital Writing <i>Safety and Security</i> <i>Effective use of tools</i>	IT around us <i>Networks</i> <i>Effective use of tools</i>	E-Safety Focus Digital Photography <i>Safety and Security</i> <i>Creating Media</i>	Robot Algorithms <i>Algorithms</i>	E-Safety Focus Pictograms <i>Data</i>	Programming Quizzes <i>Programming</i>
Year 8	E-Safety Focus Connecting Computers <i>Safety and Security</i> <i>Networks</i>	Stop Frame animation <i>Creating Media</i> <i>Algorithms</i>	E-Safety Focus Branching databases <i>Safety and Security</i> <i>Data</i>	Desktop Publishing <i>Creating Media</i>	E-Safety Focus The Internet Connecting networks. <i>Safety and Security</i> <i>Networks</i>	Introduction to Spreadsheets <i>Data</i>

Year 9, Year 10 and Year 11 Skills and Knowledge Progression

KNOWLEDGE

- Networks – Reinforce an understanding of associated risks
- Creating Media – Select and create a range of media to include text, sound, images and video
- Data & Information - Understand how information is stored and used to represent real world scenarios
- Design & Development – Develop an understanding of how activities are planned and evaluate computing artefacts
- Computing systems – Understand the parts of a computer and how it's constituent parts function together as a whole
- Algorithms – Know what an algorithm is; design and create
- Programming – Build on skills and create software to solve problems
- Effective use of tools – Implement software to support computing work
- Safety and security – Understand the risks of technology and how to safeguard individuals.

SKILLS

- Have a deeper understanding of what an algorithm is
- Create and debug more sophisticated programs
- Predict the behaviour of more in depth programs
- Use technology purposefully; organise, store, manipulate and retrieve digital content independently
- Use technology safely and respectfully

SPIRAL

- KS3 and 4 is an opportunity to revisit, explore and build on new and existing skills. Progression to more advanced content, understanding an concepts is generally limited but not inaccessible.

	AUTUMN HALF TERM 1	AUTUMN HALF TERM 2	SPRING HALF TERM 1	SPRING HALF TERM 2	SUMMER HALF TERM 1	SUMMER HALF TERM 2
Year 9	E-Safety Focus Connecting Computers <i>Safety and Security</i> <i>Networks</i> <i>Computing Systems</i>	Sharing Information <i>Data and Information</i>	E-Safety Focus Desktop Publishing <i>Safety and Security</i> <i>Creating Media</i> <i>Effective use of Tools</i>	Digital Photography <i>Creating Media</i>	E-Safety Focus Introduction to Spreadsheets <i>Safety and Security</i> <i>Data and Information</i> <i>Design and Development</i>	The Internet <i>Networks</i> <i>Computing Systems</i>

Year 10	E-Safety Focus Connecting Computers <i>Safety and Security</i> <i>Networks</i> <i>Computing Systems</i>	Sharing Information <i>Data and Information</i>	E-Safety Focus Desktop Publishing <i>Safety and Security</i> <i>Creating Media</i> <i>Effective use of Tools</i>	Digital Photography <i>Creating Media</i>	E-Safety Focus Introduction to Spreadsheets <i>Safety and Security</i> <i>Data and Information</i>	The Internet <i>Networks</i> <i>Computing Systems</i>
Year 11	E-Safety Focus Connecting Computers <i>Safety and Security</i> <i>Networks</i> <i>Computing Systems</i>	Sharing Information <i>Data and Information</i>	E-Safety Focus Desktop Publishing <i>Safety and Security</i> <i>Creating Media</i> <i>Effective use of Tools</i>	Digital Photography <i>Creating Media</i>	E-Safety Focus Introduction to Spreadsheets <i>Safety and Security</i> <i>Data and Information</i>	The Internet <i>Networks</i> <i>Computing Systems</i>

Curriculum Overview

- Route 2 Pupils undertake tasks to ENHANCE, DEVELOP and DEEPEN knowledge and understanding through themes and opportunities within the context of the topics.
- Delivery utilises the NCCE Teach Computing curriculum for KS1, KS2 and KS3.
- A spiralling curriculum allows for key skills to be revisited, gaps in knowledge to be addressed and learning to be embedded.
- Opportunities to gain EL1-3 Functional Skills ICT in Year 9, Year 10 and Year 11.
- 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.

Cross-Curricular Links

- Route 2 Computing, English opportunities to address; Spoken English. Reading-Word Reading.
- Route 2 Computing, Maths opportunities to address; Number-Place Value. Number-Addition Subtraction. Number-Multiplication and Division.
- Route 2 Computing, Science opportunities to address; Analysis and Evaluation. Measurement.

Destinations

- Pearson Functional Skills - ICT computing Entry level 1 – 3 (Ends August 2024)

ROUTE 3 - COMPUTING

Year 7 & Year 8

Skills and Knowledge Progression

KNOWLEDGE

- Networks – Understand how to retrieve and share information across networks
- Creating Media – Select and create a range of media to include text, sound and images
- Data – Develop and understanding of how information is stored and utilised in real world situations
- Design & Development – Develop an understanding of how activities are planned; evaluating computer artefacts
- Computing systems – Understand the parts of a computer and how it functions as a whole
- Algorithms – Develop and create an algorithm an evaluate its effectiveness
- Programming – Create software to solve problems
- Effective use of tools – Implement software to support computing work
- Safety and security – Understand the risks of technology and how to safeguard individuals and systems

SKILL

- Design, write and debug simple programs including controlling physical systems and their problems
- Sequence and repeat in programs with various forms of input and output
- Use logical reasoning to detect and correct errors
- Understand computer networks and how they can provide multiple services and opportunities for communication
- Select use and combine a variety of software and accomplish given goals by presenting data and information
- Recognise acceptable/unacceptable behaviour with technology

SPIRAL

- Build on problem solving skills
- Work with variables and various forms of input and output
- Implement search technologies
- Design and create software evaluating and presenting data
- Use technology safely and consistently

	AUTUMN HALF TERM 1	AUTUMN HALF TERM 2	SPRING HALF TERM 1	SPRING HALF TERM 2	SUMMER HALF TERM 1	SUMMER HALF TERM 2
Year 7	E-Safety Focus Digital Writing <i>Safety and Security</i> <i>Effective use of Tools</i>	IT around us <i>Networks</i> <i>Computing Systems</i>	E-Safety Focus Digital Photography <i>Safety and Security</i> <i>Creating Media</i>	Robot Algorithms <i>Algorithms</i>	E-Safety Focus Pictograms <i>Safety and Security</i> <i>Data</i>	Programming Quizzes <i>Data</i> <i>Design and Development</i>

Year 8	E-Safety Focus	Stop Frame animation	E-Safety Focus	Desktop Publishing	E-Safety Focus	Introduction to Spreadsheets
	Connecting Computers		Branching databases		The Internet Connecting networks.	
	<i>Safety and Security Networks</i>	<i>Creating Media Programming</i>	<i>Safety and Security Data</i>	<i>Creating Media Design and Development</i>	<i>Safety and Security Computing Systems Networks</i>	<i>Data Effective use of Tools</i>

Year 9, Year 10 and Year 11 Skills and Knowledge Progression

KNOWLEDGE

- Networks – Understand how to retrieve and share information across networks and how they come with associated risks
- Creating Media – Select and create a range of media to include text, sound, images and possible video/podcast production
- Data – Embed an understanding of how information is stored and utilised in real world situations
- Design & Development – Develop an understanding of how activities are planned and created; evaluating computer artefacts
- Computing systems – Recognise the parts of a computer and how its constituent parts function together as a whole
- Algorithms – Develop and create an algorithm and evaluate its effectiveness independently
- Programming – Create software to solve problems independently on a range of media
- Effective use of tools – Continue to implement software to support computing work independently
- Safety and security – Understand the risks of technology and how to safeguard individuals and systems without prompting

SKILL

- Design, write and debug simple programs including controlling physical systems and their problems
- Sequence and repeat in programs with various forms of input and output
- Use logical reasoning to detect and correct errors independently
- Understand computer networks and how they can provide multiple services and opportunities for communication
- Select use and combine a variety of software and accomplish given goals by presenting data and information
- Recognise acceptable/unacceptable behaviour with technology

SPIRAL

- KS3 and 4 is an opportunity to revisit, explore and build on new and existing skills. Progression to more advanced content, understanding and concepts is generally limited but not inaccessible.

	AUTUMN HALF TERM 1	AUTUMN HALF TERM 2	SPRING HALF TERM 1	SPRING HALF TERM 2	SUMMER HALF TERM 1	SUMMER HALF TERM 2
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Year 9	E-Safety Focus The Internet & networks. <i>Safety and Security Networks</i>	Sharing Information & Systems. <i>Safety and Security Computing Systems</i>	E-Safety Focus Desktop Publishing <i>Effective use of Tools</i>	Internet Communication <i>Safety and Security Networks</i>	E-Safety Focus Introduction to Spreadsheets <i>Safety and Security Data</i>	Video Production <i>Creating Media</i>
	ICT F Skills	ICT F Skills	ICT F Skills	ICT F Skills	ICT F Skills	ICT F Skills
Year 10	E-Safety Focus The Internet & networks. <i>Safety and Security Networks</i>	Sharing Information & Systems. <i>Safety and Security Computing Systems</i>	E-Safety Focus Desktop Publishing <i>Effective use of Tools</i>	Internet Communication <i>Safety and Security Networks</i>	E-Safety Focus Introduction to Spreadsheets <i>Safety and Security Data</i>	Video Production <i>Creating Media</i>
	ICT F Skills	ICT F Skills	ICT F Skills	ICT F Skills	ICT F Skills	ICT F Skills
Year 11	E-Safety Focus The Internet & networks. <i>Safety and Security Networks</i>	Sharing Information & Systems. <i>Safety and Security Computing Systems</i>	E-Safety Focus Desktop Publishing <i>Effective use of Tools</i>	Internet Communication <i>Safety and Security Networks</i>	E-Safety Focus Introduction to Spreadsheets <i>Safety and Security Data</i>	Video Production <i>Creating Media</i>
	ICT F Skills	ICT F Skills	ICT F Skills	ICT F Skills	ICT F Skills	ICT F Skills

Curriculum Overview

- Route 3 Pupils undertake tasks to EMBED, DEMONSTRATE and APPLY knowledge and understanding through themes and opportunities within the context of the topics.
- Delivery utilises the NCCE Teach Computing curriculum for KS1, KS2 and KS3.
- A spiralling curriculum allows for key skills to be revisited, gaps in knowledge to be addressed and learning to be embedded.
- Opportunities to gain EL1-3 Functional Skills ICT in Year 9, Year 10 and Year 11.
- 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.

Cross-Curricular Links

- Route 3 Computing, English opportunities to address; Spoken English. Spoken Language. Reading-Word Reading. Reading-Comprehension.
- Route 3 Computing, Maths opportunities to address; Number-Place Value. Number-Addition Subtraction. Number-Multiplication and Division. Measurement. Geometry-Position Direction. Statistics.
- Route 3 Computing, Science opportunities to address; Work Scientifically. Experimental Skills and Investigations. Analysis and Evaluation. Measurement.

Destinations

- Pearson Functional Skills - ICT computing Entry level 1 – 3 (Ends August 2024)