

## Computing

As from September 2014, ICT was replaced by a new subject - Computing. 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.

*(Department for Education, 2013)*

Knowsley City Learning Centres were commissioned by Knowsley's Leadership Hub to produce a Computing scheme of work in order to facilitate the implementation of the Computing curriculum across Key Stages 1&2. This is the scheme we are trialling at Frances Olive Anderson C of E Primary School to support the delivery of the computing curriculum. We began using this in the Spring Term of 2016 and we will use the plan from the start – the autumn objectives and area of study to ensure progression and to check that the children have the building blocks without any gaps to further their learning. This will be reviewed in the summer term along with our long term planning.

### Computing Scheme of Work & Planning 2015/16 – Key Stage 1 and Key Stage 2

**What is Computing?** Computing is the new ICT and can be divided into 3 areas: Computer Science, Information Technology and Digital Literacy (which includes eSafety). We have then categorised the aims for the new computing curriculum as identified in the Programme of study issued by the Department for Education into these three areas, detailed below.

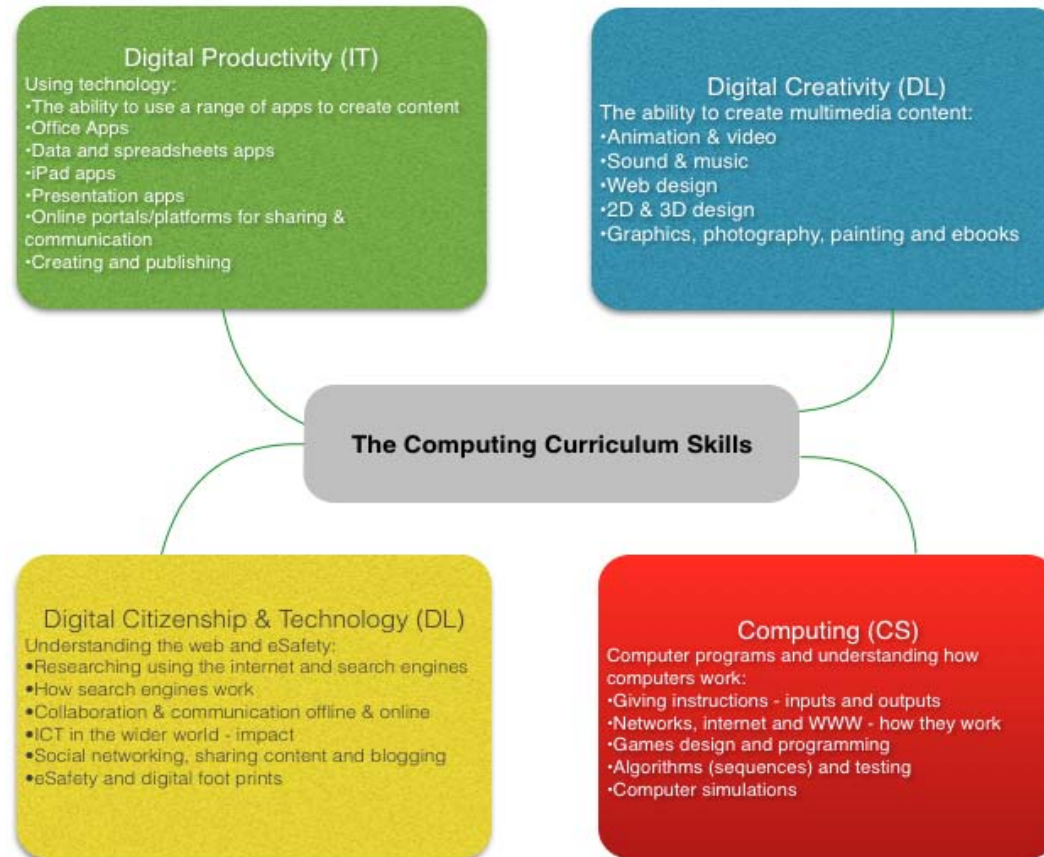
Area	Key Stage 1 Aims	Key Stage 2 Aims
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Area	Key Stage 1 Aims	Key Stage 2 Aims
<b>Computer Science (CS)</b>	<ol style="list-style-type: none"> <li>1. Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>2. Create and debug simple programs</li> <li>3. Use logical reasoning to predict the behaviour of simple programs</li> </ol>	<ol style="list-style-type: none"> <li>4. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>5. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>6. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>7. Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web</li> <li>8. Appreciate how [search] results are selected and ranked</li> </ol>
<b>Information Technology (IT)</b>	<ol style="list-style-type: none"> <li>1. Use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> </ol>	<ol style="list-style-type: none"> <li>2. Use search technologies effectively</li> <li>3. 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</li> </ol>

<p>1. Use technology purposefully to create, organise, store, manipulate and retrieve digital content</p>	<p>2. Use search technologies effectively</p> <p>3. 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</p>
<p>1. Recognise common uses of information technology beyond school</p> <p>2. 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</p>	<p>3. Understand the opportunities [networks] offer for communication and collaboration</p> <p>4. Be discerning in evaluating digital content</p> <p>5. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</p>

## Computing Scheme of Work & Planning 2015/16 – Key Stage 1 and Key Stage 2

For the purposes of our scheme of works we have broken digital literacy into two areas, Digital Creativity and Digital Citizenship & Technology. The reason for this is simple, it is to ensure that we cover each of the areas of what is a vast subject area and offer a balanced curriculum to our children. This is demonstrated in the diagram below, this time instead of linking to the programme of study we have given examples of skills children will develop in



covering these topics. We hope this will allow teachers to make the link between the programme of study and our scheme of work.

Year Group	eSafety	Autumn	Spring	Summer
<b>Reception</b>	Digital Citizenship & Technology (DL) Lv1	Little Computers (CS) Let's Celebrate (DL)	A is for Algorithm (CS) Art Attack (DL)	Junior Explorers (CS) Fantastic Tales (DL)
<b>Year 1</b>	Digital Citizenship & Technology (DL) Lv1	We are all Connected (CS) Young Investigators (IT, DL)	Walking with Dinosaurs (CS) Crazy Creatures (IT, DL)	App Attack - Games Design (CS) Pictures Tell a Thousand Words
<b>Year 2</b>	Digital Citizenship & Technology (DL) Lv1	You've got mail (CS, IT, DL) Whatever the Weather (IT)	Code-tastic (CS) Super Sci-Fi (IT, DL)	Let's Fix IT (CS) Young Authors (IT, DL)
<b>Year 3</b>	Digital Citizenship & Technology (DL) Lv2	Big Robots (CS) Get Blogging (CS, IT, DL)	We love Games (CS) Class Democracy (IT, DL)	My First Program (CS) We are Publishers (DL)
<b>Year 4</b>	Digital Citizenship & Technology (DL) Lv2	Back to the Future (CS) We built this city (DL)	Cars (CS) Hurray for Hollywood (DL)	Interface Designer (CS) Final score (DL)
<b>Year 5</b>	Digital Citizenship & Technology (DL) Lv3	Making Games (CS) News Room (DL)	Maths & Cryptography (CS) Interactive Art Exhibition (DL)	Web Site Designers (CS) Let's change the world: Inventors (CS, DL)
<b>Year 6</b>	Digital Citizenship & Technology (DL) Lv3	Let's learn a language (CS) Heroes & Villains -Graphics (DL)	Appy Times Pt 1 (CS) Stocks and shares (IT, DL)	Appy Times Pt 2 (CS) Young Authors - interactive (IT, DL)

### Digital Citizenship & Technology (eSafety) Levels and Activities

Digital Citizenship & Technology (DL) eSafety Level 1 (Reception, Year 1 & 2)	Digital Citizenship & Technology (DL) eSafety Level 2 (Year 3 & 4)	Digital Citizenship & Technology (DL) eSafety Level 3 (Year 5 & 6)
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Digital Citizenship & Technology (DL) eSafety Level 1 (Reception, Year 1 & 2)	Digital Citizenship & Technology (DL) eSafety Level 2 (Year 3 & 4)	Digital Citizenship & Technology (DL) eSafety Level 3 (Year 5 & 6)
1.1 eSafety Awareness Raising (Video & Class Discussion)	2.1 eSafety Awareness Raising (Video & Class Discussion)	3.1 eSafety Awareness Raising (Video & Class Discussion)
1.2 Sending emails and messages (Maily)	2.2 Communicating On-line and images, Social Networking	3.2 Communicating On-line and images, Social Networking, Sexting, images and grooming (What are you sharing)
1.3 Introducing on-line life and what it is? Including gaming e.g. Minecraft	2.3 Gaming and collaboration	3.3 Gaming and collaboration
1.4 What is Cyber Bullying?	2.4 Cyber Bullying & Report Abuse	3.4 Cyber Bullying & Report Abuse
1.5 Stranger Danger	2.5 Friend or Foe	3.5 Friend or Foe
	2.6 Copy Right, what is it?	3.6 Copy Right, what is it?
	2.7 Passwords & Security (Virus, downloads, pop ups and scams)	3.7 Passwords & Security (Virus, downloads, pop ups and scams)
		3.8 In App Purchases & Mobiles (iPads, Phones etc)