Computing Curriculum 2015 – Plan 1.

<table>
<tr><th colspan="6">Key Stage 1</th></tr>
<tr><th></th><th colspan="3">Autumn Term</th><th colspan="2">Spring Term</th><th>Summer Term</th></tr>
<tr><td rowspan="2">Year 1</td><td rowspan="4">Safe use of technologies
Link with one of the following books: The internet is like a puddle; Chicken Clicking; Penguin Pig.</td><td rowspan="2">How to log on, create files and save work that can be retrieved.</td><td rowspan="2">How to Use IT.
• Pictures
• Text
• Audio.</td><td>How computers are used around school.</td><td>How to keep safe on the computer.</td><td>Algorithms (a list of instructions to complete an activity) and Programming. Offline activities before using Scratch JR (iPad) or Bee-Bot</td></tr>
<tr><td colspan="2">How to use IT (ongoing practise and development of skills.)</td><td>How to use IT (ongoing practise and development of skills.)
How to keep safe on the computer. (Ongoing.)</td></tr>
<tr><td rowspan="2">Year 2</td><td rowspan="2">Keeping Safe on the computer. – introduce KidRex not google</td><td rowspan="2">How to Use IT.
• As above
• Number.</td><td colspan="2">How computers are used outside of school.
How to keep safe on the computer. (Ongoing.)</td><td>Algorithms (a list of instructions to complete an activity) and Programming. Offline activities before using Scratch JR (iPad)</td></tr>
<tr><td colspan="2">How to use IT (ongoing practise and development of skills.)</td><td>How to use IT (ongoing practise and development of skills.)
How to keep safe on the computer. (Ongoing.)</td></tr>
</table>

Beebots if available to be purchased to be used in Year 1 and Reception Summer 2. Summer Term 1 – Begin with playground games

Books needed to be purchased over summer.

Curriculum Balance: 25% Computer Science/65% Digital Literacy/10% ICT

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<table>
<tr><th colspan="5">Key Stage 2</th></tr>
<tr><th></th><th colspan="2">Autumn Term</th><th>Spring Term</th><th>Summer Term</th></tr>
<tr><td rowspan="2">Year 3</td><td rowspan="3">Safe use of technologies
Link with one of the following books: The internet is like a puddle; Chicken Clicking; Penguin Pig. Look at online presence and</td><td>Search Technologies.
Be able to retrieve information efficiently using safe search engines such as Kidrex – not google.</td><td>Programming – Logo or equivalent.
Breaking programs into step by step instructions.
Be able to use logic to explain why it does or doesn’t work.
Understand how changing variables affect the outcomes.</td><td>Computer Networks.
Be able to email safely and collaborate and share on shared sites.
Understand how this is possible within simple networks.</td></tr>
<tr><td colspan="3">How to use IT/Digital Literacy (ongoing practise and development of skills.)
As KS1 but now to select the appropriate software and combine. Introduce Power Point.
Safe use of technologies– ongoing development and reinforcement.</td></tr>
<tr><td>Year 4</td><td>Search Technologies.
As above
To appreciate how information and links are selected and ranked.</td><td>Programming – Scratch or equivalent.
As above using scratch.
Be able to create sequences and make selections.</td><td>Computer Networks.
Use as a communication tool to go beyond emailing. (E.g. blogging).
Be able to collaborate and share.
Understand that networks including the internet can provide multiple services and begin to appreciate how the network operates.</td></tr>
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<table>
<tr><td></td><td></td><td colspan="4">How to use IT (ongoing practise and development of skills.)
Include Power Point and Publisher and combine for effect.
To include audio content.
Safe use of technologies – ongoing development and reinforcement.</td></tr>
<tr><td colspan="6">Key Stage 2</td></tr>
<tr><td></td><td colspan="2">Autumn Term</td><td>Spring Term</td><td colspan="2">Summer Term</td></tr>
<tr><td rowspan="2">Year 5</td><td rowspan="2">Safe use of technologies
Combine this with use of smartphones/tablet.</td><td>Programming – use of Scratch
• Be able to sequence, make selections and use repetition.
• Know the effect of variables.
• Be able to develop logical reasons (applying rules in a systematic way to complete a task) to detect and correct errors (bugs).</td><td>Simulate Physical Systems
(anything that we can attach to a computer other than a screen, eg, lights, buzzers and motors) through the use of programs.
• Computer Aided Design.</td><td>Understand computer networks (inc. the internet)</td><td>How to use IT
see below</td></tr>
<tr><td colspan="4">How to use IT/Digital Literacy (ongoing practise and development of skills.)
To include numerical and data applications including e.g. Excel. To include podcasting, blogs and safe use of messaging.
Safe use of technologies – ongoing development and reinforcement.</td></tr>
</table>

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<table>
<tr><td rowspan="2">Year 6</td><td rowspan="2"></td><td>Programming – use of Scratch
As above.
To understand the effect of inputs (adding data into a program or computer system) and outputs/variables.
Be able to develop logical reasons (applying rules in a systematic way to complete a task) to detect and correct errors (bugs).</td><td>Simulate Physical Systems (anything that we can attach to a computer other than a screen, eg, lights, buzzers and motors – Makey-Makey or Raspberry Pi. Make links to secondary school with the microbit) through the use of programs. This links to KS3
Be able to design games (scratch).
Be able to debug (the process of identifying and removing errors from instructions or programs.) and improve.</td><td>Understand computer networks (inc. the internet)</td><td>How to use IT
see below</td></tr>
<tr><td colspan="4">How to use IT (on going practise and development of skills – research links for topic and literacy.)
To use IT to create multimedia presentations or media (such as games) to audiences beyond the classroom – published through Whitmore website.
Safe use of technologies – ongoing development and reinforcement.</td></tr>
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Year 3 Curriculum Balance: 30% Computer Science/70% Digital Literacy

Year 4 Curriculum Balance: 40% Computer Science/45% Digital Literacy/10% ICT

Year 5 Curriculum Balance: 40% Computer Science/45% Digital Literacy/10% ICT

Year 6 Curriculum Balance: 60% Computer Science/40% Digital Literacy

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Definitions of strands.

Digital Literacy: Understanding the transformative effect of technology/the impact of new technologies on society

Information Technology: Networks and how to use the internet.

Computer Science: Programming and controlling technology. Cause and effect.

Three strands of computing across school: Computer Science / Digital Literacy / IT

Key Features Digital Literacy. KS1: Create, organise, store, manipulate and retrieve • Use technology safely – Personal information – Know where to go for help. KS2: Use search technologies effectively • Select, use and combine a variety of software (including internet services) • Range of digital devices • Including collecting, analysing, evaluating and presenting • Use technology safely – recognise acceptable/unacceptable behaviour – Know where to go for help • Understand networks including what the internet is.

Key Features Information Technology. Common uses of technology KS1 • Networks KS2 • Internet KS2 • Web Searching KS2

Key Features Information Computer Science. Debugging, writing and designing programs. Understanding decomposition (and applying to other areas of the curriculum. Understanding Algorithms.