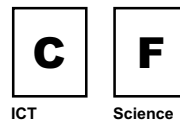


**ICT ACTIVITY 21**  
*Using the Virtual Science*  
 Department for whole class  
 teaching.

**Year Group: 7**



**Resources**

Electronic whiteboard; ActivStudio; Spectrum 7 text book;  
 PowerPoint software; Granada Learning: "Investigating Science 1"  
 Assessment activity in "GOAL"  
<http://virtualscience.lgfl.net>    <http://samlearning.com>  
<http://www.goalplc.co.uk>

**Context (Pupils' prior experience)**

The scheme of work designed by the teacher is based on the QCA unit 7.1 Cells. The lesson plans and resources are on the web site: <http://virtualscience.lgfl.net> Unit 7A Cells – lesson plan 7A-2 The objectives were:

- to learn that cells are the basic units of life and are organised into tissues from which organs are made,
- to explore cell structure and differences between plant and animal cells and
- to learn about some functions of cells.

The focus of one particular lesson was on the specialised function of different cells.

**Task Description**

Pupils were involved in the starter, and plenary activities through the use of the Interactive Whiteboard, taking it in turns to drag and drop correct definitions, or labels, to the diagrams of cells. Using the ActivStudio flipchart the teacher, with the pupils, was able to develop the PowerPoint show she had prepared. In another lesson, pupils used the software programme on Cells (Investigating Science 1) to identify parts of cells. They also completed an on-line assessment of their knowledge at the end of the module (GOAL [www.goalplc.co.uk](http://www.goalplc.co.uk) ). Revision of the work could be done at home using the SAM-Learning web site. ([www.samlearning.com](http://www.samlearning.com) )

**Learning Intentions**

Science: Knowledge and Understanding	ICT: Skills, Knowledge and Understanding	ICT Level		
		KS1	KS2	KS3
They can describe a simple cell structure.	They can use ICT to find and use appropriate stored information, using a CD-ROM and the Internet	w/1	2/3	4/5
They describe a simple cell structure and identify differences between simple animal and plant cells.	They are able to combine and refine information from different sources; and compare the use of ICT with other methods and how it is used outside school	1/2	3/4	5/6
They use their knowledge of cell structures to explain how cells are adapted to their function.	They can select the necessary information for a particular purpose when using a CD-ROM and the Internet and check its accuracy	2/3	4/5	6/7
Science POS Related to task: 1a, 1b, 1c, 1d, 1e.	ICT POS related to task: 1a, 1b, 4b.			

**Teaching Approach**

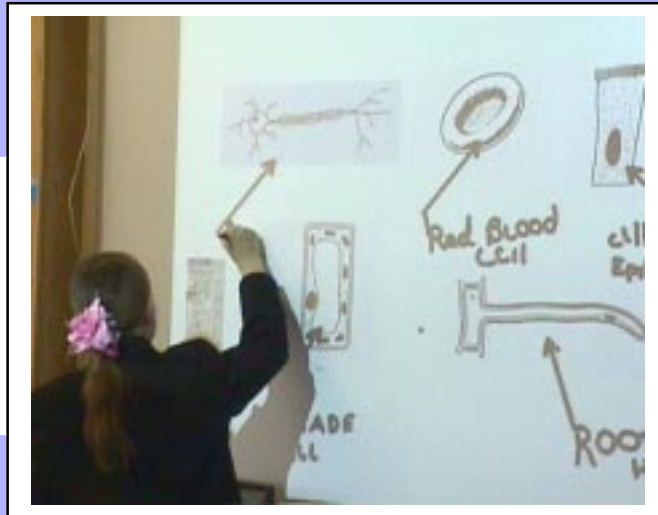
Whole class teaching was facilitated through the Interactive whiteboard and through PowerPoint shows prepared by the teacher. Paired activities using the software program 'Investigating Science 1'. Pupils attempted the assessment tasks individually. A full description can be found in the on-line lesson plans on <http://ecs.lewisham.gov.uk/intict>

**Links with other curriculum areas**

**PHSE** – Pupils working together, supporting each other when using the Interactive Whiteboard and taking turns with the computers develops personal, social and health education.

**Subject Learning Gains (Science)**

The different activities, information resources, and sites are available for pupils to access during lessons or out of school hours allowing students to develop their knowledge and understanding of science independently. Pupils with Special Educational Needs (and their teachers / teacher-assistants) can revisit activities, concepts, PowerPoint shows to reinforce and clarify understanding.



### Specialised Cells

Answer the following questions in sentences:

1. (a) How are 'ciliated epithelial' cells different from other cells?  
 (b) What is the role of these cells in the lung?  
 (c) What is the role of these cells in the oviduct?
2. The more haemoglobin there is in a red blood cell the more oxygen it can carry. Red blood cells do not have a nucleus. Why do you think this is?
3. (a) Why are nerve cells so long?  
 (b) Christopher Reeve (also known as Superman) fell off his horse and broke his neck. Why is he unable to move?
4. (a) Which process, needing light, happens in 'palisade cells'?  
 (b) In which part of the 'palisade cell' does this happen?
5. (a) What does a 'root hair cell' do?  
 (b) How does the shape of a 'root hair cell' help it to do this?  
 (d) Why are there no chloroplasts in these cells?
6. Find out, using the Spectrum 7 text book, what 'Goblet cells' are.

These pupils worked with the teacher to combine materials from different sources to create a collaborative presentation. The final product was well organised and showed an awareness of audience.

**These pupils are working at ICT Level 4.**

*Teachers' Assessment*

**What are specialised cells?**

Not all cells look the same; that is like a typical plant or animal cell. For example an adult's body has over 200 types of cells. Cells often become adapted to perform different functions. They become specialised to perform a certain job.

Key stage 3

**Computer Diary**

Name \_\_\_\_\_ Date \_\_\_\_\_

> What task did you complete?

I had to prepare a presentation on the types of Specialised Cells and give it to the class in PowerPoint and using the Interactive whiteboard.

> What software did you use?

I used PowerPoint to create a presentation. I already used the electronic whiteboard to give answers to questions. At the end of the topic I had to log onto the Internet and do a test from GOAL.

> How did you complete the task?

First I had to research about cells using the information my teacher gave me on the electronic Whiteboard and some information I found in the books. Then I copied the pictures from the slide show and wrote some more details, and then I presented my work to the class. I had to do a test on line to see if I could remember all the stuff we had done.

> Describe any difficulties you had completing the task

I needed a reminder on how to copy pictures and put them into a PowerPoint slide, but when I was told I remembered how to do it.

> What features of the software did you find helpful? Why?

I liked using the whiteboard because I went to the front of the class and put in text, pictures and connected them with lines. The way in which you can move information about on the board was really helpful when I was telling the class what I had found out. I also liked the way I could do a test without having to write anything down.

> What did you learn?

I learned about red blood cells, nerve cells, root hair cells and all the other special cells that have special jobs to do.

**Pupils' Evaluation**