



Deighton Gates Primary School

Curriculum Overview: Computing



Intent

At Deighton Gates Primary School, our intent is to deliver a high-quality computing education that equips pupils to use computational thinking and creativity to understand and change the world. We believe that every child should have the right to a curriculum that champions excellence; supporting pupils in achieving to the very best of their abilities. We understand the immense value technology plays not only in supporting the Computing and whole school curriculum but overall in the day-to-day life of our school. We believe that technology can provide: enhanced collaborative learning opportunities; better engagement of pupils; easier access to rich content; support conceptual understanding of new concepts and can support the needs of all our pupils.

Aims:

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology

In order to achieve these aims we have adopted a curriculum scheme (**Purple Mash**) that is coherently planned and sequenced and fulfils the requirements set out in the [National Curriculum](#). We have identified the key 'Threshold Concepts' which set out the fundamentals of the subject from the scheme. We use these threshold concepts to ensure that our curriculum offer in Computing is coherently planned and enables pupils to make progress within each discipline..

The **Threshold Concepts** in Computing are:

Computer Science

This concept includes the knowledge and skills relating to programming, coding, algorithms and computational thinking.

Information Technology

This concept includes the knowledge and skills relating to communication, multimedia and data representation and handling.

Digital Literacy

This concept includes the knowledge and skills relating to online safety and technology

The detailed Long Term Plan sets out the specific, intended progression for each threshold concept in Year 1 to 6 (see separate document).

Computing Progression
N.C. Statements KS1 Year 1



Computer Science	Information Technology	Digital Literacy
Computer Science Children will be able to understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.	Information Technology Children will be able to analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.	Digital Literacy Children will be able to evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
Computer Science Children will be able to understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.	Information Technology Children will be able to analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.	Digital Literacy Children will be able to evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.

Computing Progression
N.C. Statements KS2 Year 6



Computer Science	Information Technology	Digital Literacy
Computer Science Children will be able to understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.	Information Technology Children will be able to analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.	Digital Literacy Children will be able to evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
Computer Science Children will be able to understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.	Information Technology Children will be able to analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.	Digital Literacy Children will be able to evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.



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Sequencing

The curriculum has been sequenced to ensure that children's skills are reinforced and built upon throughout the scheme. The Computing Long Term Plan sets out the intended sequencing of the curriculum.

All Unit Summary

*Most units will include aspects of all strands.

Year 1										
	Unit 1.1	Unit 1.2	Unit 1.3	Unit 1.4	Unit 1.5	Unit 1.6	Unit 1.7	Unit 1.8	Unit 1.9	
	Online Safety & Exploring Purple Mash	Shopping & Sorting	Photographs	Using Statistics	Plan Diagrams	Animated Story Books	Creating	Spreadsheets	Technology outside school	
Number of lessons	4	3	3	3	3	5	3	3	2	
Main text			ICTwork		ICT	ICTwork & Story	ICTwork	ICTwork		

Year 2										
	Unit 2.1	Unit 2.2	Unit 2.3	Unit 2.4	Unit 2.5	Unit 2.6	Unit 2.7	Unit 2.8		
	Creating	Online Safety	Spreadsheets	Storyboarding	Effective Searching	Uploading Pictures	Making Music	Presenting Videos		
Number of lessons	5	3	4	5	3	5	3	4		
Main text	ICTwork		ICTwork	ICTwork & Storyboards		Spoken & Picture	ICTwork			

Year 3										
	Unit 3.1	Unit 3.2	Unit 3.3	Unit 3.4	Unit 3.5	Unit 3.6	Unit 3.7	Unit 3.8	Unit 3.9	
	Creating	Online safety	Spreadsheets	Topic Talking	Email (inc. email safety)	Storyboarding Diagrams	Storyboarding	Creating	Presenting	
Number of lessons	5	3	5	4	6	4	3	3	5/6*	
Main text	ICTwork		Exercises for Levels 3/4/5	ICTwork	ICTwork	ICTwork	ICTwork	ICTwork	PowerPointing & Image Making	

Year 4										
	Unit 4.1	Unit 4.2	Unit 4.3	Unit 4.4	Unit 4.5	Unit 4.6	Unit 4.7	Unit 4.8	Unit 4.9	
	Creating	Online Safety	Spreadsheets	Writing for Different Audiences	Logic	Animation	Effective Searching	Storyboarding	Making Music	
Number of lessons	6	4	6	5	3	3	3	3	4	
Main text	ICTwork		ICTwork		ICTwork	ICTwork			Music Making	

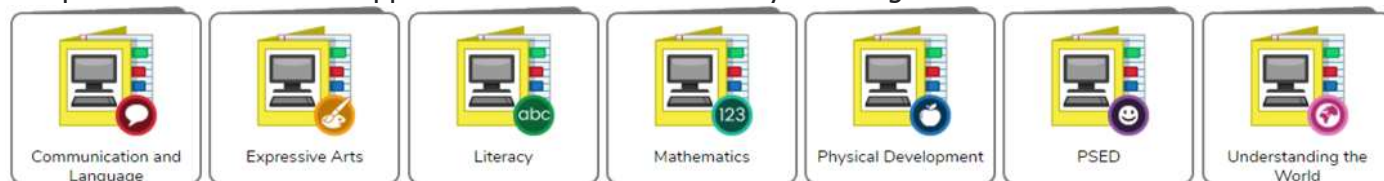
Year 5										
	Unit 5.1	Unit 5.2	Unit 5.3	Unit 5.4	Unit 5.5	Unit 5.6	Unit 5.7	Unit 5.8		
	Creating	Online Safety	Spreadsheets	Database	Lesson Creation	3D Modelling	Storyboarding	Video Processing		
Number of lessons	6	3	3	4	3	4	4	3		
Main text	ICTwork		ICTwork	ICTwork	ICTwork	ICTwork & Music	ICTwork	ICTwork & Storyboard/Video		

Year 6										
	Unit 6.1	Unit 6.2	Unit 6.3	Unit 6.4	Unit 6.5	Unit 6.6	Unit 6.7	Unit 6.8	Unit 6.9	
	Creating	Online Safety	Spreadsheets	Shopping	Plan Diagrams	Video Making	Creating	Storyboarding Videos	Spreadsheets	
Number of lessons	5	2	5	4	5	3	6	7	5	
Main text	ICTwork		ICTwork	ICTwork			ICTwork		Spoken & Picture	

Implementation

The intended computing curriculum is implemented through the teaching and assessment of the subject as a specific discipline in each year group, but purposeful links between subjects are made where possible. Computing is taught weekly across all classes - with two units from the scheme typically being completed each half term. The Long Term Plan sets out when, within the curriculum's design, each unit is taught, revisited and assessed.

In Reception the use of Mini Mash which is an online resource that supports teaching and learning in the Early Years environment. It is an **interactive virtual classroom** that allows children in reception to explore, learn and create in a safe online space. Using the scheme of work, teachers select from a range of lesson and provision activities to support children achieve the Early Learning Goals.



Communication and Language

Early Learning Goal:
Listening, Attention and Understanding

Children at the expected level of development will:

- Listen attentively and respond to what they hear with relevant questions, comments and actions where being used to and having active class discussions and small group conversations.
- Make comments about what they have heard and ask questions to clarify what is being said.
- Have conversations when engaged in talk and have exchanges with their teacher and peers.

Resources
Mini Mash & Purple Mash

Lesson Ideas
Use the photographs in all the Simple City stories to talk about what is happening in the photographs.
There are two sets of photographs in each of the topic sections over drawing the role of the adult in the building. The second shows how the children have created their own environment to support the topic.
This is a great way to introduce some of the topics like the garden centre and to be able to stop and start the story elsewhere, talking about what is happening in the image and what the people in the images are doing.
Lesson Ideas:

- The children can copy what is happening in the photographs.
- Discuss about the children, how do you think the children have created their own world in the play area or garden centre?

Physical Development

Early Learning Goal:
Fine Motor Skills

Children at the expected level of development will:

- Hold a pencil effectively in preparation for paper writing - using the tripod grip in almost all cases.
- Use a range of small tools, including scissors, sand, glue and cutting.
- Begin to draw accurately and use when drawing.

Resources
Annotate (Mini Mash and Purple Mash)

Lesson Ideas
Use 2Handwrite to demonstrate, record and play back letter formation, handwriting practice and spelling patterns. Works well with an interactive Whiteboard or touchscreens.
Lesson Ideas:

- Place the lines visible by clicking on the magnifying glass and demonstrate the formation of letters on 2Handwrite for a video to replicate on paper or small whiteboards.
- As well as letters, model simple handwriting patterns such as a wavy line etc for children to experiment with.
- Leave 2Handwrite open on the interactive whiteboard or on iPad for children to engage during continuous provision.

Paint a Picture (Mini Mash and Purple Mash)
Lesson Ideas:

- Give the children the opportunity to explore the resources in Purple Mash.



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During each teaching sequence or 'unit' of Computing, teachers collect evidence and make summative assessments of each child's progress and attainment against the defined objectives within each of the threshold concepts. These are recorded on Purple Mash and an overview of each pupil's achievement over the year is used to inform end of year assessments which are reported to governors and parents. The whole team are able to identify specific pupils with special educational needs and/or disabilities, as well as those with an identified specific talent; and adapt the curriculum's implementation accordingly.

Computer Science				
Class Name	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Understand computer networks, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration.	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.
Coverage	96.77%	0.00%	96.77%	96.77%
Y6 LD/RR	Expected (2.00)	-	Expected (2.00)	Expected (2.00)
Y6 LD/RR	Expected (2.00)	-	Expected (2.00)	Expected (2.00)
Y6 LD/RR	Expected (2.00)	-	Expected (2.00)	Expected (2.00)
Y6 LD/RR	Expected (2.25)	-	Expected (2.00)	Expected (2.00)
Y6 LD/RR	Emerging (1.00)	-	Emerging (1.33)	Expected (1.50)

Impact

Senior leaders, subject leads and teachers are able to use the evidence collected alongside the assessment information to monitor and track the implementation of the subject's curriculum to ensure that our intentions are achieved.

The impact of the computing curriculum is evaluated and reviewed through annual reports that are created and shared with governors by the subject lead. The purpose of these reports is to highlight the impact of the implemented curriculum, its strengths and areas for review.

In addition, we evaluate the impact of our curriculum through the following methods:

- Half-termly pupil assessment and review
- Analysis of summative assessment at the end of each year
- Key Line of Enquiries - including learning walks, work sampling
- Sampling pupil voice