QCA Units of work for IT capability

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Unit of work for IT capability – 1A. An introduction to modelling

This unit of work needs an adventure game. Lost Owls is ideal for this. This is the relevant part of the unit of work rewritten to include Lost Owls in the teaching activities.

Expectations – at the end of this unit	
Most children will:	understand that a computer can represent real or fantasy situations and that these do not replicate the original exactly; know that simple adventure games also represent real or fantasy situations…
Some children will not have made so much progress and will:	use software, including a simple adventure game, that represents a real or fantasy situation…
Some children will have progressed further and will:	use a variety of software, including adventure games, to represent real or fantasy situations and identify similarities and differences; explain their decisions/choices.

Learning objectives
Children should learn – key idea:
• **that a computer can be used to represent a wide range of environments and some are more elaborate than others.**

Teaching activities
• Look at the simple adventure game/simulation called Lost Owls. Work through the beginning of the game/simulation with all the children together. Discuss the sort of environment or situation it represents.
  Lost Owls is about three baby owls that have gone missing; you need to explore the eleven places they could have visited. When you find the lost owls you send them home to their mother. The eleven places in the countryside to visit are the church, the swing, the lane, the village, the farm, the forest, the pond, the barn, the bus stop, the picnic area and the windmill.
• Ask the children if the representation is a good one and what similarities or differences they can see. This will depend on their concepts of the countryside and their experiences of it.
• Devise a set of questions to ask children, e.g. *If they were out in the countryside, would they be able to hear anything? What might they hear? Can they hear the same sorts of things when they use the adventure game? How do owls get from one place to the other? How do the owls move in the computer program? How do you get from one place to another place? How do you move around in the computer game? Each time you use the program are the baby owls lost in the same place?*
• Provide opportunities for children to explore the program. Encourage the children to discuss the decisions or choices they make and why they make them.
  Where do you think the baby owls will be and why? Which place did you go to first and why? Were the baby owls where you expected them to be? How long did it take you to find the owls and why?

Learning outcomes
Children:
• understand that a computer can be used to simulate/model an environment where choices can be made.

Points to note
This activity could be extended over a number of weeks with children working in small groups, taking turns and revisiting the adventure game on a number of occasions. If this approach is adopted, it is essential to draw children together on a regular basis so that they can share what they have discovered and discuss their progress. Some children may like to keep a record of the things they find, the routes they took or the places they visited.

Learning objectives
Children should learn – key idea:
• **that a computer model is not an exact replica of the original.**

Teaching activities
In a class discussion ask the children to compare Lost Owls with real life through a series of questions, e.g. *Do the characters in Lost Owls ever get tired? Do the children get tired when they go out for a long walk or on a long journey? Do the characters ever need to stop and eat or go to the toilet? Does Lost Owls show us what time of day it is or what season it is? Does this matter? When we see representations on the television how realistic are they? Are cartoons as realistic as representations using real people in real places? Are these sorts of programmes exactly like real life? Do they think that actors would really get hurt?*

Learning outcomes
Children:
• know that representations of real or fantasy situations can be made in many different ways and although some, like television programmes and films, are very complex they do not replicate real life exactly.

Points to note
None.

Unit of work for IT capability – 1B. Using a word bank

You can use Lost Owls as a stimulus for this (see the Literacy and Lost Owls work).

Expectations – at the end of this unit	
Most children will:	enter single words from a keyboard; use a word bank to assemble sentences that communicate meaning.
Some children will not have made so much progress and will:	enter single words from a keyboard; use a word bank to combine words, with help.
Some children will have progressed further and will:	use ICT to create sentences that communicate meaning, using the keyboard for the majority of the text.

Learning objectives
Children should learn:
• Key idea: **that text can be selected from a word bank**.
• Technique: to select, and listen to, text using a mouse.

Teaching activities
Show the class how to select words from a word bank, using the mouse, and demonstrate how to make the computer say a word. Ask the children to select words from the word bank to complete sentences.

Learning outcomes
Children:
• use a word bank to create simple sentences.

Points to note
• Children should listen to all words before making a selection.
• Some children may find it helpful if the mouse buttons are labelled.
• Explain that the word processor may not be able to say all words correctly.

Unit of work for IT capability – 1C. The information around us

This unit of work suggests an adventure game. Lost Owls is ideal for this. This is the relevant part of the unit of work rewritten to include Lost Owls in the teaching activities.

Expectations – at the end of this unit	
Most children will:	know that information exists in a variety of forms and be able to gather it from a variety of sources.
Some children will not have made so much progress and will:	have had opportunities to collect information in various forms and from various sources.
Some children will have progressed further and will:	recognise that computer programs use sounds, text and pictures to communicate information; begin to recognise some of the conventions used to communicate information.

Learning Objectives
Children should learn – key idea:
- **that computers use icons to provide information and instructions.**
  There are icons in Lost Owls to help the children use the program.

Teaching activities
- Introduce the children to Lost Owls. Ask them to look at the icons on the screen and to suggest what information or instruction they might provide. Encourage the children to check and see if they were right.
 *Look carefully at the icons.*
  There is a compass point icon to help move around the simulation. If the letter is red it will allow the children to go in that direction.
  There is an icon of the mother owl, when a baby owl is found, drag and drop the baby owl on it and the owl will be sent to the mother owl at the home tree.
  Ask the children about moving to the next page and how to stop, look for the <, > and exit icons.
- Children should explore Lost Owls and see how many different ways the computer can communicate information.
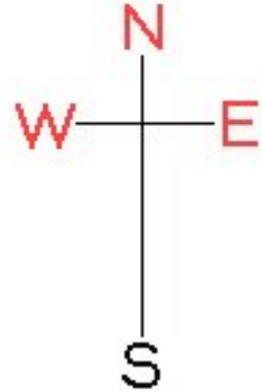
Learning outcomes
Children:
- know what information is conveyed by some of the icons used in computer software.

Points to note
- Discuss with the children what the 'electronic book' provides when compared to the traditional paper-based version.
  Lost Owls is not a talking linear book but it is a simulation based on a story about three baby owls who have flown the nest, got lost and mother owls asks the children for their help. Lost Owls allows the children to go in many different directions, the children may need a map to help them so they do not get lost. Every time the program starts from the beginning the baby owls will be lost in different places and they will meet a variety of other animals. Over time it changes from day to night.
- Children could create display cards for the computer area showing what the icons mean.

Unit of work for IT Capability – 2A writing stories

You can use Lost Owls as a stimulus for this (see the Literacy and Lost Owls work).

Expectations – at the end of this unit	
Most children will:	use a word processor to produce sentences that communicate meaning.
Some children will not have made so much progress and will:	enter words into a word processor.
Some children will have progressed further and will:	use a word processor to produce sentences that communicate meaning; refine sentences by adding words and making corrections; alter sentences in light of comments.

Learning objectives
Children should learn:
- technique: to enter text with spaces and use the shift key to type capital letters.

Teaching activities
Print out a set of pictures with empty speech bubbles. Discuss how speech bubbles can be used to illustrate direct speech. Remind the class how to enter text and demonstrate the use of the shift key. Divide the children into pairs and give each pair a picture. Ask the children to discuss what might be being said, and use the word processor to type the speech. Ask the children to print their work, cut it out and stick it onto the speech bubbles.

Learning outcomes
Children:
- create sentences using a word processor.

Points to note
If you have a program that allows you to manipulate text and pictures you can do this activity on the screen.