ICT in the Foundation Stage

A skills-based curriculum framework

Written by Cathi Young and Marion Reilly 2004
Updated with support from the Tower Hamlets Early Years Team and e-Learning Team in 2007
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Introduction

Background

The Tower Hamlets LEA ICT and Early Years Advisory Teams created this document in response to a number of queries, suggestions and requests for guidance from Early Years practitioners. Both the DFES curriculum guidance and the Tower Hamlets Planning For Progress mention ICT as part of the broad and balanced curriculum, but there is little detail, and almost no elaboration on the progression of skills, concepts and experiences that will help the Foundation Stage child to develop confidence and the basic skills that they will be expected to use in Key Stage 1.

Early Years Context

Children will have some understanding of the uses of ICT in the context of everyday experiences. For example they might have used a pelican crossing to cross the road safely, watched items of shopping being scanned at the supermarket and perhaps helped to programme a washing machine.

Practitioners in schools and settings support children’s learning about ICT using the same approach as for all the areas of learning. They build on knowledge, skills and understanding that children have so far and provide a balance of child-initiated and adult-led learning opportunities.

Children can explore and learn about the everyday uses of ICT through role play using real and pretend equipment. As they learn, within the context of adult-led activities, how to use, digital cameras, CD players and different kinds of computer software they can begin to use these things more independently and for their own purposes.

This document aims to:

- Offer a practical, skills-based framework for ICT that can be used by all Foundation Stage practitioners, in a range of settings, including the non-maintained sector
- Provide specific and detailed guidance, suggestions and teaching points
- Support practitioners to focus in on skills and vocabulary when children are engaged in ICT, and to offer guidance on what can be done next to move children on
- Provide units of work that can be built into the normal structure of the Early Years curriculum.
- Offer guidance and advice on a range of issues including classroom organisation, integrating ICT in the wider curriculum, good practice with computers in early years and the use of a wide range of non-computer technologies.
How to use the framework

The document is not intended to be prescriptive. It is intended to be a guide to the types of skills, knowledge and attitudes to encourage in young children working with ICT. It is intended to help staff to plan for teaching ICT skills in a discrete and progressive way.

The Planning Units

The framework contains 12 Units, each covering an area of the ICT curriculum. The units are arranged in a broadly progressive order, but practitioners can of course use their own discretion when choosing how to use the materials. The skills and knowledge outlined are cross-referenced with the Foundation Stage Curriculum Document and Planning for Progress. The Stepping Stones referred to are presented in italics and the Early Learning Goals are in bold in line with the Planning for Progress format.

The skills and knowledge are specifically about teaching ICT as a discreet subject but most activities are cross-curricular.

The skills and knowledge are specifically about teaching ICT as a discreet subject but most activities are cross-curricular, and we have wherever possible included links to the other curricular areas.

The Activity Sheets

There are two activities for each unit, and there is progression between the first and second activity. This makes it possible to use the framework in a spiral curriculum from Nursery to Reception if appropriate. The activity sheet takes one of the suggested activities from the planning sheet; expanding it and offering a much more structured approach. The activity sheet is divided up into the following sections:

- Learning objectives
- Activity details
- Handy Hints
- What to talk about – before and during the activity
- Key questions for assessment

The learning objectives focus on the ICT skills as do the key questions for assessment. This is to enable you to make an assessment of the child’s skills and understanding in that particular area and to plan the next step.

The framework is designed to be used in many different settings and with a range of approaches and teaching styles. Please use it to support YOUR teaching and daily practice.
Outline of unit plans and related activities

The unit structure is not intended to be prescriptive. It is intended to be a guide to the types of skills, knowledge and attitudes to encourage in young children working with ICT. Although the units form a basic progression through a range of ICT skills and activities, they can be used in whatever way suits your practice, setting and curriculum arrangements.

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<th>Activity 2</th>
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<td>Getting started</td>
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<td>Introduction to computer:</td>
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<td>5</td>
<td>Introduction to modelling</td>
<td>Teddy Gets Dressed</td>
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<td>6</td>
<td>Introduction to graphics</td>
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<td>Introduction to CD-ROMs</td>
<td>Electronic Stories</td>
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<td>Introduction to control 1:</td>
<td>How Does it Work?</td>
<td>Technology World</td>
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<td>9</td>
<td>Introduction to control 2:</td>
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<td>11</td>
<td>Introduction to the digital camera</td>
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<td>12</td>
<td>Introduction to the Internet</td>
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</table>
1. Introduction to the computer 1 - Getting started

### Learning objectives

<table>
<thead>
<tr>
<th>Foundation Stage Curriculum Guidelines</th>
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<tbody>
<tr>
<td>✓ To show an interest in ICT</td>
</tr>
<tr>
<td>✓ To develop and refine manipulative control and dexterity</td>
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<table>
<thead>
<tr>
<th>Other objectives</th>
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<tbody>
<tr>
<td>• To be able to use the computer comfortably and safely and with care.</td>
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<tr>
<td>• To be able to name the basic parts of the computer</td>
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<tr>
<td>• To have an awareness of boundaries and behavioural expectations within the setting</td>
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### Key Questions for Assessment

- How does the child approach the computer? i.e. are they confident/hesitant/reluctant?
- What do they actually do?
- Comment on the child’s mouse control - which hand do they use?
- Do they show understanding of how the mouse affects what happens on screen?
- Do they right click/left click only/both?
- Does the child talk about what they are doing?
- Does child have access to computer at home? How do they use it? With whom?

### Resources

**Software:**
- RM Colour Magic, Paintpot,
- My World - Dress Teddy and Find Teddy
- Microsoft Paint
- 2Simple Infant Toolkit – 2Paint

**CD-ROM activities:**
- Millie’s Maths House - Build a Bug.
- PB Bear - Balloon Race and Where’s that Bear
- Foundation Mouse Skills
- Dr Seuss’ ABC, and Green Eggs and Ham
- DK Incredible Amazing Dictionary

### Activities

- Show a group of children all the different parts of the computer, naming them. Compare them to similar items that the children will know – TV screen etc. Discuss the importance of not pressing the buttons for on/off and why. *(See activity sheet – What’s This Called?)*  
  *When children first encounter the computer it is useful to find out if they have one at home and whether they are allowed to use it.*

- Use a program that allows them to move the mouse, click on something and get a reaction. Talk about the relationship between the mouse and the pointer on the screen, and their actions on it. Show them what they can touch i.e. the mouse, mouse mat and the keyboard. Discuss keeping the mouse on the mat - show them the ball inside & explain how it works  
  *Talk about how to sit at the computer i.e. legs under table looking at the screen with the mouse on the side of the hand they use most. Encourage them to left click only. (Put a small sticker on the left mouse button to encourage correct use)*
  *Also build confidence by using simple graphics/painting software*

### Skills and knowledge

**Children will have experience of the following skills and concepts**

<table>
<thead>
<tr>
<th>ICT</th>
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<tbody>
<tr>
<td>• Naming of parts of the computer, including screen, keyboard, mouse, printer, disk-drive cable, floppy disc, CD-ROM etc</td>
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<tr>
<td>• The fact that the computer needs electrical power to work</td>
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<td>• The idea that the computer’s parts are connected by wires</td>
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<tr>
<td>• The correct way to hold the mouse, and sit in front of the computer</td>
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<tr>
<td>• The concept of the mouse moving a pointer and keystrokes creating letters on screen</td>
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</table>

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>• The idea of appropriate behaviour boundaries when using computers; e.g. not turning the power off, not inserting fingers/pencils into the disk drives, pressing the keys gently</td>
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<tr>
<td>• The confidence to try new things</td>
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<tr>
<td>• An understanding that the computer needs to be shared with others</td>
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Unit 1 - Introduction to the computer

What's This Called?

Learning Objectives
- To show an interest in ICT
- To be able to name the basic parts of the computer
- To have an awareness of boundaries and behavioural expectations within the setting

Key Questions for Assessment
- Is the child interested and enthusiastic about using the computer?
- Is the child able to name any parts of the computer?
- Is the child able to follow instructions for use of the computer?

Activity Details
With two children talk about what they think the computer is, what does it remind them of? Ask them if any of them know how it works. If possible show them the cables leading to and from the components and name the components – SCREEN, HARD DRIVE, KEYBOARD, MOUSE, MOUSE MAT, CD-ROM DRIVE. Tell them what each thing does. Let them use the keyboard and the mouse so that they can see that what they do affects what happens on the screen. A good program to do this with is a paint program where you can set up the space for children to write their names so they can draw with the mouse and use the keyboard to write their name. Talk to the children about what parts of the computer they are allowed to touch and those they are not. There are other rules you may want to discuss with your colleague such as whether you want the children to log on and select CDROMS or programs independently. You need to decide on these rules as a team so that the children have a consistent code for using the computer. Turn taking will also need to be organised.

Handy Hints
You may want to let children learn how to log on – this is a good time to show them but also make a sign to put up next to the computer which shows what to select and where to click. This is the sort of activity that could be carried out in a larger group if you had enough space e.g. at story time – you could then show the children how to move along in a CDROM story and ask them to come up and have a go at clicking on the mouse.

What to talk about

Before
- I’m going to play on the computer today…have you got a computer at home?
- I wonder what a computer does?
- Have you played on one before? – What did you play?
- We only have 2 chairs here why do you think that is?
- What if someone else wants to use the computer?
- What do you think would happen if I hit the keyboard really hard with my hand or a brick?
- If you see someone being silly by the computer what could you say?

During
- What does the screen remind you of?
- Look at all the letters on the keyboard – do you know any of those?
- This is the mouse – see what happens when you move the mouse? You should try and keep the mouse on the mouse mat - this keeps it cleaner and makes it easier to use.
- There are two buttons on the mouse – you only click on the left button with the star(sticker) on it.
- Look what happens if I do this…would you like a go?
- Did you see where I was pressing my finger?
2. Introduction to the computer 2 - The mouse

Learning objectives

<table>
<thead>
<tr>
<th>From Foundation Stage Curriculum Guidelines</th>
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<tbody>
<tr>
<td>✗ To show an interest in ICT</td>
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<tr>
<td>✗ To develop hand-eye coordination</td>
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Other objectives

- To be able to manipulate the mouse with increasing control.
- To be able to click the left mouse button when appropriate.
- To be able to click and drag/drop.
- To be able to make marks on screen with increasing skill, using a painting program.

Key questions for assessment

- How does the child approach the activity?
- Is the child able to listen to/ follow instructions?
- Is the child able to use any vocabulary modelled?
- Does the child know how to use the program from previous experience/ self initiated exploration? Comment on the child’s mouse control.
- Does the child talk about what they are doing?
- Does the child know how to print?

Resources

Software:
- Colour Magic,
- Paintpot, or other drawing/painting program
- 2 Simple Infant Tookit – 2 Paint
- Smart Alex - point and click software

CD-ROMs:
- Foundation Mouse Skills CDROM
- DK My First Incredible Amazing Dictionary
- Talking book CD-ROMs with interactive pictures eg Dr Seuss’ Cat in the Hat etc
- Activity-based CD-ROMs like DK’s PB Bears Birthday - Balloon Race Game

Activities

Show children that pointing and clicking at pictures on a CD-ROM (e.g. DK’s Incredible Amazing Dictionary) will result in a sound or animation effect. Show children how to play interactive mouse-clicking games such as Balloon Race on PB Bear's Birthday, or What's Behind the Door on Amazing Dictionary. (see activity sheet – Learning How to Click)

Allow children time to explore the activities both independently, and with support.

Using a program that allows clicking, dragging and dropping of onscreen items (eg My World) show children how to move items around the screen and see a result. The My World Blocks screens are ideal for this. (see activity sheet – Building Blocks)

You could use a specific software package like Foundation Mouse skills (see software list) and allow children to work through the structured activities. Encourage children to listen and follow instructions on the screen. This is particularly good for children with little or no experience of using a computer.

Allow children to experiment with making marks on screen using a simple painting program like Colour Magic or Paint. Discuss the correlation between what they are doing with the mouse, and what is happening on screen. Talk about how sounds help you to do this if the program uses them.

Skills and knowledge

**Children will have experience of the following skills and concepts**

**ICT**
- Learning mouse related vocabulary relating to the computer and how to use it. (e.g. click, button, drag, drop)
- Using the mouse to affect what happens on the screen - i.e. clicking, double clicking, dragging, holding down
- Exploring a range of software, building confidence and dexterity

**Other**
- Hand-eye co-ordination
- Ability to listen and carry out simple instructions
- Developing perseverance in finishing a task accurately
Learning How to Click

Learning Objectives
- To show an interest in ICT
- To be able to manipulate the mouse with increasing control.
- To understand that moving & clicking the mouse causes something to happen on the screen.

Key Questions for Assessment
- How does the child approach the activity?
- Can the child move the mouse purposefully and make something happen by clicking?
- Can the child use the mouse accurately?

What to talk about

Before
- Talk about the names of the parts of the computer - mouse, screen, mouse mat.
- Show the ball inside the mouse and explain how that works.
- Re-iterate computer ‘rules’
- Explain how the mouse should stay on the mat.
- I wonder why it’s called a mouse.
- How many buttons are there?

During
- Try to click on the button with the sticker.
- Can you move the mouse really slowly?
- Can you show me where the pointer is on the screen?
- What will happen if you click on ....?
- Can you do that again?
- What’s happened to the arrow/ladybird/pointer?
- Is this a good place to click?
- How can you tell?

Activity Details
Use My First Incredible Amazing Dictionary or similar CD-ROM, or appropriate website. This activity works well with an adult and two children at a computer. Load the CDROM and navigate to the first interactive screen. Demonstrate how moving the mouse makes the on-screen pointer move. Ask the children to have a go at moving the mouse (without clicking yet). Ask the children to predict what might happen when they click on an image. On this CDROM when you click on a letter or object something happens. Encourage children to explore by clicking on different letters and images. Support them in talking about what is happening and how they are making things happen by clicking. Show them that the on-screen pointer changes shape when it moves over a clickable area of the screen. Show children how to left click only.

Handy Hints
It is possible to buy small ‘mice’ that fit better in the hands of really young children.
Put a sticker on the left mouse button and tell children to click this button only.
Watch how the child clicks and encourage them to click only once and not to hold the button down at this stage.
Explain that it is necessary to move the mouse very slowly.
Show the pointer on the screen and how the mouse moving affects it. (You can change the size, colour and speed of the pointer in the Windows Control Panel.)
Building Blocks

Learning Objectives

• To learn that moving the mouse moves the screen pointer
• To understand that clicking and dragging on screen has an effect
• To begin to understand that the screen can simulate the real world
• To develop hand eye co-ordination

Key Questions for Assessment

• Can the child move the mouse purposefully and make something happen by clicking?
• Can the child use the mouse accurately?
• Is the child able to use any vocabulary modelled – eg click, mouse, button
• Can the child relate the screen to the ‘real’ blocks

Before

• Talk about using the mouse to move things on the screen
• Can you get me a cube?
• How do you move the cube around?
• What does that little arrow do?
• Which button do I use to click?
• How many times should I click?
• How do you know when it is Amira’s turn?

Activity Details

Show the children, in small or larger groups, the My World Blocks screen, where children can build a 3-D picture using simple on-screen cubes.

Let the children explore the activity with no adult input unless asked for. Once the children have had a chance to play they will be able to focus on a more specific task.

When the children are familiar with the screens, and know how to drag and build with the blocks, introduce a small number of Unifix/Multilink cubes.

Start with one, and ask the child to copy your one cube on the screen. Then do the same with two cubes joined. Compare the real cubes with the screen cubes.

Then try three, joined first in a line, and then in an L shape. Once confident, children can work in pairs, challenging each other to copy either screen or real shapes with the other version, with an increasing number of cubes.

Handy Hints

Start with only a few cubes, not more than four.
Use an egg timer to control turn-taking, and add an element of challenge to the activity, if appropriate.
If multilink are unavailable, use ordinary cubes or square bricks.
To help with spatial awareness, real blocks could be made with the corresponding coloured sides to match the on-screen cubes.
The screens can be printed and used for similar activities away from the computer.

What to talk about

• Talk about the way the cubes fit together on screen.
• Can you put two together? What about three together?
• What happens when they touch?
• Can you build a tall tower? A castle? A bridge?
• When working with the ‘real’ cubes, ask the children to keep looking at the way the cubes fit together
• Are they stuck together? How many cubes can you see? How many corners are there?
3. Introduction to the computer 3 - The keyboard

Learning objectives

Foundation Stage Curriculum Guidelines

- To show an interest in ICT
- To manipulate objects with increasing control

Other Objectives

- To be able to use a keyboard
- To recognise letters in own name out of context
- To understand that the computer can be used to communicate
- To know that print carries meaning

Key Questions for Assessment

- How does the child approach the activity?
- Can the child use the keyboard effectively i.e. press keys firmly but without holding down?
- Does the child name individual letters or numbers?
- Can the child use any of the other keys demonstrated appropriately i.e. spacebar, backspace delete and return?
- Note any comments the child makes about the sounds of letters, words, and names.
- Is the child able to print aided or unaided?

Resources

Software:
- Word processing package such as Talking First Word or Textease, 2Simple Toolkit – 2Publish
- Simple text editor such as Note Pad or Text pad
- Clicker 3 or 4

Other:
- Prepared sheets with letter patterns
- Name cards, Large keyboard poster
- Keyboard stickers with lower case letters
- Lower Case keyboard

Activities

- Ask individuals to write their names using the keyboard. Show them the shift key, space bar, enter button and backspace and explain what they do. Use a talking Word Processor allows the children to play back their names and hear the result. Children may want to write other words or click on numbers and have them read. Encourage them to print out what they have done. (See activity sheet – Name Writing)
- Show the children the numbers and letters on the keyboard let them explore typing in letter strings.
- Practice typing in letter patterns using a sheet of examples, or prepared files of patterns that children can continue. (See activity sheet – I Can Type)
- Explore the numbers on the keyboard, using familiar numbers like the year, and birthdays.

Skills and knowledge

Children will have experience of the following skills and concepts

ICT

- The idea that there is a direct relation to pressing the keys and what appears on the screen.
- The ability to use some of the keyboard
- An increasing ability to locate specific letters and symbols
- Simple editing skills such as putting in a space, and deleting a letter using backspace
- Printing their own work
- Knowing that you need to wait for the information to get from the computer to the printer - only click print ONCE!!!

Other

- Knowing that print carries meaning
- Ability to recognise letters and numbers out of context
- Listening skills
- Hand-eye co-ordination
Unit 3 - Intro to computer: The keyboard

**J Can Type**

**Learning Objectives**
- To be able to use a keyboard
- To be able to locate specific keys on the keyboard more easily
- To understand that the computer can be used to communicate
- To know that print carries meaning

**Key Questions for Assessment**
- Can the child use the keyboard effectively i.e. press keys firmly but without holding down?
- Does the child name individual letters or numbers?
- Can the child use any of the other keys demonstrated appropriately i.e. spacebar, backspace delete and return?

**Activity Details**
Children new to the keyboard will need to explore what it can do.
First show the children that the keyboard can be used to make long strings of letters, numbers and symbols, with spaces in between. Tell the children the correct name of the keys, the space bar etc. Allow children to experiment with letter and number strings, and depending on their stage of Literacy, ask them if they have meaning, or tell a story. Print out the text and ask the children to add a picture, or more writing using a pencil.
To focus on keyboard skills, try short focused sessions where children copy a letter pattern typed in by an adult, or another child.
Try a letter of the alphabet, or two alternately, or upper and lower case. Ask the children to copy your letters as accurately as they can, and print out the results. Children can also copy from a printed sheet with letter and number patterns.

**Handy Hints**
Build in turn-taking and timing to ensure that children are only spending short periods copying letters and numbers.
If two computers are side by side, children could race to see who can type the fastest, or most accurately.
Show children how to press the keys clearly, you may need to exaggerate the finger lifting off the key initially to prevent children holding the key down and typing lots of the same letter. You can adjust the sensitivity of the keyboard in the Windows Control Panel - Keyboard section. (make the Repeat Delay time longer.)

**Before**
- Do you know what this is called? (Keyboard)
- Have you used this before? Can you show me what to do?
- What happens if you hold your finger on a key for a long time?
- Can you show me some printed typing in the classroom?
- Who do we know who uses one of these?
- Shall we go and see how she/he uses the keyboard?
- How many hands shall we use?

**During**
- Do you know what this letter is called?
- Why does that letter look different? (Capitals)
- Is there a difference between the letter on the keyboard and the letter on the screen? (for upper case keyboards)
- Do you know what sound this letter makes?
- How did you get this space between these letters?
- What key did you press?
- What is it called? (Spacebar)
**Unit 3 - Intro to Computer: The keyboard**

**Name Writing**

**Learning Intentions**
- To be able to use a keyboard
- To recognise letters in own name out of context
- To understand that the computer can be used to communicate
- To manipulate objects with increasing control
- To know that print carries meaning

**Key Questions for Assessment**
- Can the child use the keyboard effectively i.e. press keys firmly but without holding down?
- Does the child name individual letters or numbers?
- Can the child use any of the other keys demonstrated appropriately i.e. spacebar, backspace delete and return?
- Note any comments the child makes about the sounds of letters, words, and names.

**What to talk about**

**Before**
- Have you used this before? Can you show me what to do?
- What happens if you hold your finger on a key for a long time?
- Can you find the letters in your name?
- Does it sound like your name?
- I wonder why it sounds different?
- Do want to type anyone else's name?
- Can you remember how to print?
- What icon do you think you need to click on to print?

**During**
- Can you write your name for me?
- Do you know what this letter is called?
- Why does that letter look different? (Capitals)
- Do you know what sound this letter makes?
- Do you know what this is called? (Keyboard)

**Activity Details**
Before doing this keyboard activity ask children to write their name using pens/pencils. Have name cards at the computer for children to copy.
Show children the keyboard and how it works. Use a simple word-processing package such as 2Publish from the 2Simple Infant Toolkit. Show them the shift key to make capital letters, the spacebar and backspace button. (In Talking First Word use Yellow or Green level.)
Show children how to change the size of their name by using the increase/decrease font size button on the tool bar.
If possible, show them how to make the computer 'read' their name. Discuss how their name sounds when the computer says it. Show them how to print out their work.

**Handy Hints**
You can use any word processing package to do this activity but Talking First Word is appropriate for very young children. Use a keyboard with lower case letters if possible. If not explain that the upper and lower case letters are the same but look different. It would be useful to have an alphabet nearby. Also have a class list nearby for those children who are familiar with the keyboard and able to do more.
Where possible use the icons on the toolbar rather than pull down menus.
Explain that the keys need to be touched once, quickly. Show the children what happens if you hold the key down.
You can adjust the sensitivity of the keyboard in the Windows Control Panel - Keyboard section. (make the Repeat Delay time longer.)
4. Role Play with ICT

Learning objectives

Foundation Stage Curriculum Guidelines

- To show an interest in ICT
- To understand the uses of ICT in everyday life

Other objectives

- To develop confidence in using ICT equipment in modelled ‘real life’ situations
- To act out ICT behaviour in play situations

Key Questions for Assessment

- Does the child show an interest in the ICT equipment and theme?
- Does the child talk about their experiences of ICT?
- Does the child use the toys appropriately?
- How does the child act in role/respond to modelled behaviour?
- Does the child use appropriate vocabulary?

Resources

Home corner resources with a technology theme - washing machines, microwaves, telephones, radios, digital clocks etc.
Toy versions of technological equipment such as electronic tills, mobile phones etc.
Old (non working) keyboards, monitors, mice, printers, phones, fax, tape-recorders etc.
Old floppy disks, boxes, recyclable materials to make models of ICT equipment.
Photographs of people using ICT equipment (useful for anti-stereotyping).

Activities

- Look at photographs of ICT in use and talk to the children about their experiences. Catalogues and technical magazines are a good source of these kinds of pictures. Use the Internet to find suitable pictures – Google Image Search will help to find specific pictures quickly.

- In your home corner accentuate the ICT aspects of each play scenario. Try using telephones, old fax machines, a tape-recorder with an external microphone, ’pretend’ video/DVD player, microwave, washing machine, digital camera etc.. Add dial switches and function buttons using card and paint to make these more meaningful and ‘realistic’ for the children. (See activity sheet – At the Office) Play alongside the children in the home corner. Observe how they use the different ICT elements you have introduced, including vocabulary, and model where appropriate.

- Create a role-play scenario that emphasises ICT. (See activity sheet – Pretend Technology)
  - School Office
  - Travel Agents
  - Police Station
  - Doctors/Dentist/Hospital/Vets
  - Supermarket

Use old computer parts such as screens, mice and keyboards, or make them using boxes. Make the ICT equipment more real by cutting holes for floppy disk drives etc. Make writing tools available for children to create screens and printouts.

Skills and knowledge

Children will have experience of the following skills and concepts:

ICT

- Recognising familiar things that use technology to make them work
- Learning and using ICT and technology specific vocabulary
- Trying out ICT and other technology in a safe and exploratory environment
- Practicing appropriate behaviour and attitudes to technology, with adult role models

Other

- How to behave in role
- Ability to co-operate in role play
- Ability to sustain play
- Ability to develop an imaginative theme
At the Office

Learning Objectives
- To understand the uses of ICT in everyday life
- To develop confidence in using ICT equipment in modelled 'real life' situations
- To act out ICT behaviour in play situations

Activity Details
Set up an office in the role-play area. Before you do this take the children to the school office to have a look at the types of equipment used there. Ask the children to make a list of all the things you'll need to set up an office. A list may include: computers, telephones, answering machine, fax, photocopier, calculators, kettle.

Use real objects if available e.g. telephones, keyboards, calculators, tape recorder for answering machine.

Make the rest using cardboard boxes e.g. photocopier, computer screen, fax machine.

Play alongside the children modelling language and how to use the equipment.

Handy Hints
Before doing this activity show the children photographs and pictures of people in offices. Talk about what happens in the school office.

Talk about the ICT equipment being used, what it does and how it works – try to gauge children’s understanding of what things are used for.

Pre-record some messages on a tape for the answering machine so that children can play them back and carry out instructions such as sending faxes, typing letters, making photocopies.

Talk to the school administrator about doing an interview (that you can record) to find out about their role. Invite them to your role-play office.

Before
- What do you think…. does in the office? How?
- What do you think….uses the computer for?
- Do you know what an answering machine, fax, photocopier does?
- I wonder what is happening in this picture…
- Have you got a computer, telephone, fax, etc at home?

During
- I need to write a letter, how should I do it?
- Oh I think the phone was ringing when there was no one in the office – do you think there may be a message on the machine?
- I have to send a fax to…can you show me how to use the fax machine.
- If I want to make a photocopy I have to press the green button.
**Unit 4 - Role Play with ICT**

**Pretend Technology**

**Learning Objectives**
- To understand the uses of everyday technology through a play setting.
- To be interested in how things work.
- To develop confidence in using ICT equipment in modelled 'real life' situations.
- To act out ICT behaviour in play situations.

**Key Questions for Assessment**
- How much understanding of everyday technology does the child display?
- Does the child know how some things work? How is this apparent?

**Activity Details**

Make models to use in the home corner of items that have a 'smart' chip e.g. a kettle, a washing machine, and a microwave. Other items you may want to make are an answering machine, a television, a CD Player, mobile phone and other technology you might find at home.

You may already have some appropriate items in the home corner but they may need to have buttons or controls put on them – do this with the children and talk to them about what buttons are needed and why. Play alongside children modelling the behaviour and language for use of each item e.g. cooking food in the microwave, boiling the kettle, putting the washing machine on.

Make remote controls to work a television and CD player. Talk to the children about how things work to find out what they already know.

For role play ideas using different scenarios, including an office, see At the Office activity.

**Before**
- Have you got one of these at home?
- What does a microwave do? I wonder how it works?
- If we leave the door open what will happen?
- What does a washing machine do? Does it only wash clothes?
- What else do you need when you wash things?
- Where does the water come from? How does the water know when to go into the machine?
- Why does the kettle switch off?
- How does it know when it’s time to switch off?

**During**
- I’m hungry I need something to eat really quickly – how can I heat some food? I wonder why it’s so quick?
- How do we know how long to keep it in the microwave? How do we know? What if we leave it in too long?
- I need to wash some of these clothes – do you know how the washing machine works? When it’s finished I want to hang the clothes on the line – when will I know that it’s finished?
- How could we find out if anyone telephoned us when we were out of the house? Do you know how the answering machine works?

**Handy Hints**

If you have access to the real objects – use them in an initial discussion with the children. If you need to make a microwave etc it is helpful to have a real one/ photograph of one. Don’t have too many controls on the items as this could be confusing. On/off, timer switch.
5. Introduction to modelling

**Learning objectives**

<table>
<thead>
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<th>Foundation Stage Curriculum Guidelines</th>
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<tbody>
<tr>
<td>✔ Develop exploratory impulses</td>
</tr>
<tr>
<td>✔ To describe simple features of objects and</td>
</tr>
<tr>
<td>events clearly, with some questions and</td>
</tr>
<tr>
<td>explanations</td>
</tr>
<tr>
<td>✔ Show interest in why things happen</td>
</tr>
</tbody>
</table>

Other objectives

- Develop language around size, position and shape

**Key Questions for Assessment**

- Is the child interested in the activity?
- Can the child offer any ideas or suggestions?
- Can the child use a range of vocabulary for size, shape, colour and position of objects?
- Can the child relate the on screen activities to ‘real life’ situations? Do they know the difference?

**Resources**

**Software:**

- My World screens including: Dress the Teddy, Tiles, Blocks, Faces etc.
- 2Simple Modelling Toolkit, Sherston Model Shop

**Other:**

- Teddy and clothes, 2-D shapes, Multilink blocks that click together, Mirrors

**Activities**

- Start with a 'real' activity that can be simulated later using ICT – for example dressing a teddy. Then demonstrate the ICT version. Practice dragging and dropping items around the screen. Are the clothes on in the right order? Discuss the differences - speed, accuracy, enjoyment, can you easily change your mind/go back? *(See activity sheet – Teddy Gets Dressed)*
  
  *Talk about how to pick up and drop the pieces on the screen - using the mouse to drag and drop. (It may be useful to mark the left button to help children remember which one to click). Add variations: Race with your partner, dress teddy for cold/hot weather,*

- Use mirrors to look at children’s own faces and then use the Faces program in My World to recreate their own expressions
  
  *Practice using other My World screens - Tiles, Blocks, Face etc, remembering to relate it back to the real world when possible.*

- Use simple simulation/adventure game software to explore the idea of interacting with a simulated story world – eg Goldilocks, Where’s Spot etc. Children can re-tell a familiar story with known characters, and then use the computer to change what happened, and make different choices for these characters. *(See activity sheet – Make my Own Story)*

**Skills and knowledge** Children will have experience of the following skills and concepts

**ICT**

- Using a mouse to click on screen icons
- Dragging and dropping items using the correct mouse button
- Dragging and dropping items purposefully, to achieve an end point or complete a task
- Understanding that the ICT activity is a SIMULATION of the real life activity, and may be different in many ways
- That using a simulation allows some choices to be made more easily/quickly than in the real-life situation

**Other**

- Ability to work with a partner, taking turns
- Ability to listen in a small group
- Ability to follow a simple/more complex sequence of instructions
- Ability to work towards achieving a simple task outcome, and to know when it has been achieved
- Ability to sequence events in correct order
**Make my own Story**

**Learning Objectives**
- Develop exploratory impulses
- To describe simple features of objects and events clearly, with some questions and explanations
- Show interest in why things happen.
- Begin to make choices using the computer simulation

**Key Questions for Assessment**
- Is the child interested in the activity?
- Can the child offer any ideas or suggestions?
- Can the child make simple choices about what happens next to the on screen characters in the story?

**What to talk about**

**Before**
- Do you know this story? Can you tell me about it?
- What happens next in the story?
- Do you like this story?
- Who are the characters?
- What does this do?
- If I click here, what might happen?
- How do I make Goldilocks sit on the chair?

**During**
- Do you like Goldilocks? Is she a nice person? Would you go inside the Bear’s house?
- How do you think Baby Bear feels?
- What if Goldilocks waits outside the house?
- Maybe she doesn’t like porridge?
- What will happen now?
- How can we make the story different this time?

**Handy Hints**
- It will help children if they are familiar with the story being used in the simulation. Characters and scenes can be printed out and cut out to provide another version of this activity, away from the computer.
- CD-ROMs based on familiar TV and book characters work well for this type of activity.

**Activity Details**
There are many story-based CD-ROMs and My World screens where children have to make choices for characters, or decide where to go next, or what to explore. When using one of these software activities, make sure children understand that they are making decisions.

This example is based on the Goldilocks screens in My World.

Start by deciding together what the story is about, and who the characters are. Talk about the story and compare it to the familiar story they know. Do they recognise the characters and situations?
Then work through the original story with the computer screens, dragging and dropping the characters and props. Once the familiar story has been retold, encourage the children to change the story, by changing what the characters do.

Perhaps Goldilocks decides to wait for the Bears to come home before she goes in, or prefers the big bed and falls asleep there. Encourage children to use the on screen pictures to invent their own version of the story, and make different choices for familiar characters. Discuss how the computer screen makes this possible.
**Unit 5 - Introduction to modelling**

**Teddy gets dressed**

**Learning Objectives**
- Develop exploratory impulses
- To describe simple features of objects and events clearly, with some questions and explanations
- Show interest in why things happen

**Activity Details**

This activity can be demonstrated to a large group of children, or with pairs or small groups. Set up an activity where children have to dress a real teddy with a range of different clothes including underwear and shoes if possible. Add variations like dressing for different weather. Using the 'My World' program, show them the Dress the Teddy activity. Encourage children to dress the teddy in sequential order. Again, add variations including different weather conditions. What happens if you make a mistake using the real teddy (i.e. putting clothes on in the wrong order or buttoning up wrong? What happens if you do this on the computer version? (i.e. putting clothes in wrong place/wrong order) and what you can do about it. The computer version allows you to change your mind more easily, an advantage of using ICT.

After you have completed both activities discuss the similarities and differences in using the real teddy with real clothes and the simulation on the computer. Talk about which one is 'real'. Discuss which activity takes longest, and which is more fun.

**What to talk about**

**Before**
- How long do you think it will take us to dress this teddy?
- What's the difference between this teddy and the one on the screen?
- Do you think it will be easier to dress this teddy or the one on the screen?
- Which teddy is real? How do you know?
- Which teddy is flat?
- Is this teddy like a picture in a book? How can we play with this teddy?

**During**
- Is it harder or easier than you thought to dress this teddy?
- I wonder what’s making it hard/easy?
- Do you like the feel of this teddy? What does it feel like?
- Can you feel the computer teddy? (On screen) Why not?
- Which one did you like dressing the best? Why?
- Which one is the cuddliest? Why?
- Could you take the computer teddy to bed to cuddle?
- Which teddy was the quickest to dress?
- Can you dress the teddy really quickly? Can you beat this egg-timer?

**Handy Hints**

- It would be useful to have the same sorts of clothes as the computer version of Dress the Teddy. Encourage the children to talk about which activity was faster and why.
- You can print out the Dress the Teddy screen before moving the clothes, and cut the paper version out for children to play with and explore away from the computer. You could even make a laminated version with Velcro or magnetic tape and keep it in a book-bag.

**Key Questions for Assessment**
- Is the child interested in the activity?
- Can the child offer any ideas or suggestions?
- Can the child relate the on screen activities to 'real life' situations? Do they know the difference?
- Note any other comments the child makes about similarities/differences
6. Introduction to graphics

**Learning objectives**

<table>
<thead>
<tr>
<th>Foundation Stage Curriculum Guidelines</th>
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<tbody>
<tr>
<td>✓ To develop an interest in ICT</td>
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<tr>
<td>✓ To develop hand-eye co-ordination and object manipulation skills</td>
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</table>

**Other objectives**

- To extend drawing & painting into ICT
- To develop confidence with colours and shapes

**Key Questions for Assessment**

- Is the child able to hold the mouse correctly?
- Can they relate the on screen lines to the mouse movement?
- Can they switch the paint on and off using the mouse buttons?
- Can they follow a pattern, shape or trail?
- Can they draw simple pictures?
- Can they discuss differences between real and computer painting?

**Resources**

**Software:**
- Colour Magic, Windows Paint, 2Simple Infant Toolkit - 2Paint, other painting packages

**Other:**
- Crayons, paper, pencils, paint, computer

**Activities**

- Allow children to 'scribble' with the mouse, to get the feel for how the movement relates to the screen. Demonstrate how to make marks with the mouse on the screen. Show the children how to change the colour of the brush, by clicking on the on-screen colour palette, and let them experiment. **Help the children understand that holding the mouse button down turns the paint flow 'on' and letting go of the button turns the paint flow 'off'**

- Ask the children to 'take their mouse for a walk' around the screen, making a pattern of crossing lines. Show them how to change the size of the brush, using the on screen tools. Try really thick and thin styles, and again, let them explore. **Children can take turns and use a different colour/thickness.**

- Working in pairs, one child draws a maze or a snake using a thick brush, and then the second child traces over the maze or snake with a thinner, contrasting brush. **(See activity sheet – Snakes and Mazes). This activity is very good for developing skills in turn taking and co-operative use of the computer in pairs/groups**

- Children compare traditional symmetrical butterfly printing using paint with computer generated versions that use a symmetry tools. **(See activity sheet – Beautiful Butterflies). Ask the children to do the same with crayons/pencils on real paper. Discuss the differences between the two methods. What can the computer do better? Which do they prefer?**

- Ask the children to draw a specific picture relating to a festival or celebration that is happening in school. Use real objects and photographs for stimulation. Use the pictures to make cards, either using a program like Publisher or Word, or by printing the picture and sticking it onto card with glue

**Skills and knowledge**

**Children will have experience of the following skills and concepts**

**ICT**

- Using a mouse with increasing accuracy
- Pointing and clicking at icons and tools
- Being able to select simple tools and make choices about brush size, colour etc
- Begin to understand that ICT allows us to change things easily, and make choices
- Using digital art programs in a similar way to traditional art media to create pictures

**Other**

- Ability to work co-operatively with a partner, taking turns and respecting the other's work
- Developing perseverance and patience whilst learning a new skill
- Developing fine motor control
- Experience of critically evaluating their own work and make changes accordingly
Beautiful Butterflies

Learning Objectives
• Being able to select simple tools and make choices about brush size, colour etc
• To begin to understand that ICT allows us to change things easily, and make choices

Activity Details
Ask the children to make a ‘butterfly’ picture by giving them folded paper and letting them paint on one side then folding it to make a symmetrical printed pattern. Talk to them about their picture.

On a painting program such as Colour Magic set up the screen to make symmetrical pictures. When you paint on one side the image will appear on the opposite side. Let the children play with this program. Then using the image they have made with paint ask them to copy it on the computer screen. As they do this talk about the colours they have used in the first piece of work and whether they can find them on the screen. Show them the undo button so that if they make a mistake they can rub it out. When they are happy with their drawing – print it out. Make comparisons between the two methods of making pictures.

Talk to the children about the differences between the paint version and the computer ‘paint’ version. Which do they prefer and why? Which was the easiest to make? Are they the same? What about changing the colours? Which method allows changes to be made more easily?

Handy Hints
If possible it’s good to do these activities close in time so that the children actually remember how they made the painting and are able to make true comparisons between the methods. It is helpful to have photographs and images of butterflies to show the children before asking them to make a picture, pointing out the symmetry as you do so.

Key Questions for Assessment
• To what level can the child use the paint program i.e. can they point and click/drag and select tools/colours?
• Is the child able to make comparisons, talk about similarities and differences?

What to talk about

Before
• Have you ever seen a butterfly like this before?
• Can you see how it’s the same on both sides – that’s called symmetrical.
• You can make a symmetrical picture like this…
• Tell me about your butterfly painting?
• Did you like making this?
• What colours have you used?
• Do you think you could make a butterfly picture like this one on the computer?
• Have you ever done this before?

During
• Can you find the same colours on the computer that you used in your painting?
• Can you see what happens when you make a mark on this side? it’s a mirror image on the other side. It makes the picture symmetrical just like your butterfly painting.
• If you make a mistake you can rub it out – could you do this with the real paint? What would happen if you tried?
• Lets print this out – do you know how to print?
• Which painting do you think is the easiest to do – on the computer or the paper? Why?
• Which do you prefer? Why?
Snakes and Mazes

Learning Intentions
• To extend drawing and painting into ICT
• To develop confidence with using the mouse
• To consolidate skills in using a painting package: pointing and clicking, choosing tools, making choices about colours
• To begin to understand that using ICT allows us to change things easily

Key Questions for Assessment
• Does the child use the mouse correctly?
• Are they able to choose different brush sizes?
• Can they select different colours?
• Are they able to discuss some of the differences between using the computer to paint, and using ‘real’ paint and paper?

What to talk about

Before
• Have you played with this painting program before?
• Can you show me what to do?
• How do you make the brush thicker/thinner?
• I wonder how you change the colour.
• If you make a mistake or want to change something you can press this button…(UNDO)
• Do you want to have a go? - Change it to red.
• Can we do this with real paint?

During
• Can you trace over Abdul’s maze?
• What happens if you go fast?
• Is it easier if you go slowly?
• Can you show me?
• Next time - what would you do - go fast or slow?
• I like the colour/pattern you’ve chosen - do you like it?
• Can you copy my pattern?

Activity Details
Children work in pairs at the computer. One child draws a simple wiggly line, or maze in a thick brush, and the other has to trace it using a different colour and a thinner brush tool, without going over the edge. Children will need to know how to choose a colour from the screen, and change the brush size. An adult could model the task initially, or draw two mazes for the children to trace. If one child goes over the edge, then it is the other child’s turn. Alternatively you could have a number of lives, agreed at the beginning. This also works well using a touch screen.

To extend this activity, one child draws a snake in a thick brush, and the other child decorates it using other colours and painting tools, brushes and patterns. Again, an adult could model the task, filling in part of the pattern for the children to complete.

Children can use the Text tool to name their snakes. You could also use letters and shapes for children to trace and decorate.

Handy Hints
For children with less developed mouse control, an adult could draw the maze, and children use different coloured brushes to trace the same trail. Use the UNDO button to start again and clear the trail – teach the children this.

To help structure turn-taking, you could use a sand timer to set a time limit for each child to decorate. The adult could decorate one snake for a child to copy, or begin a repeating pattern for the child to continue.

Children can use the Text tool to name their snakes. You could also use letters and shapes for children to trace and decorate.
7. Introduction to CD-ROMS

**Learning objectives**

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<th>Key Questions for Assessment</th>
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<td>✓ To show an interest in ICT</td>
<td>Is the child confident to try out new things?</td>
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<tr>
<td>✓ To know how to operate simple equipment</td>
<td>Is the child able to follow the simple verbal/visual instructions?</td>
</tr>
<tr>
<td>✓ To use information and communication technology to support their learning</td>
<td>Is the child able to navigate the pages?</td>
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**Other objectives**

- To develop confidence in exploring a resource
- Does the child explore the CD-ROM confidently?

**Resources**

Selection of CD ROMS – See recommended list

**Activities**

- Show the children a CD-ROM and talk about how it works - the computer shines a strong light or laser onto the shiny side, and ‘reads’ it. Explain that it stores words, pictures and sounds. Explain that the way we see them is through the computer, which can read the CD-ROM like we read books. Show the children the icon for the CD-ROM, and talk about how to start the program by clicking it. **Talk about handling equipment with care**

- Use a simple information CD-ROM such as a dictionary to find topic based words and pictures. Show the children how to navigate the CD-ROM using arrows, buttons, images and simple menus - ‘Do you really want to quit?’ Show children how to print a page from the CD-ROM if possible - some CD-ROMS don’t have this facility. **(See activity sheet – Electronic Stories)**

- Compare to a book-based dictionary, again discussing the differences and advantages of using ICT to organise information

- Use a book that has an associated CD-ROM such as Dr Seuss ABC or The Cat in the Hat – read the book with the children then show them the book on CD-ROM. Discuss the differences between the CD-ROM and the book. **(See activity sheet – Digital Dictionary)**

- Allow the children to explore the interactive aspects of the CD-ROM, and to play any games. **Observe the children working with the CD-ROM and intervene when necessary**

**Skills and knowledge** Children will have experience of the following skills and concepts

**ICT**

- The concept that information can be stored in different ways
- The idea that a computer can “read” a CD-ROM, and that it contains images, sounds and text
- Comparing a book and a CD-ROM
- The ability to use basic navigational tools on screen to move between pages and make things happen

**Other**

- Develop an understanding of the conventions of books
- Develop the exploratory impulse
- Consolidate previous mouse skills i.e. pointing and clicking
- Ability to discuss similarities and differences
## Digital Dictionary

### Learning Objectives
- To use information and communication technology to support their learning
- To be able to use basic navigational tools to move between pages and make things happen

### Activity Details

Use a picture dictionary to look up words relating to a particular theme e.g. Autumn: leaves, trees, fruit, harvest, festivals etc. Show the children how the dictionary is organised chronologically. Look at the pictures and read the descriptions to the children.

Then use ‘My First Incredible Amazing Dictionary’ CD-ROM to look up the same words. Show the children how to click on the ‘hot links’. Show them how the mouse pointer changes when it is moved over a hot link.

Talk about how long it takes to look things up using a book and how long it takes with the computer. What are the differences? (CD-ROM pictures move, play sounds, read words aloud and play music etc.)

Let the children play at looking things up and moving around in the CD-ROM. Explain the navigation icons if necessary – particularly the way to go back a page, and how to stop the program.

Many CD-ROM dictionary also have word games and activities that are worth exploring.

### Handy Hints

- Have a selection of picture dictionaries available so that children can compare the real dictionaries as well as the computer version. Some are much better than others.
- There is a book called My First Amazing Dictionary which the CD-ROM of the same name is based on.

### What to talk about

#### Before
- Do you know what a dictionary is for? Have you got a dictionary at home? Does it have pictures in it?
- I wonder why you would use a dictionary?
- Do you think I know everything?
- If I didn’t know what a word meant or I wanted to find out more about something I’d use a dictionary.
- What would you like to look up in the dictionary – what do you like looking at in books?
- This CD-ROM is like a dictionary – does it look like a book?

#### During
- This is a dictionary lets look up a word… can you see the picture. The words say…
- This CDROM has lots of information in words and pictures and is a dictionary that we can read on the computer.
- Lets look up the same word and see what happens.
- What is happening? Is it the same? Which one do you like best?
- How do you think we can get to the next page?
**Electronic Stories**

**Learning Objectives**
- To show an interest in ICT
- To know how to operate simple equipment
- To use information and communication technology to support their learning

**Key Questions for Assessment**
- Is the child able to follow the simple verbal/visual instructions on screen?
- Is the child able to point out differences/similarities between the two media?
- Is the child able to express a preference and give reasons why?

**Before**
- Can you show me the title of this book? (looking at CD-ROM case and booklet)
- I wonder what it is about.
- What’s happening in this picture?
- Can you hear the rhyming words in this book?
- This book is on a CD-ROM – can you see the words? How can we look at the words and pictures?
- Why is the CD-ROM so shiny? What happens if we scratch it? Will it work properly?
- Where does it go in the computer?

**During**
- Where are the words in the book, where are the words on the screen?
- I wonder why the words light up/change colour etc? (on CD-ROM) – do they do that in the book?
- I wonder what would happen if we click on this...
- What is the same about the book and the CD-ROM? What’s different?
- Which one do you like best? Why?
- Could you take a CD-ROM to bed?

**Handy Hints**
If you can introduce the paper copy of the book earlier in the week, as part of other book activities, then the children will be familiar with the text and pictures, and more able to think about the differences between it and the CD-ROM version.

Ask children to predict what clicking on a screen icon might do – help them to recognise common symbols like arrows to go back and forward.

Try using a CD-ROM lock to stop children from changing the CD-ROM.

**Activity Details**
Show the children a CD-ROM of a familiar book e.g. Dr Seuss ABC, The Fish Who Could Wish, My First Incredible Amazing Dictionary etc. Show them the paper copy of the book and explain that the book is stored on the CD-ROM and that there are differences. Talk about the shiny surface, and how it is important not to scratch it or damage it.

The book is read on the CD-ROM by the computer. Start by looking at the paper copy and discussing the pictures/words. Show the children how to access the CD-ROM from the icon screen. Show them how to work through the book, how to go back/forwards and how to access any games. Encourage a discussion about the differences between the CD-ROM and paper copy. Let some children come up and click on parts of the screen. Let children consolidate skills by using the CD-ROM in their own time alone, with friends with and without adult support.

Some differences between a CD-ROM and a book include:
- You need a computer to read the book
- The computer turns the page for you - you don’t physically touch the book
- There are games and activities to play - it’s interactive
- There are pictures on the page that move - animations
- There are sounds, music and speech – multimedia
8. Introduction to control 1: Technology around us

**Learning objectives**

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<tr>
<td>🔵 To be able to operate simple equipment</td>
</tr>
</tbody>
</table>

Other objectives

- To understand that technology is all around us and its importance in our everyday lives
- To be able to name some of the everyday appliances that need to be controlled

**Key Questions for Assessment**

- Is the child willing to try things out?
- Is the child aware of switches on household appliances?
- Does the child understand the terms on/off?
- Is the child willing to express their ideas about how things work?
- Does the child understand the function of the batteries/electricity?
- Note any comments the child makes whilst out in the local environment
- Does the child express ideas about how traffic lights/tills/lifts work?
- Does the child notice or talk about noises and their significance?

**Resources**

- Photographs or models of the technology mentioned below, or real articles, where appropriate - e.g. kettle, television.
- A local route planned to take in a variety of technology - traffic lights, automatic doors, a lift, a cash point machine, shop tills etc.

**Activities**

- Discuss examples of the technology around them - eg kettle, light switch, microwave, mobile phone, photocopier, fax, camera, traffic lights, automatic doors etc. Use real objects and photographs. Encourage discussion about how things work to find out what the children’s ideas are and helping to dispel popular misconceptions. Explain how equipment is operated safely. (See activity sheet – How Does it Work)

  *Talk about on and off buttons and the importance of switching off to conserve energy. Discuss which items use electricity, either mains or battery*

- Take children on a walk in the local environment and help them to identify technology around them e.g. traffic lights, computerised tills in shops, cash point machines, street lights, and lifts. Children or adults could take photographs of these items and make a book or where possible record the noises on tape. (See activity sheet – Technology World)

  *Begin to talk about the difference between smart machines (ones with a computer chip inside - washing machines, microwaves, lifts etc.) and simple on/off systems*

**Skills and knowledge** Children will have experience of the following skills and concepts

<table>
<thead>
<tr>
<th>ICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔵 The identification and naming of a variety of technology in the world around them</td>
</tr>
<tr>
<td>🔵 The ability to operate simple technological equipment and appliances</td>
</tr>
<tr>
<td>🔵 The idea that appliances need energy, that can be supplied in a variety of ways</td>
</tr>
<tr>
<td>🔵 That technology is created by people, and can go wrong</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔵 Confidence to communicate in a small/large group</td>
</tr>
<tr>
<td>🔵 Ability to express ideas</td>
</tr>
<tr>
<td>🔵 Organising, sequencing and clarifying thinking</td>
</tr>
<tr>
<td>🔵 Ability to talk about what they can see happening around them</td>
</tr>
</tbody>
</table>
Unit 8 - Control 1: Technology around us

**How Does it Work?**

**Learning Objectives**
- To understand that technology is all around us and its importance in our everyday lives
- To be able to name some of the everyday appliances that need to be controlled
- To be able to operate simple equipment

**Activity Details**

Use a collection of large pictures of household appliances that have been mounted on card and either laminated or tacky-backed. Make a collection of labels that can be stuck onto the picture with Bluetack, Velcro etc. The labels could be symbols, words or pictures that represent things like ON and OFF, BATTERY, PLUG, WIRE, and the name of the appliance.

In small groups talk about the appliance in the picture, explaining how it works, how it gets power, and how to switch it on and off. Discuss safety features and whether children should touch these things at home – e.g. don’t go near the kettle at home, it will burn you.

Use the labels to highlight parts of the picture. If possible look at a real appliance and see if the children can identify the labelled parts.

Compare several pictures of the same type of appliance, to develop understanding of the general features like ON and OFF switches.

**Handy Hints**

**HEALTH and SAFETY**

If using appliances like kettles make sure the children understand that they must not touch these things without an adult present.

Look in glossy magazines for pictures of appliances, or collect product catalogues from department stores. Use Google Image search to find pictures online, and print them off. Keep the mounted pictures and labels in a book-bag or plastic wallet to keep the bits together.

**What to talk about**

**Before**
- What is this for?
- What is it called?
- Have you got one at home?
- Where is it kept – is it in the kitchen?
- Who uses it?
- Can you show me how you use it?
- Pretend and show me how you use it

**During**
- What is this a picture of? What is it called? Which one of these words goes with this picture? Can you find the name of it? What does the name begin with – can you see the right label?
- How do you switch it on? Can you show me where the *switch/button* is? Let’s put a *label* on the picture/appliance
- Can you stick it in the right place?
- What are these called? *(Batteries)*
- What do they do?
- Where do they go – can you point to the place. Let’s label it…

**Key Questions for Assessment**
- Does the child understand the terms on/off?
- Is the child willing to express their ideas about how things work?
- Does the child understand the function of the batteries/electricity?
- Is the child aware of switches on household appliances?
**Technology World**

**Learning Objectives**
- To understand that technology is all around us and its importance in our everyday lives.
- To be able to name some of the everyday appliances that need to be controlled.
- To be able to operate simple equipment.

**What to talk about**
- I wonder how we can get across this road safely.
- How does this work do you think?
- The *street-lights* are not on now. I wonder why not? How do they know when to come on?
- How do we know when it gets dark? Which part of our body can tell when it gets dark and light? Maybe the streetlight has an ‘eye’ too, to tell when it gets dark.
- Where can we get some *money* for the supermarket?
- How does the *till* know how much everything costs?
- How does the *automatic* door know we are here? Does someone watch and *press* a *button* to open the door?

**Key Questions for Assessment**
- Note any comments the child makes in the environment.
- Does the child express ideas about how traffic lights/tills/lifts work?
- Is the child happy to use equipment?
- Does the child notice or talk about noises and their significance?

**Activity Details**
Show the children photographs of ICT in the environment e.g. traffic lights, pelican crossings, automatic barriers, ticket machines, digital parking meters, electronic tills (with scanners), automatic doors in shops, lifts, cash-point machines, speed cameras, street lamps etc.

Talk to them about what each piece of technology does – try to gauge their understanding, and correct any common misconceptions where appropriate.

Take the children on a walk in the local environment, and look for examples of the technology they have seen in pictures. Take a digital camera, or paper and pencils. Take photographs or draw pictures, perhaps using a simple map.

Where possible (and safe) let the children use the technology so that they can gain a better understanding of their own impact on how things work.

Make notes of children’s comments. Use the pictures and words to make a book about technology in the environment.

**Handy Hints**
Most supermarkets welcome visits from schools in small groups if given some advance warning. Arrange to go to a supermarket and use the till scanners. Some supermarkets have lifts and almost all have electronic doors. You could use the ATM on the way to the supermarket.

Take the children to a tube station if there is one nearby – you may be able to use a lift, and you will be able to talk about the digital display.

Where possible (and safe) let the children use the technology so that they can gain a better understanding of their own impact on how things work.

Make notes of children’s comments. Use the pictures and words to make a book about technology in the environment.
9. Introduction to control 2 - Making things happen

Learning objectives

Foundation Stage Curriculum Guidelines

- To show an interest in ICT
- To know how to operate simple equipment
- To use information and communication technology to support their learning

Other objectives

- To know that there are various functions on some appliances

Key Questions for Assessment

- Is the child confident to try out new things?
- Is the child able to follow the simple verbal/visual instructions?
- Is the child able to make a recording with/without adult help?
- Does the child refer to previous knowledge to help with problem solving?

Resources

Tape recorder
Hand held microphone if necessary
Sticky coloured labels

Camera
Tapes of stories, songs and rhymes
Short blank tapes

Activities

Give children opportunities to use a variety of simple electronic equipment e.g. electronic keyboard, television remote control, audio and video tape recorders and talk about how they might work. Give children opportunities to explore electronic toys such as, 'V-tech' games, 'Furby', remote controlled toys and cars and talk about how they might work. (See activity sheet – Controlling Toys) Talk about handling equipment with care

Teach children how to use a simple tape recorder to listen to story and music tapes. Teach children how to use the play and stop buttons. Show the children the rewind/fast forward and explain their use. Make a visual sequence card for how to use the tape recorder to remind children which buttons to press etc. Colour-code the buttons to make it easier for children to understand which is which.

Teach children how to record their own voices and sound effects. Explain what the record button does and demonstrate. Let the children make recordings individually or in pairs. Let them play back their recording to the group. Give the children choices for their recording e.g. children in the playground, someone reading a story, someone singing a song, someone clapping, someone playing an instrument.

Make a recording of a local walk and let the children follow it on tape using stop, play, and rewind where necessary. (See activity sheet – Tape Recorder Trail)

Skills and knowledge

Children will have experience of the following skills and concepts

ICT

- Using simple electronic equipment
- Thinking and talking about how things work
- Following simple instructions to learn how to operate electronic equipment
- Recording their own voices onto audio tape, and listening to the result
- Operating remote controlled toys successfully

Other

- Ability to work as part of a group
- Ability to listen in a small group
- Ability to follow a simple/more complex sequence of instructions
Unit 9 – Control 2: Making things happen

**Controlling Toys**

**Learning Objectives**

- To show an interest in ICT
- To know how to operate simple equipment
- To learn how electronic toys can be switched on and off, and controlled using buttons etc.
- To begin to understand that we can control a range of machines, toys and appliances

**Key Questions for Assessment**

- Is the child confident to try out new things?
- Is the child able to follow the simple verbal/visual instructions?
- Can the child operate electronic toys successfully?

**Before**

Talk about the toys that have at home, perhaps as a large group sharing ideas and bringing in toys to show
- What kind of toys do you like?
- Do you have any toys that move/talk/play music/light up? How do you make them work?
- What happens when they break?
- How do you switch them on and off?
- Where does the toy get its power/energy from? (Show them battery compartments where appropriate)

**During**

- What does this toy do? Does it move/talk/play music?
- Can you show me how to switch it on/off?
- What does this button do? Can you make this car go over there to the red chair?
- How does it work? What makes the toy work?
- What does this control pad remind you of – have you got one at home? (TV remote control)
- Where have you seen buttons like this one?

**Activity Details**

Provide a range of electronic toys, and initially allow the children to explore how they work, and what they will do. Once the children have had a chance to experiment with the toys, start to use them in a more structured way, in small groups with an adult guiding more focused exploration, play and problem solving. The adult can set challenges and ask questions that will extend the child’s learning opportunities with the toys:

- Set up an obstacle course for remote controlled cars, and use a timer
- Ask a child to teach another how to use a toy, perhaps tape-recording the instructions
- Ask children to group a selection of toys using various criteria – battery/not battery, makes a sound/silent, moves/doesn’t move etc
- Show children how to make the toys do what they want, and how to switch them on and off. Make sure they can try out all the buttons/modes etc.
- Ask children to reflect on their experience with the toys, and describe how they work.

**Handy Hints**

A small collection of the same toy will allow children to compare their experiences, talk to other children and work together to learn how the toy works. You can also set challenges.
- Always keep spare batteries somewhere handy!
- Consider limiting the exposure of the children to the toys, rather than have them as part of the general toy population – work with them in a more focused way with an adult where possible.
- Make copies of all the instruction manuals in case they are lost!
During

- How do we play/stop the tape?
- Which button is the stop/play rewind button?
- Is it loud enough?
- How can we make it louder?
- Whose turn is it to start the tape playing?
- How long does it need to rewind?

Before

- Have you used a tape recorder before?
- Can you show me how to use it?
- Why is it not working (No electricity, no tape)
- I wonder what this button does
- If I press this what will happen?
- What's inside the tape recorder?
- What does the tape do?

Key Questions for Assessment

- Does the child know which buttons start and stop the tape?
- Does the child understand the idea of rewinding the tape?
- Can the child stop the tape accurately?
- Can the child follow the spoken instructions on the tape?
- Does the child use the correct words – play, rewind etc?

Handy Hints

Encourage children to use the function buttons such as rewind, pause, stop, and play. Remind them of the correct names for the buttons.

You could use a digital camera and download the photographs when you get back from the walk. The photos could then be made into a virtual trail for children to explore with the tape again. The tape recording should be as clear as possible, and use a familiar voice.

Keep instructions simple, with clear visual clues to make sure they are in the right place:

“You should now see a red post-box by a fence’
10. Introduction to control 3 - Robots

Learning objectives

Foundation Stage Curriculum Guidelines
- To know how to operate simple equipment
- To use information and communication technology and programmable toys to support their learning

Other objectives
- To be able to sequence several instructions for a task correctly
- To know how to program a simple robot.

Key Questions for Assessment
- Does the child understand and follow the instructions forward, backwards, left, right, turn?
- Can the child give instructions to an adult 'robot'?
- Does the child understand that robots need 'how far' instructions as well as 'where to'?
- Is the child able to talk about the symbols?
- Does the child understand that the robot will not move without instructions entered using the buttons?
- Does the child use any of the language modelled?

Resources
Robots – Roamer, Pip, Pixie, battery chargers, Pens, number cards, paper.

Activities
- Familiarise the children with the language of position i.e. forwards, backwards, sideways turning etc. Play alongside children using cars and a road map, modelling the vocabulary, or play games with the bikes outside moving forwards and backwards and turning on a signal.
- Play structured games where an adult acts as a robot and is given instructions on how and where to move by children. Explain how the robot won't work unless you tell it what to do, and that this is called programming. Demonstrate. (See activity sheet – Human Robots)
- Show the children a simple programmable robot, such as Pixie or Roamer. Explain how the robot won't work unless you tell it what to do by pressing the buttons – giving it a program. Demonstrate how the robot is programmed. Allow the children to explore the robot themselves, putting in data and seeing how it moves. Children could sit in a circle and send the robot to someone. Encourage them to talk about what they are doing, particularly to use the vocabulary. Emphasise that each time a new sequence of instructions is given the memory must be cleared.
- Attach wheeled toys to the robot so that it acts as a bus or train, and program it to collect passengers. Get the children to send the robot under a chair, or across a table etc. Suggest ways to improve the instructions. Encourage children to re-program the robot until it achieves their aim - trial and error. (See activity sheet – Pixie Bus)

Skills and knowledge
Children will have experience of the following skills and concepts

ICT
- That instructions can be used to make a person/robot complete simple actions
- The need for instructions to be given in the correct order, with a clear start/stop
- The ability to sequence several instructions into a simple ‘program’
- The ability to give instructions to a simple robot using the correct buttons

Other
- Ability to work as part of a group
- Confidence to try out new things
- To use every day words to describe position
- Trial and error – changing the program
**Unit 10 - Control 3: Robots**

**Human Robot**

**Learning objectives**
- To know that robots need to be given instructions i.e. PROGRAMMED
- To begin to be able to use a sequence of instructions on a model robot.
- To begin to recognise simple symbols on a robot.

**Key Questions for Assessment**
- Does the child understand that without instructions the robot will not move?
- Is the child able to programme the robot in sequence?
- Does the child show some understanding of the individual functions?

**Activity Details**

Make a tabard for an adult. (Use paper, or plain cloth.) Put simple symbols on the tabard like those on ‘Pixie’ e.g. FORWARD and BACKWARD arrows, CANCEL, and GO. Tell the children that you are a robot and you can only work if you are programmed. You also need to tell them that if you don’t cancel the previous instructions these will be added on to the next ones. They must always press the black (cancel) button before beginning a new operation. Also they need to remember to press the green (GO) button before you will do anything. The green button tells you when to do the things they have programmed in. Talk about how far to go – how many robot steps?

Let the children play at programming you to move around the playground or classroom. Try to remember the rules of not moving until they have pressed the green button and insisting that they press the black button before each new set of instructions.

**Handy Hints**

This is a really good activity to do outside. It’s also a good opportunity to do estimation of distance and therefore would work well alongside work on measures. Although it may seem like a good idea to let the children pretend to be the robot, the concept of following a program is too complex at this stage. The objective is that they understand a robot needs to be programmed and only an adult will be a reliable robot!

**What to talk about**

**Before**
- Have you ever seen a robot?
- Do you know what they do? How can you make it move?
- I’m pretending to be a robot and these are the buttons that make me work.
- All these buttons mean something – I wonder if you can guess what they do?
- We have to be careful when we program the robot because we don’t want it to bump into things. What would happen if I bumped into the climbing frame?

**During**
- This button makes me go forward, this makes me go back. You have to remember to always press the green button or I won’t know that you want me to move.
- Would you like to have a go at making me move?
- You have to press the cancel button/black button before you give me a new set of instructions.
- How far do you think it is to the sand pit in robot steps?
- What button do you think you could press to make me turn round towards the climbing frame?
Unit 10 - Control 3: Robots

The Pixie Bus

Learning Objectives
- To know how to operate simple equipment
- To use information and communication technology and programmable toys to support their learning
- To be able to sequence several instructions for a task correctly
- To know how to program a simple robot

Activity Details

The Pixie is a small robot that is easy to program using buttons. It can be programmed to go forwards, backwards, turn and wait.

Convert the Pixie into a bus by attaching a toy vehicle using elastic bands and string. Use a road mat or draw a road for small cars. Let children experiment with trying to make Pixie stay on the road. Make a set of ‘bus stops’ where the Pixie must stop to collect passengers. Use play people or counting teddies as the passengers.

Children estimate the distance between the bus stops, and get the children to program the pixie to travel that far to collect the passengers. Encourage experimentation and trial and error methods.

Use a sand timer to time each child ‘bus-driver’ so that as many children as possible have an opportunity to use the robot.

Handy Hints

It would be useful to carry out some of the pre-robot activities using adults as robots. Put a rubber band around the Pixie and attach the string to this and the toy vehicle. It would be useful to make the road with long straight stretches.

Let children get used to how far the Pixie will go with one step before starting out on their bus route. The activity could be further extended to incorporate more maths by seeing how many people (or counters etc) each child or pair of children can collect at bus stops in their allotted time.

Activity Details

Before
- Which way is forwards/backwards/left/right?
- How does the robot feel? Is it light/heavy?
- What could happen if we dropped the robot?
- This is how we programme the robot - remember to press the green button.
- I wonder how we can get the robot to move forward.
- Which button do you think we should press? Why?
- Now we need to make the robot forget these instructions before we can give new ones – how do you think we do that?

During
- How big is a Pixie step?
- How do you know which way to go?
- Can you send the robot to…?
- Why is the robot moving/not moving?
- Did you put in enough ‘robot steps’?
- How many more steps will it need to go?
- How many ‘robot steps’ is that?
- How many times did you press the forward button?
11. Introduction to the digital camera

**Learning objectives**

<table>
<thead>
<tr>
<th>Foundation Stage Curriculum Guidelines</th>
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<tbody>
<tr>
<td>✔ To be able to describe simple features of objects and events</td>
</tr>
</tbody>
</table>

**Other objectives**

- To be able to use a digital camera
- To understand importance of stillness when taking photographs
- To evaluate a photograph, and decide whether to take it again

**Key Questions for Assessment**

- Does the child explain how to use camera?
- Does the child show ability to care for/respect equipment?
- Is the child able to keep still when taking a photo?
- Does the child talk about what they are doing with the camera, what they can see etc?
- Does the child use any of the vocabulary modelled?
- Is the child able to sustain interest

**Resources**

<table>
<thead>
<tr>
<th>Digital Camera</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment for downloading pictures - USB leads, card readers, floppy disk adaptors etc</td>
</tr>
<tr>
<td>Instruction booklet/manual</td>
</tr>
</tbody>
</table>

| Software for downloading/viewing photos, usually included with camera, on a CD. |
| Printer with sufficient ink! |
| Photo quality paper for good prints |

**Activities**

- Make pretending cameras with the children using junk boxes, Lego, Duplo etc. Explain that you need a viewer and a lens as well as a button. Let the children pretend to take photographs with their model camera and explain how they need to hold their camera very still etc. Find out about children’s existing ideas/knowledge.

- Show them the digital camera and talk about the most important parts. Explain about which parts of the camera they should and should not touch and why. Let them take photographs then download each groups in turn, displaying the pictures on screen at a large magnification rather than thumbnail. Create a class book using the images that children have selected. *(See activity sheet – Book of Friends)* Discuss whether all photographs should be printed or not - some may not have come out very well (too dark, head cut off etc) so there’s no point in printing.

- Give children low quality printouts or photocopies of digital pictures to allow children to cut up and play with the images they have taken. Compare with traditional photos - talk about the fact that with digital photos you can make lots of paper copies. *(See activity sheet – In Disguise)*

**Skills and knowledge**

***Children will have experience of the following skills and concepts***

<table>
<thead>
<tr>
<th>ICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role-playing with a camera</td>
</tr>
<tr>
<td>Using a digital camera with support - pressing the right buttons and looking through the view finder to select the shot</td>
</tr>
<tr>
<td>Seeing that you have to get the pictures out of the camera and onto a computer…</td>
</tr>
<tr>
<td>Selecting pictures using simple criteria such as “is it too dark?”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to explore objects</td>
</tr>
<tr>
<td>Ability to construct with a purpose in mind, using a variety of resources.</td>
</tr>
<tr>
<td>Ability to observe closely and talk about what is seen and what is happening</td>
</tr>
<tr>
<td>Ability to show an interest in why things happen and how things work.</td>
</tr>
<tr>
<td>Hand-eye co-ordination</td>
</tr>
</tbody>
</table>
Book of Friends

Learning Objectives
• To understand importance of stillness when taking photographs
• To be able to use a digital camera
• To be able to describe simple features of objects and events
• Show curiosity, observe and manipulate objects
• To know that information can be stored

What to talk about

Before
• Have you used a camera before?
• Do you know what it does?
• Talk about the different parts of the camera; lens, viewer, flash, shutter, buttons and explain what they do.
• What would happen if you moved the camera when you were taking the photograph?
• Would you like to try it and see? Where do you think the photos are stored?
• What would happen if I dropped the camera?
• I wonder how we can see the photos. Explain how you will download the photos onto the computer

Activity Details
Make a class book about friends. In either Word or Publisher you could set up a page with space for a photograph to be imported and a sentence at the bottom such as ‘Hanifa is Toby’s friend’. Leave the spaces blank so that the children can fill in their own names and that of their friend. Each child takes a photograph of its friend. Import the photograph onto the page (using the INSERT PICTURE FROM FILE option in the INSERT MENU for Word, or using a PICTURE BOX in Publisher). Let the child fill in the names. Children could choose a border to put around the photograph. You could also use 2Simple 2Publish or Textease.

Key Questions for Assessment
• Does the child show ability to care for/respect equipment (digital camera)?
• Does the child understand the importance of keeping still when taking a photograph?
• Does the child talk about what they are doing with the camera, what they can see etc?

Handy Hints
Make sure you know how to download the images from the camera to a computer.
Check the printer is working and has ink!
If you find it easier, make a handwritten blank book to stick the photos in
Before using the digital camera it’s a good idea to go through some of the activities on the Unit 11 planning sheet so that children are more competent at holding/using a camera.
Let the children take more than one photograph so that they have the opportunity to choose the best one, make comparisons and give reasons.

During
• Can you remember why we have to hold the camera very still?
• Tell me what you can see through the lens.
• Can you see all of Hanifa?
• Take some photos when you think you are ready.
• Where are the photos now?
• Can you remember how we are able to load them?
• Which photograph do you think is the best? Why?
• Can you remember how to print?
Unit 11 – Introduction to the Digital Camera

In disguise

Learning Objectives
• To be able to use a digital camera
• To extend drawing & painting into ICT
• To develop confidence with colours and shapes
• To understand importance of stillness when taking photographs

Key Questions for Assessment
• Is the child able to keep still when taking a photo?
• Does the child talk about what they are doing with the camera, what they can see etc?
• Can they switch the paint on and off using the mouse buttons?
• Can they discuss differences between real and computer painting?

Activity Details
Explain that you are going to use the camera to take pictures of them that you will then be able to ‘dress up’ or turn into something different – a pirate, or a clown, or a lion etc.

Demonstrate on a picture of an adult, so the children know what kind of picture to take.

Get the children to take photographs of each others face, close up, and then help them download them to the computer, and save each picture with the name of each child. (You may prefer to do this yourself outside the lesson, but show the children at least once.)

Open a painting program like Colour Magic, and open a child’s picture. Show the child how to add paint to their face – a clown or an alien works well as it doesn't need precise lines or shapes to look effective.

Show the children how to use the UNDO feature of the program to undo mistakes or change their mind. Try changing hair colour, adding jewellery, strange ears, etc. When the child is happy with their ‘disguise’ save the file with a new name and print it out.

Before
• Have you used a camera before?
• Do you know what it does?
• Talk about the different parts of the camera; lens, viewer, flash, shutter, buttons and explain what they do.
• How do I change colour/brush size?
• What do you want to change your face into?
• What does a clown/alien/pirate look like?

During
• Talk about how to take a good photograph – how keeping still is important, and keeping the camera still.
• Talk to children about how the image will get from the camera to the computer – show them the memory card and compare to a CD-ROM or floppy disk.
• Where is the picture now?
• How can we put it into the computer?
• If we want to paint on the picture how can we do it? Can we use a painting program?
• Does this picture look like you? Do you like it?

Handy Hints
Consider getting the children to wear a headband to pull back their hair and make the photo easier to manipulate.

Provide pictures from magazines etc to give the children some ideas for what to add to their faces.

It may work better to take all the photos one session, and save them and name them later, ready for another session.

You may already have suitable photos to use.

Check the size of the digital image you take, you need it to be small enough to fit on the screen. Use the camera manual to check picture sizes and resolutions, and test them out to find the right setting.

works well as it doesn't need precise lines or shapes to look effective.

Show the children how to use the UNDO feature of the program to undo mistakes or change their mind. Try changing hair colour, adding jewellery, strange ears, etc. When the child is happy with their ‘disguise’ save the file with a new name and print it out.
12. Introduction to the Internet

**Learning objectives**

**Foundation Stage Curriculum Guidelines**
- To use ICT to support their learning

**Other objectives**
- To understand that the internet can be used to find things out
- To be able to choose what to look at on the internet by clicking on images
- To be able to use some of the function buttons on the browser

**Key Questions for Assessment**
- Does the child watch or get involved? Do they want to use the mouse or are they happy to watch their friends?
- Does the child understand that they can find out things by using the Internet?
- Does the child understand that when they click on some images/words something happens?
- Does the child use any of the function buttons demonstrated?
- Does the child use any of the vocabulary modelled?

**Resources**

Internet access, useful website addresses for early years – see recommended website list

**Activities**

- Show the children some of the things you can find out or do on the internet. Explore a simple, appropriate website that will engage the children’s interest - maybe based around a TV program - there are many excellent sites available. *(See THeGrid for up to date website recommendations)*
  
  *Describe the Internet in simple terms for the children as being like a giant library where you can find out lots of information about things you’re interested in.*

- Use a web-based activity to play a game - show the children how to point and click to interact with the screen – e.g. an activity from the BBC CBeebies website.
  
  *Check they the site is available and the Internet is working before the children come to the computer, and have a back-up activity in case the connection fails.*

- Using Google Image Search, show the children how to search for pictures using a keyword. Base the search around a topic from their recent experience - animals work well. When children have chosen their image print them out to make a class book. *(See activity sheet – Finding Pictures)*
  
  *Show the children that you can find sounds as well as pictures by searching for animal sound files - keywords might include animals, sound effects, etc.*

**Skills and knowledge** Children will have experience of the following skills and concepts

**ICT**
- Ability to use some function buttons on an Internet browser, such as Back, Print
- Understanding that clicking on some images will make something happen
- Understand that you can search the Internet using keywords.
- The idea that the Internet is multimedia, and you can find pictures, sounds and animations as well as text

**Other**
- Ability to follow instructions
- Exploration of cross curricular ideas and topics
- Begin to understand that information can be stored and retrieved in many different ways, including the Internet
Finding pictures

Learning Intentions

- To understand that the Internet can be used to find pictures and information using keywords
- To learn how to use some of the browser function buttons
- To understand that clicking on part of a web page might make something happen
- To know that you can print out images found on the Internet

What to talk about

Before

- Look at the pictures in this book. It's all about animals. What can we find out?
- We can find out more using the Internet on the computer - have you used it before? What did you do? Did someone help/show you?
- Shall we look for more animals? What would you like to find out about?
- The Internet is like a library. Have you been to a library before?

During

- We have to type in a word, like butterfly. Then we will find pictures of butterflies.
- What word shall we use?
- We have to click on the search button to tell the computer what to do.
- The computer is looking through the Internet Library for our pictures - we might have to wait because there are lots of web pages to look through.
- Which picture do you like best - choose to print out - click on it. Can

Activity Details

Set up the Computer so that the Internet is connected and the browser window is open.
Open the Google search engine page, and click on the Image tab.
Talk to the children about what they are looking for - it might be their choice, it might be a recent topic - 'animals' works well. Have a book handy, with similar pictures, to compare.
Decide on a keyword to use, and type it into the Google search box. Show the children how to click on search, and look at the results page - it should be a page of small pictures.
Show the children how to choose a picture from the search results, and to click on it to get a closer look.
Explain what is happening i.e. you are being taken to a different page. You will then see the chosen image at the top of the screen. Click on it again to see just the picture. Show the children how to use the SIDE SCROLL BARS to see all of the results they have found. Some children may be able to refine their keywords to give a better selection of images.
Show the children how to use the BACK button to return to the search results page
Ask each child to choose the best picture from their selection to print out – click on the image and then click the printer icon ONCE and wait. IMPORTANT: Make sure Google is set to Safe Search – use the Preferences menu on the Google home page – sometimes unexpected results can appear despite the filter.

Handy Hints

Try the search out before you do it with children - to ensure that they will find some suitable pictures
Each image is shown alongside its original website home - scroll down the bottom section of the page to find other images. Click on the top image to see it on its own - you can print it from here using the browser print button.
The pictures they find will be different sizes, and will print out accordingly.
If not using Broadband, talk to children about how long the picture takes to appear - bigger pictures will usually take longer as information is coming down the phone line.

Key Questions for Assessment

- Comment on the child’s approach to using the Internet – hesitant/enthusiastic?
- Does the child understand that they can find out things by using the Internet?
- Does the child understand that when they click on some images/words something happens?
Using a wide range of ICT in Early Years

How can I plan more effectively to use ICT in the Early Years?

It is important to ensure that ICT is planned for even with very young children. The computer is just one small area of ICT and it is possible to introduce ICT in the role play area, the book area (recording stories) and into activities such as cooking (use of microwave, kettle, electronic scales etc).

When planning activities in other curriculum areas think “How can I build in ICT?” Make notes of things that work well on long term planning sheets.

What other ways can I integrate ICT into the foundation stage classroom?

Many foundation settings have listening areas for the children to access tape recorders. Consider setting up an area such as this so that children are able to consolidate the skills learned in control technology i.e. being able to use a tape recorder to listen to and make recordings.

Role play areas should include real and pretend examples of ICT which children can include in their imaginary play. In the real world children will have encountered many uses of ICT. The role play area provides important opportunities to build and extend on children’s knowledge and understanding so far.

Collections of electronic toys, including remote controlled cars and robots and other electronic games can be a great way to introduce the concepts of ICT to young children. If you can afford it, buy more than one of each toy, and store it in a plastic box with instructions, batteries etc. The toys can then be used with a group for an adult-led activity, or brought out for children to use independently, but then collected in again and checked for damage.

Begin to collect images of ICT in the environment so that this can be displayed around the classroom e.g. someone making a cup of tea, using a microwave, a set of traffic lights, an ATM machine, a lift etc.

All our electronic toys get broken when we leave them out.
**Good Practice with Computers in the Foundation Stage**

How do I make sure that all children are getting equal access to the computer?

To monitor when children choose to use the computer independently, have a clipboard with a class list near the computer and ask the children to tick their name/photo when they've used the computer. Or, try setting up a post box where the children have to post their name/photo in to a box when they have used the computer. At the end of each day track their names on a weekly/monthly chart. This should give an indication of frequent and non-users. When doing activities keep a list of who attends and make written observations of their abilities. This should inform future learning priorities for those children. Post-it notes can be useful. Try taking photos of children using the computer to put in their assessment folders.

How do I stop the children switching the computer on and off, taking out CD-ROMs and changing the programs?

There is no easy answer to this one! If children are bored or frustrated or not sure what to do, they are more likely to explore other options. Having an adult working with a group, or hovering nearby and checking in every few minutes will keep children focussed. You could make a simple cardboard cover for the front of the computer to cover the controls and attach it with Velcro or masking tape but sometimes this sets up a challenge to see what is hidden. Locating the main computer unit away from the monitor can help, allowing children to focus on the screen rather than all the buttons underneath. Most computers set up for children will have some kind of system for restricting the number of programs and icons displayed on the screen, depending on who is logged in.

How do I teach computer skills to my reception class? We have a session each week in the ICT suite but it is always a disaster!

For very young children it is important to have access to computers in the classroom so that they can consolidate their skills and develop independence. If you don't have appropriate access to classroom computers (either none or old and broken equipment) then speak to your ICTCO/Headteacher.

It is very difficult to teach computer skills to young children in a large group. An interactive white board will help but the children will all be at very different levels - from those who have yet to develop mouse control to those who are able to use the keyboard. It would be better to take children to the suite in small groups for a shorter session (depending on available adults) and plan activities based on individual and small group needs.

For very young children it is important to have access to computers in the classroom so that they can consolidate their skills and develop independence. If you don’t have appropriate access to classroom computers (either none or old and broken equipment) then speak to your ICTCO/Headteacher.

LBTH e-Learning and Early Years Teams

Written by C. Young and M. Reilly
Classroom Organisation - Computers

Can you get special computer furniture for younger children?

Educational suppliers like NES Arnold, Galt, Hope and Morley’s offer various types of computer furniture. It is useful to be able to lock away the main computer unit, and just have the monitor on display. Consider how many children can easily work on the computer - some workstations only fit two children at a time. Careful location of workstations and computer tables is important.

How much space do I need for each computer?

There needs to be enough space around a computer for an adult and two children. Sometimes you may want to use the computer with a larger group and should think about how this can be achieved. You may need one computer to be more mobile than others so that you can move it around to a larger space if, for example, you wanted to read a story using a CDROM. You also need room for the keyboard and mouse to move easily and for resources which support children’s use of particular software.

How should I group the computers together?

Depending on your practice, computers could be spread out one to each room or area, or clustered in twos or threes. The whole team needs to agree on how the computers are arranged, and how they are going to be used to offer children adult-led or initiated ICT activities, and independent choice. There should be plenty of room around the computer, and space to add other resources and materials.

Where should I put my computers. What about Health and Safety?

In some settings computers will be grouped together. If this is the case it is important to check with the health and safety officer that the power source is sufficient and has been installed by approved contractors. Don’t use extension leads and multiple sockets. Make sure all cables are out of reach of the children except those they are intended to have access to e.g. digital camera leads.

Check the lighting - will the sun shine on the screen making it difficult to see? Also check the height of the monitor - it doesn’t have to go on top of the computer unit. The top of the monitor should be roughly at eyebrow level for the children.

Written by C. Young and M. Reilly

LBTH e-Learning and Early Years Teams
Integrating the Computer into the Wider Curriculum

Many settings have traditionally located computers on special trolleys, and created a computer ‘area’ with appropriate vocabulary and displays of computer printouts etc. It is more useful to think about making the area around the computer as rich and stimulating as other areas of the setting. Make more space around the computer, and add themed books and artefacts, pencils and paper, maths equipment, toys and pictures, games and laminated printouts as well as the relevant software or CD-ROM. This will allow more children to take part in a range of activities around the computer, and the computer will become part of the theme of topic, rather than a separate type of activity.

Careful planning in the use of additional adults in the classroom is very important. Make sure all adults involved know what the ICT activity is, and how to support it. Often it is possible to do the same activity both at the computer and away from it – e.g. using a painting program, or using a printed out version of an on screen activity like Dress the Teddy. This helps children to develop an understanding of why we use ICT, and how it differs from ‘real life’. It also allows more children to work together, and then it is more likely that an adult can be planned in to support the activity.

Early Years practitioners generally make very good use of digital cameras, but the pictures taken tend to either be printed out for display, or stored in folders and never seen again! Children love to see themselves on a screen, and showing a small group of children a set of photos taken on a recent trip or during an activity like cooking, or building a model would be an excellent stimulus for talking and reflection.
Some Suggested Software Titles for Early Years

Any list of software will become out of date eventually, and cannot be exhaustive, or follow every taste and preference. Below are some of the software titles commonly found in early years settings at the time of writing. Companies like AVP, REM and Pink Cow offer one-stop shops and supply a range of software.

<table>
<thead>
<tr>
<th>Complete Software suites</th>
<th>Available from</th>
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<tbody>
<tr>
<td>2Simple Infant Video Toolkit</td>
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<td>Tizzy’s First Tools</td>
<td>Softease</td>
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<td>Early Essentials</td>
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<td>RM Window Box – Early Years</td>
<td>Research Machines</td>
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<tr>
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<tr>
<td>Talking First Word</td>
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<td>Write Away</td>
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<td>2Simple Music Toolkit</td>
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<td>Counting Pictures</td>
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<td>Turtle</td>
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<td>Thomas the Clown</td>
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<td>Colour Magic</td>
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<th>Other Software titles</th>
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<tr>
<td>Simple City</td>
<td>2Simple</td>
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<td>Alphabet Soup</td>
<td>2Simple</td>
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<tr>
<td>My World 3</td>
<td>SEMERC</td>
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<td>Clicker 5</td>
<td>Crick</td>
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<tr>
<td>Leaps and Bounds series</td>
<td>Granada Learning</td>
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<tr>
<td>Millie’s Maths House</td>
<td>EDMARK</td>
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<tr>
<td>Bailey’s Book House</td>
<td>EDMARK</td>
</tr>
<tr>
<td>Sammy’s Science House</td>
<td>EDMARK</td>
</tr>
<tr>
<td>Trudy’s Time and Place House</td>
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</tr>
<tr>
<td>Talking Animated Alphabet</td>
<td>Sherston</td>
</tr>
<tr>
<td>123 CD</td>
<td>Sherston</td>
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<tr>
<td>Nursery Rhyme Time</td>
<td>Sherston</td>
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<tr>
<td>Little Brown Bear series</td>
<td>Sherston</td>
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<tr>
<td>Tizzy/Fizzy/Izzy series</td>
<td>Sherston</td>
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<tr>
<td>IT Foundation Mouse Skills</td>
<td>Inclusive Education</td>
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<td>Foundation Counting</td>
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<tr>
<td>Spider in the Kitchen</td>
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<tr>
<td>Pingu and Friends</td>
<td>BBC</td>
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<tr>
<td>My First Incredible Amazing Dictionary</td>
<td>Dorling Kindersley Multimedia</td>
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<tr>
<td>PB Bear Series</td>
<td>Dorling Kindersley Multimedia</td>
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<tr>
<td>Thomas the Clown</td>
<td>Logotron</td>
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<tr>
<td>The Big Bus series of CD-ROMs</td>
<td>The Big Bus</td>
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<tr>
<td>The Cat in The Hat</td>
<td>Broderbund Living Books</td>
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<tr>
<td>Green Eggs and Ham</td>
<td>Broderbund Living Books</td>
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<tr>
<td>Sheila Rae the Brave</td>
<td>Broderbund Living Books</td>
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## Software suppliers

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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>AVP</td>
<td>School Hill Centre, Chepstow Monmouthshire NP16 5PH Tel: 01291 625439</td>
<td><a href="http://www.avp.co.uk">http://www.avp.co.uk</a></td>
</tr>
<tr>
<td>REM</td>
<td>Great Western House, Langport, Somerset, TA10 9YU Tel: 01458 254700</td>
<td><a href="http://www.r-e-m.co.uk">http://www.r-e-m.co.uk</a></td>
</tr>
<tr>
<td>Pink Cow</td>
<td>Unit 5 Bracknell Beeches, Old Bracknell Lane West, RG12 7BW Tel:01344 867007</td>
<td><a href="http://www.pinkcowltd.com/">http://www.pinkcowltd.com/</a></td>
</tr>
<tr>
<td>Black Cat</td>
<td>Lion House, Bethel Square, Brecon, Powys LD3 7JP Tel: 01874 622114</td>
<td><a href="http://www.blackcatsoftware.com">http://www.blackcatsoftware.com</a></td>
</tr>
<tr>
<td>Granada SEMERC</td>
<td>Quay St, Manchester M60 9EA Tel 0161 827 2927</td>
<td><a href="http://www.granadalearning.com">http://www.granadalearning.com</a></td>
</tr>
<tr>
<td>Research Machines</td>
<td>New Mill House, 183 Milton Park, Abingdon Oxfordshire OX14 1SE Tel: 01235 826000</td>
<td><a href="http://www.rm.com">http://www.rm.com</a></td>
</tr>
<tr>
<td>Sherston</td>
<td>Swan Barton, Sherston, Malmesbury, Wiltsire SN16 OHL Tel: 01666 843200</td>
<td><a href="http://www.sherston.com">http://www.sherston.com</a></td>
</tr>
<tr>
<td>Crick</td>
<td>Crick House, Boarden Close, Moulton Park, Northampton NN3 6LF Tel: 01604671691</td>
<td><a href="http://www.cricksoft.com/uk">http://www.cricksoft.com/uk</a></td>
</tr>
<tr>
<td>2 Simple Software</td>
<td>Enterprise House 2 The Crest Hendon London NW4 2HN 02082031781</td>
<td><a href="http://www.2simple.com">http://www.2simple.com</a></td>
</tr>
<tr>
<td>Broderbund</td>
<td>USA company - order CD-ROMS through AVP or RM</td>
<td></td>
</tr>
<tr>
<td>Edmark</td>
<td>USA company - order CD-ROMS through AVP or RM</td>
<td><a href="http://www.edmark.com">http://www.edmark.com</a></td>
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## Hardware suppliers

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<th>Name</th>
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<tbody>
<tr>
<td>Valiant Roamer</td>
<td>Valiant House, 3 Grange Mills, Weir Road, LONDON SW12 O1NE. Tel: (0)20 8673 2233</td>
<td><a href="http://www.valiant-technology.com">http://www.valiant-technology.com</a></td>
</tr>
<tr>
<td>Swallow Pixie</td>
<td>Swallow Systems 134, Cook Lane High Wycombe Buckinghamshire HP13 7EA Tel:01494 813471</td>
<td><a href="http://www.swallow.co.uk">http://www.swallow.co.uk</a></td>
</tr>
<tr>
<td>TTS</td>
<td>Park Lane Business Park Kirkby-in-Ashfield Nottinghamshire NG17 9LE Tel: 0800 318 686</td>
<td><a href="http://www.tts-group.co.uk/">http://www.tts-group.co.uk/</a></td>
</tr>
<tr>
<td>Early Learning Centre</td>
<td>Early Learning Centre Tel: 08705 352 352</td>
<td><a href="http://www.elc.co.uk/">http://www.elc.co.uk/</a></td>
</tr>
</tbody>
</table>
Suggested Websites for Early Years

Early Years websites for practitioners
TeacherNet – links to DfES sites etc
http://www.teachernet.gov.uk/teachingandlearning/foundation/fsresources/

BAECE – Early Education
http://www.early-education.org.uk/

Sure Start
http://www.surestart.gov.uk/

Under Fives
http://www.underfives.co.uk/

ICT Specific
ICT Advice site from BECTA – Foundation Stage section

The Virtual Teacher's Centre

Gamesley Early Excellence Center
http://www.gamesleyeeec.org.uk/ict.asp

Lists of links
A useful collection of website links from Kent
http://www.kented.org.uk/ngfl/websites/infant.html

Sir Robert Hitchams School - Beacon School
http://www.hitchams.suffolk.sch.uk/foundation/index.htm

Coxhoe School - A huge selection of links across the Foundation Stage
http://www.coxhoe.durham.sch.uk/Curriculum/Foundation%20Stage.htm

London Grid for Learning Foundation Stage Content Grid
http://www.lgfl.net/lgfl/accounts/content/web/grid/menu/fsgrid.htm

Birmingham Grid for Learning – lots of great activities
http://www.bgfl.org/bgfl/4.cfm?=4&p=50,index&zs=n

Activities for Children
BBC Pre-school activities
http://www.bbc.co.uk/schools/preschool/

BBC CBeebies – favourite TV characters
http://www.bbc.co.uk/cbeebies/

Sail the Little Red Ship and other simple mouse skills from the Northumberland Grid
http://ngfl.northumberland.gov.uk/ict/

Activities for the Foundation Stage from Northumberland Grid
http://ngfl.northumberland.gov.uk/Foundation/default.htm

Musical House – simple musical activities
http://ngfl.northumberland.gov.uk/music/index2.htm

Primary Resources - (Try Animal Magic)
thttp://www.primaryresources.co.uk/foundation/foundation.htm

Sebastian Swan’s Infant Explorer – have a look at the Big Books
http://www.sebastianswan.org.uk/index.html

Sesame Street – needs plug-ins so check before using with children
http://www.sesamestreet.com

Orsinal – some delightful games – try Starry Night
http://www.ferryhalim.com/orisinal/

Ranville Infants School – lots of excellent links for children and teachers
http://www.hants.gov.uk/school/ranvilles/24-7.html

PB Bear Talking Stories and Activities (from LGfL)
http://pbbear.lgfl.org.uk/

2Simple Online Talking Stories (from LGfL)
http://stories.lgfl.org.uk/

iBoard – Great Whiteboard activities (from LGfL)
http://iboard.lgfl.org.uk/