

## The Oxfordshire ICT Scheme of work

### Year 4

Everything **Bold** is the statutory links from other NC subjects

Everything *Italic* is a suggested subject link through which an aspect ICT could be taught

You have to decide when you are teaching the various components – some are short tasks, other may take several weeks. Many of them will slot easily into your rolling programme – other sections may require discrete ICT teaching.

Any activities on this sheet can have your own substitutions slotted in to fit your topic – a blank scheme outline where you can build in all of your own activities is available.

## Primary IT Scheme of Work

Year Group 4

Term

Topic

Learning Objectives Graphics	Activities	Subject Link	Resources	Learning Outcomes
<ul style="list-style-type: none"> <li>To be able to use a range of visual effects such as reflection and symmetry.</li> <li>To be able to use stamps and/or copy tool.</li> <li>To be able to select areas, copy and resize them.</li> <li>To be able to use save as to keep draft copies.</li> </ul> <p><b>Art and Design</b> 5c</p> <ul style="list-style-type: none"> <li>To be able to develop the knowledge, skills and understanding through using a range of materials and processes including ICT.</li> </ul> <p><b>Maths: Shape Space and Measures</b></p> <ul style="list-style-type: none"> <li>To be able to transform images using ICT.</li> </ul>	<p><i>QCA 4B Developing images using repeating patterns</i></p> <p>Using a digital image as a starting point use a variety of tools to create a collage.</p>	<p>Art Maths</p> <p><i>Art and Design 1c, 2b 5d</i></p> <p><b>Art and Design 5c</b></p> <p><b>Maths Shape Space and Measures 3b, 1c</b></p>	<p><i>PaintSPA</i> RM Colour Magic Scanner Digital camera or clipart</p>	<p>Can use editing skills for visual effects (reflection and symmetry).</p> <p>Can use copy.</p> <p>Can use a variety of materials created on and away from the computer and manipulate or arrange them to make a final image.</p> <p><i>Most children will be able to use a computer graphics program to develop an image using a variety of tools.</i></p>



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Learning Objectives Graphics	Activities	Subject Link	Resources	Learning Outcomes
<ul style="list-style-type: none"> <li>Select Computer Aided Design (CAD) tools of line, new line and grid.</li> <li>To understand how IT enables the design in terms of accuracy, efficiency and the ability to draft and redraft.</li> </ul> <p><b>Design and Technology</b> 2e</p> <ul style="list-style-type: none"> <li>To be able to use finishing techniques to strengthen and improve the appearance of their products using a range of equipment including ICT based sources.</li> </ul>	<p>Use CAD tools to create nets for different boxes as part of work on packages.</p>	<p>Maths Design and Technology</p> <p><b>Design and Technology</b> 2e</p>	<p>FlexiCAD 2 Selection of boxes opened up to illustrate nets.</p>	<p>Can use CAD tools to create objects.</p> <p><i>Most children will be able to use a computer graphics package to develop an image using a variety of tools; be able to create objects using an object based graphics package.</i></p>







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Learning Objectives Music	Activities	Subject Link	Resources	Learning Outcomes
<ul style="list-style-type: none"> <li>To be able to edit musical phrases, by adding or deleting phrases or notes.</li> </ul> <p><b>Music</b> 5d</p> <ul style="list-style-type: none"> <li>To develop the knowledge, skills and understanding of music through the use of ICT to capture, change and combine sounds.</li> </ul>	<p>Experiment with different sounds to create jingles. Perform and amend in light of performance.</p>	<p>Music</p> <p><b>Music 5d</b> <i>Music 4c</i></p>	<p>Tape recorder Microphone Music Explorer</p>	<p>Can use editing skills to present/organise/reorganise sounds/musical phrases.</p> <p>Can create save, retrieve and record sounds.</p> <p><i>Most children will be able to develop and refine a musical composition and adapt in the light of a performance.</i></p>



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Learning Objectives Modelling	Activities	Subject Link	Resources	Learning Outcomes
<ul style="list-style-type: none"> <li>To be able to enter data into a computer simulation.</li> <li>To begin to make accurate predictions.</li> <li>To be able to enter different values into a spreadsheet.</li> </ul> <p><b>Maths: Number</b> 4d</p> <ul style="list-style-type: none"> <li>To be able to recognise, represent and interpret simple number relationships, constructing and using formulae in words then symbols.</li> </ul> <p><i>See also Control Year 4 Modelling effects on the Screen</i></p>	<p>Using a CD ROM simulation such as Castle Explorer ask the children to explore a castle. They have to interact with other occupants to arrive where they want to get to.</p> <p>As part of a topic on the Romans, tell the children they are going to plan a Roman feast for a visiting Senator. Using a prepared spreadsheet eg <i>Party*</i> give the children a budget and ask them to calculate the cost of the feast by changing variables such as the number of guests attending. Ask them to comment on the results, eventually making predictions about the effects of the changes.</p> <p>Explore a prepared spreadsheet eg <i>Find my Rule*</i> to explore number patterns and/or simple rules. Construct and use a formula to transform one list of data to another.</p>	<p>History Geography Science Maths</p> <p><b>Maths: Number 4d</b></p> <p><i>Maths Solving Problems</i></p>	<p>CD ROMs: <i>DK Castle Explorer</i> <i>Logical Journey of the Zoombinies</i> Excel RM Number Magic <i>Dig</i> <i>* Spreadsheet Activities for KS 1 – 3</i> published by OQSA.</p>	<p>Can investigate different options in a model or simulation.</p> <p>Can enter and change data in a simple model.</p> <p>Beginning to make decisions whilst using a model or simulation and trying to predict the outcome.</p> <p><i>Most children will use a spreadsheet to explore different models and investigate patterns and rules.</i></p>





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Learning Objectives Finding Things Out	Activities	Subject Link	Resources	Learning Outcomes
<p><b>CD ROMs and Internet:</b></p> <ul style="list-style-type: none"> <li>To purposefully navigate a CD ROM or Internet page.</li> <li>Begin to use search engines and URLs.</li> </ul>	<p>Use the Internet to find out information related to various topics.</p> <p>Study a contrasting locality</p> <p>Look for examples of the work of William Morris. In groups find the names of two Impressionist painters. Print off a copy of your favourite painting to share with the other groups.</p> <p>Use CD ROMs or the Internet to research scientific topics that cannot be directly observed eg the heart, skeleton, sun, moon, and earth.</p>	<p>History Science Geography Art Design and Technology</p> <p><i>Geography 2d,3d,3f</i></p> <p><i>Art and Design 5d</i></p> <p><i>Science: Life Processes 2c,2e,2f,5b, Materials and their properties 2e, Physical Processes 4b,4c,4d</i></p>	<p>Reference CD ROMs Internet Web Browser www.bbc.co.uk/education</p> <p>CD ROMs <i>Human Body Being a Scientist Space and the Universe</i></p>	<p>Can search a CD ROM or Internet page using hot/hyperlinks.</p> <p>To begin to search using search engines.</p> <p><i>Most children will be able to search a CD ROM or Internet page purposefully following straightforward lines of enquiry.</i></p>



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Learning Objectives Finding Things Out		Subject Link	Resources	Learning Outcomes
<p><b>English: Reading</b> 7a, 9b</p> <ul style="list-style-type: none"> <li>To be able to read a range of materials including print and ICT based reference and information materials (eg dictionaries, encyclopaedias, CD ROMS, Internet)</li> </ul> <p><b>History</b> 4a,4b</p> <ul style="list-style-type: none"> <li>To be able to find out about the events, people and changes studied from an appropriate range of sources including ICT based sources.</li> <li>To be able to ask and answer questions and to select and record information relevant to the focus of the enquiry.</li> </ul>	<p>Use the Internet to find out information related to various topics.</p> <p>Research information relating to a specific topic eg Roman roads using BBC Education pages. Use the information to answer questions and produce topic work.</p>	<p><b>English: Reading 7a, 9b</b> <i>Reading 2a</i></p> <p><b>History 4a, 4b</b></p>	<p>Reference CD ROMs Internet Web Browser www.bbc.co.uk/education</p>	<p>Can search a CD ROM or Internet page using hot/hyperlinks.</p> <p>To begin to search using search engines.</p> <p><i>Most children will be able to search a CD ROM or Internet page purposefully following straightforward lines of enquiry.</i></p>



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Learning Objectives Finding Things Out	Activities	Subject Link	Resources	Learning Outcomes
<ul style="list-style-type: none"> <li>• To be able to design a simple questionnaire to record numbers, text and choices.</li> <li>• To be able to add records and fields to a file.</li> <li>• To use ICT to create and interpret pie charts.</li> <li>• To understand that pie charts can be used to make comparisons.</li> <li>• To use ICT to create line graphs.</li> <li>• To understand that line graphs can be used to show continuously changing information.</li> </ul> <p><b>History</b> 4b</p> <ul style="list-style-type: none"> <li>• To be able to ask and answer questions and to select and record information relevant to the focus of the enquiry.</li> </ul>	<p><i>QCA 4D Collecting and presenting information: questionnaires and pie charts</i></p>	<p>Maths Science Geography History</p> <p><b>History 4b</b></p>	<p>Information Workshop / or Magic First Workshop Excel</p>	<p>Can design questionnaires, which match the structure of the database.</p> <p>Be able to add information to a file.</p> <p>Can present and interpret a range of appropriate graphs to answer a simple question.</p> <p><i>Most children will be able to collect data in a way that aids entry into a data handling package and use it to create bar charts, pie charts and line graphs.</i></p>









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Learning Objectives Control and Measurement	Activities	Subject Link	Resources	Learning Outcomes
<p><b>Maths:</b> <b>Shape Space and Measures</b> 2c</p> <ul style="list-style-type: none"> <li>To be able to make and draw with increasing accuracy 2D and 3D shapes and patterns: recognise reflective symmetry in regular polygons, recognise their geometrical features and properties including angles, faces, pairs of parallel lines and symmetry, and use these to classify shapes and solve problems.</li> </ul>	<p><i>QCA 4E Modelling Effects on Screen</i> <i>First three short focussed tasks</i></p>	<p><b>Maths:</b> <b>Shape Space and Measures 1c, 2c</b></p>	<p>Super Logo RM LOGO Acetate sheets/tracing paper</p>	<p>Can write a series of instructions to produce a pre-planned route or shape.</p> <p>Can record instructions and use these to begin to correct mistakes.</p> <p>Can use the repeat command to produce regular shapes.</p> <p>Can use increasingly sophisticated sequences of instructions involving repeat, pen up, pen down.</p> <p><i>Most children will be able to program a screen turtle to produce a regular shape and be able to move the screen turtle without drawing a line.</i></p>



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Learning Objectives Control and Measurement	Activities	Subject Link	Resources	Learning Outcomes
<ul style="list-style-type: none"> <li>To be able to control a simple device (motor, light bulb, etc) by giving direct instructions.</li> </ul> <p><b>Design and Technology</b> 4c</p> <ul style="list-style-type: none"> <li>To be able to understand how mechanisms can be used to make things move in different ways, using a range of equipment including an ICT control program.</li> </ul>	<p><i>QCA 5E Controlling devices (first focussed task)</i></p>	<p>Science Design and Technology <b>Design and Technology</b> <b>4c</b></p>	<p>Control Box Robolab/Lego Technic</p> <p><i>Oxfordshire Science Scheme of Work E45:E48</i></p>	<p>Can record instructions to control a device and use these to begin to correct mistakes.</p> <p><i>Most children will be able to create a simple procedure to produce a desired outcome.</i></p>

