Dundry Computing Progression

Purpose and Aims of our Computing Curriculum:

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. 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 also ensures that pupils 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.

The National Curriculum and EYFS Breadth of Study in Computing

	EYFS	KS1	KS2	
	Reception	**Year 1 / Year 2**	**Year 3 / Year 4**	**Year 5 / Year 6**
Skills / Disciplines	**Communication and Language** Listening, Attention and Understanding Speaking **Expressive Arts** Being imaginative and expressive. Creating with Materials **Literacy** Word Reading Writing Comprehension **Mathematics** Number Numerical Patterns **Physical Development** Fine Motor Skills Gross Motor Skills **PSED** Building Relationships Managing Self Self Regulation **Understanding the World** People, Culture and COmmunities Past and Present The Natural World	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.	pupils should be taught to: § design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts § use sequence, selection, and repetition in programs; work with variables and various forms of input and output § use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs § 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 search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content § select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information § use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	
Knowledge		Pupils are taught about: -Computer Science - Information Technology - Digital Literacy	Pupils are taught about: -Computer Science - Information Technology - Digital Literacy	

Our 2-year Cycle Long Term Overview in Computing (See here for unit plans: https://www.purplemash.com/#tab/teachers/computing_sow)

Cycle A 2021 - 2022 Computing & e-safety (Purple Mash)

EYFS	**Using Computing to assist in ELG**	Units will be selected based on continuous provision to support EYFS curriculum.	Units will be selected based on continuous provision to support EYFS curriculum.	Units will be selected based on continuous provision to support EYFS curriculum.	Units will be selected based on continuous provision to support EYFS curriculum.	Units will be selected based on continuous provision to support EYFS curriculum.	Units will be selected based on continuous provision to support EYFS curriculum.
Year 1& 2 Breadth of Study	**Computing & e-safety**	Unit 1.1 Online Safety and Exploring Purple Mash Unit 2.5 Effective Searching	Unit 1.7 Coding	Unit 1.2 Grouping & Sorting Unit 1.8 Spreadsheets	Unit 2.6 Creating Pictures	Unit 2.1 Coding	Unit 1.4 Lego Builders Unit 1.9 Technology Outside School
Year 3&4 Breadth of Study	**Computing & e-safety**	Coding (See Coding Breakdown Below)	Unit 3.2 Online Safety Unit 3.3 Spreadsheets	Unit 3.4 Touch Typing Unit 3.7 Simulations	Unit 3.5 Email and E-Safety	Unit 3.6 Branching Database	Unit 3.8 Graphing
Year 5&6 Breadth of Study	**Computing & e-safety**	Coding (See Coding Breakdown Below) Unit 5.2 Online Safety	Unit 5.3 Spreadsheets	Unit 5.5 Game Creator	Unit 5.4 Databases	Unit 5.7 Concept Maps	Unit 5.6 3d Modelling

Cycle B 2022 - 2023 Computing & e-safety (Purple Mash)

EYFS	**Using Computing to assist in ELG**	Units will be selected based on continuous provision to support EYFS curriculum.	Units will be selected based on continuous provision to support EYFS curriculum.	Units will be selected based on continuous provision to support EYFS curriculum.	Units will be selected based on continuous provision to support EYFS curriculum.	Units will be selected based on continuous provision to support EYFS curriculum.	Units will be selected based on continuous provision to support EYFS curriculum.
Year 1&2 Breadth of Study	**Computing & e-safety**	Unit 1.1 Online Safety and Exploring Purple Mash Unit 1.5 Maze Explorers	Unit 2.4 Questioning	Unit 2.2 Online Safety Unit 2.7 Making Music	Unit 1.6 Animated Book Story Unit 1.3 Pictograms	Unit 2.3 Spreadsheets	Unit 2.8 Presenting Ideas
Year 3&4 Breadth of Study	**Computing & e-safety**	Coding (See Coding Breakdown Below)	Unit 4.2 Online Safety	Unit 4.3 Spreadsheets	Unit 4.4 Writing for Different Audiences	Unit 4.5 Logo Unit 4.8 Hardware Investigators	Unit 4.6 Animation Unit 4.7 Effective Search
Year 5&6 Breadth of Study	**Computing & e-safety**	Coding (See Coding Breakdown Below)	Unit 6.4 Blogging	Unit 6.2 Online Safety	Unit 6.5 Text Adventures	Unit 6.6 Networks	Unit 6.7 Quizzing

Coding Breakdown Year 3/4

Coding Breakdown

YEAR 3 & 4 - CYCLE A					
Using Flowcharts Unit 3.1, Lesson 1	Using Timers Unit 3.1, Lesson 2	'if' statements Unit 4.1, Lesson 2	Coordinates Unit 4.1, Lesson 3	Code, Test and Debug – Unit 3.1, Lesson 4	Design, Code, Test and Debug Unit 4.1, Lesson 1
YEAR 3 & 4 - CYCLE B					
Using Repeat Unit 3.1, Lesson 3	Repeat Until and 'if/else' Statements Unit 4.1, Lesson 4	Number Variables Unit 4.1, Lesson 5	Design and Make an Interactive scene Unit 3.1, Lesson 5-6		Making a Playable game – Unit 4.1, Lesson 6

Coding Breakdown Year 5/6

Coding Breakdown

YEAR 5 & 6 - CYCLE A					
Coding Efficiently Unit 5.1, Lesson 1	Simulating a physical system Unit 5.1, Lesson 2	Friction and Functions Unit 5.1, Lesson 4	Introducing Strings Unit 5.1, Lesson 5	Text Variable and Concatenation Unit 5.1, Lesson 6	User Input Unit 6.1, Lesson 5
YEAR 5 & 6 - CYCLE B					
Designing and writing a more complex program Unit 6.1, Lessons 1 & 2		Decomposition and Abstraction Unit 5.1, Lesson 3	Using Functions Unit 6.1, Lesson 3	Flowcharts and control simulations Unit 6.1, Lesson 4	Text Adventure Unit 6.1, Lesson 6

Progression of Knowledge and Skills

See link here for overall progression linked to National Curriculum : https://drive.google.com/file/d/12hxGXpWU7AjNT2FrXKoIgkX_ub7v8ma0/view?usp=sharing

Assessment of knowledge and skills

See link here for unit specific progression with I Can Statements for assessment:
https://drive.google.com/file/d/1aUmzjGNotxa6UA8RzqqRSjxAFDNTnU5x/view?usp=sharing