

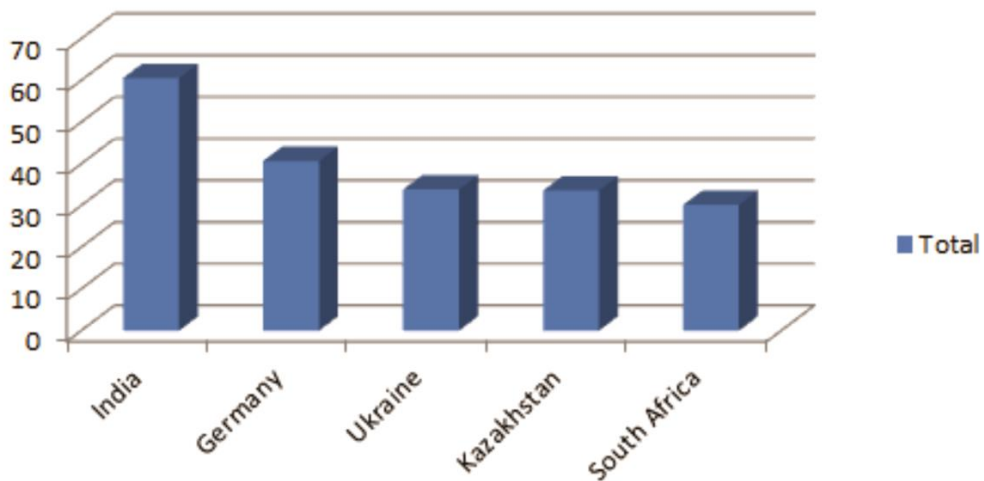


# Integrated ICT Learning Unit

Volume 7

7.3 Coal and Where It Comes From

## Coal Reserves Around The World



What I've noticed is that India has the largest coal reserve out of the 5 countries meaning that will not need to import as much coal, but also they can export coal to countries that need it meaning that their economy can grow.

Phillip Green

## Overview

This integrated ICT learning unit consists of one activity which explores the concept of **Developing countries and developed Countries**

### Lesson format:

- 10 minutes Educational game (optional; at the discretion of the teacher)
- 5 minutes "Tech Talk" which introduces ICT terminology
- 5 minutes Touch Typing skills which develops essential touch typing techniques
- 20 minutes+ Integrated activity involving tasks which relate to relevant content being covered in the classroom

### ICT applications used in this Learning Unit:

Word Processing	Graphics	Spreadsheets	Databases	Internet	E-mail	Presentations	Drawing	Web design	Information Organiser	Simulations & design	Desktop Publishing	Operating Systems	Programming & logic
		√		√								√	

### Structure of the Learning Unit:

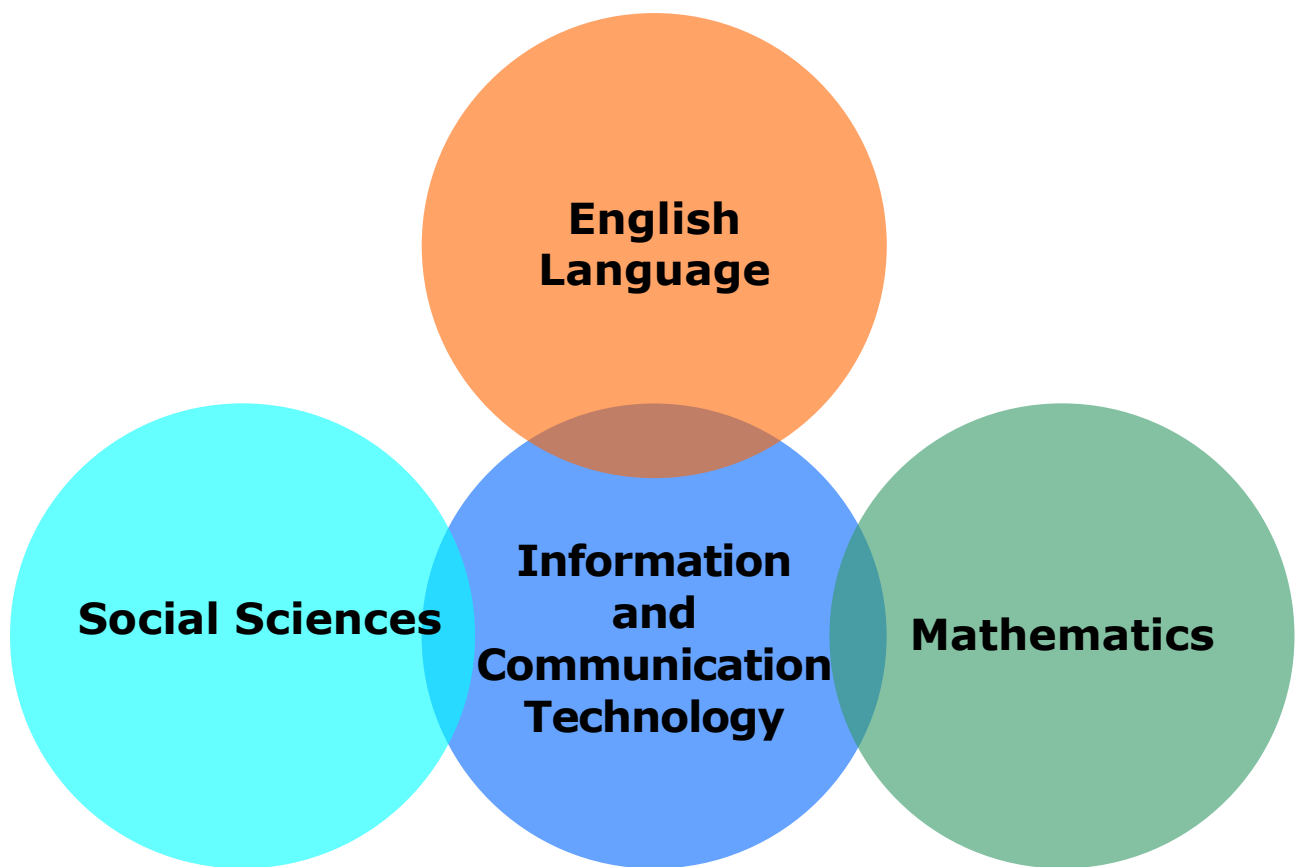
#### Integrated Activity

This lesson is aimed at integrating ICT into current, relevant class curriculum. Using this approach enables learners to use the computer not only as a working tool but also as a relevant learning tool to learn new concepts and skills or consolidate previously learnt work. This activity will take between 20 – 60 minutes (or 1-3 lessons) to complete depending on the ability of the learners and the time available.

#### e-Learner Assessment

The required assessment for each unit is completed by the ICT teacher by means of evaluating each skill on the skills matrix. The ICT teacher can indicate on the skills matrix whether the skill is being practised or developed by inserting a tick in the appropriate column next to the appropriate skills. Should the teacher wish to formally assess the skills, the relevant achievement level can be indicated in the assess column next to each skill assessed. The corresponding e-Learner skills should also be marked off when completed. The e-Learner skills can also be formally assessed by subscribing to the relevant online e-Learner assessment for which an ECDL endorsed certificate will be issued upon successful completion of the course. By utilising these assessment tools, the level of ICT competency as well as the progress of each learner can be monitored. The assessment matrix, as contained in this lesson instruction book, may be printed or photocopied for each learner.

## **ICT INTEGRATION ACROSS THE CURRICULUM**



## STRUCTURE OF LESSON

### 7.3 COAL AND WHERE IT COMES FROM

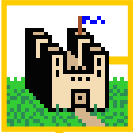
INTEGRATED LESSON	
<b>Prior Learning Requirements</b>	
<b>Concept / Topic:</b> Basic understanding of coal its uses and where it comes from.	
<b>ICT Skills:</b> Entering data into cells in a spreadsheet programme	
Educational Game	<b>10 Min</b>
A suitable educational game may be used as an optional activity at any point during the course of the lesson at the discretion of the ICT or class teacher	
Touch Typing	<b>5 Min</b>
A suitable activity should be selected by the ICT or class teacher to ensure continuity and progression of appropriate skills	
Tech Talk	<b>5 Min</b>
<b>FAT</b> A <b>F</b> ile <b>A</b> llocation <b>T</b> able is a table or a recording system that runs on the pc that records the physical location of files on the hard drive.	
Integrated Activity	<b>20 Min</b>
Learners create a spreadsheet comparing statistics of the biggest coal reserves around the world	
<b>Resources Used</b>	
<b>Software:</b> Microsoft Excel; Internet Explorer	
<b>Prerequisite:</b> Website Link	
<b>Template:</b> None	
<b>WWW:</b> Various	
<b>Subjects</b>	
<ul style="list-style-type: none"> <li>• Social Sciences</li> <li>• English Language</li> <li>• Mathematics</li> </ul>	
<b>Additional Learning Opportunities</b>	
<b>Concept / Topic:</b> 7.5 World Population	
<b>ICT Skills:</b> 7.11 HIV / AIDS	
<b>Beyond the ICT Centre</b>	
<ul style="list-style-type: none"> <li>• Draw up a list showing different languages from around the world</li> <li>• Find which countries have converted to the Euro currency and the impact</li> <li>• Find out what makes the richest and poorest country in the world. Why is this?</li> </ul>	

<b>Learner name:</b>	<b>Class</b>	
<b>Integrated Activity: Learners create a chart comparing the number of coal reserves in South Africa to four other countries.</b>		
<b>Theme/Topic: Coal and where it comes from</b>	<b>Integrated Activity</b>	
<b>Subjects</b>	<b>Practice</b>	<b>Assess</b>
<b>Social Sciences History</b>		
Interprets and find information from statistical sources		
<i>Comment:</i>		
<b>Social Sciences Geography</b>		
Organises and interprets information from statistical sources		
<i>Comment:</i>		
<b>English Language</b>		
Records information in an accessible format		
<i>Comment:</i>		
<b>Mathematics</b>		
Draws graphs using technology to display and interpret data		
Critically reads and interprets data		
<i>Comment:</i>		
<b>Concepts and Skills</b>		
Developed and Developing Countries		
Locate, access and select relevant information		
Summarising		
Interpretation		
Organising information		
<b>7 = Outstanding Achievement      6 = Meritorious Achievement</b> <b>5 = Substantial Achievement      4 = Adequate Achievement</b> <b>3 = Moderate Achievement      2 = Elementary Achievement      1 = Not Achieved</b>		

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<b>Integrated Activity: Learners create a chart comparing the number of coal reserves in South Africa to four other countries.</b>		
<b>Theme/Topic: Coal and where it comes from</b>	<b>Integrated Activity</b>	
<b>e-Learner Skills</b>	<b>Practice</b>	<b>Assess</b>
<b>Unit 2 - Files and Folders</b>		
2.2.1 Right / Left click mouse		
2.2.2 Single / Double click mouse		
2.3.1 Alpha / numeric keys on keyboard		
2.3.2 Special Keys (Ctrl / Alt / Shift etc) on keyboard		
2.4 Recognising icons		
2.5.1 Open / Exit programmes Using Shortcuts		
2.5.2 Open / Exit programmes Using Start Menu		
2.6.1 Maximise / Minimise window		
2.6.2 Close window		
2.6.3 Move window		
2.6.4 Multitask between documents / applications		
2.6.5 Using the task bar		
2.7.1 Navigating through folders / Folder structure		
2.7.3 Navigating within a file (scrollbar / hyperlinks)		
2.7.4 Opening Files		
2.7.5 Saving Files		
2.7.6 Closing Files		
<b>7 = Outstanding Achievement      6 = Meritorious Achievement</b> <b>5 = Substantial Achievement      4 = Adequate Achievement</b> <b>3 = Moderate Achievement      2 = Elementary Achievement      1 = Not Achieved</b>		

Learner name:	Class	
<b>Integrated Activity: Learners create a chart comparing the number of coal reserves in South Africa to four other countries.</b>		
Theme/Topic: Coal and where it comes from	Integrated Activity	
e-Learner Skills	Practice	Assess
<b>Unit 5 - Spreadsheets</b>		
5.1 Open programme		
5.2.1 Start new workbook		
5.3.1 Insert data		
5.3.2 Format data (font face/ colour / size / bold)		
5.3.3 Align data		
5.5.1 Insert graphics		
5.5.2 Move graphics		
5.6.1 Insert text boxes		
5.6.2 Type text into text boxes		
5.6.3 Move text boxes		
5.6.4 Resize text boxes		
5.8 Save		
5.10 Print		
5.11 Exit		
<b>Unit 7 - Web Browsing and Email</b>		
7.1 Open web browser		
7.2 Entering URL		
7.3.1 Access Online web page		
7.3.2 Access Saved web page		
7.4 Search engines		
7.5.1 Using Hyperlinks		
7.5.2 Using Scrollbars		
7.5.3 Using Forward / Back button		
7.7 Copy / Paste Information		
7.8.1 Save Images		
7.11 Exit Web Browser		
<p style="text-align: center;"> <b>7 = Outstanding Achievement      6 = Meritorious Achievement</b>  <b>5 = Substantial Achievement      4 = Adequate Achievement</b>  <b>3 = Moderate Achievement      2 = Elementary Achievement      1 = Not Achieved</b> </p>		

## Integrated Lesson Coal and Where It Comes From (Internet Explorer; Microsoft Excel)



### **EDUCATIONAL GAME: (10 minutes)**

A suitable educational game may be used as an optional activity at any point during the course of the lesson at the discretion of the ICT or class teacher

### **TOUCH TYPING (5 minutes)**

#### **Check that all learners:**

1. Their eyes are in line with the screen.
2. They are sitting with their bodies square to the keyboard and monitor.  
square to the keyboard



### **TECH TALK: (5 minutes)**

#### **FAT**

A **F**ile **A**llocation **T**able is a table or a recording system that runs on the pc that records the physical location of files on the hard drive.







## INTEGRATED ACTIVITY

In order to promote relevant discussion, the following questions are posed by the educator to the learners:

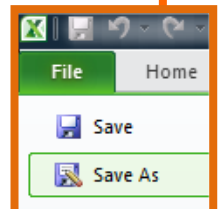
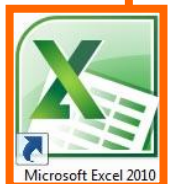
- **What is coal?**
- **What can coal be used for?**
- **How is coal obtained?**

A short discussion takes place about coal, its origins and its uses.

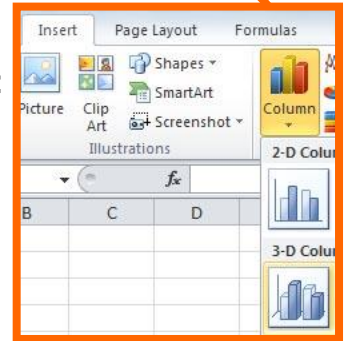
Explain to the learners that they are going to compare the statistics of the world's coal producing countries.

**Task: Today you are going to access the Internet to look up the statistics of coal producing countries. The information will be entered into a Spreadsheet in Microsoft Excel.**

1. Double click on the **Computers4Kids** shortcut on the desktop.
2. Click on the relevant **volume number** and **lesson number**.
3. Navigate to the following link <http://en.wikipedia.org/wiki/Coal>
4. Look for the table under the heading "**World coal reserves**", this data will be used to create the spread sheet.
5. Open Microsoft Excel by double clicking on the icon on the desktop or going to **Start → Programs → Microsoft Excel**.
6. Save your document to your folder. **File → Save As → select required folder by clicking on the down arrow in the save in box → click on the folder → type a suitable file name in the file name box → save .**
7. In cell A1 type in the word "**Countries**", type the names of the 5 countries you have selected in this column.
8. In cell B1 type in "**Total Coal Reserves**", under this column type the total values from the countries you selected on the table in here.

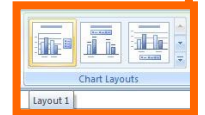


9. **Select column A and B then go to the insert ribbon and select clustered column with a 3D visual effect**  
 → **Insert ribbon → Column → 3-D Column → 3-D Clustered Column**



10. **Your Column chart will appear automatically with the names of the countries at the bottom and "series1" on the right with no title.**

11. **To change this double click on your chart to bring up the Design ribbon → and choose layout 1 from the chart layouts tab**



12. Click on the "chart title" on your chart type "Coal reserves around the world" in the chart title box.

13. Position the chart under the data

14. Insert a text box under the chart by clicking on the text box button on the **Insert ribbon**.



*Note to teacher: At this point, stop the lesson and allow the students to share their observations*

15. Type your observations about the data ( anything you find interesting or amazing) in the text box

16. Type your name and class in the text box

17. To add a border around your work, highlight the data, graph and text box by clicking in cell A1 and dragging to the bottom right hand cell of your ( visible ) page → **right click → format cells → border → outline → select colour → OK**

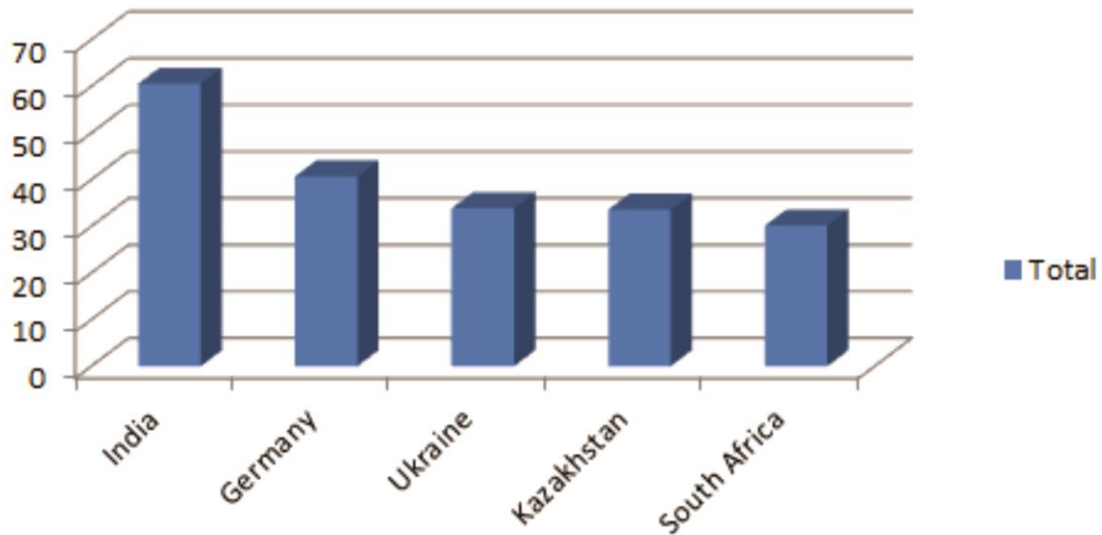
18. To shade the background, highlight the data, graph and text box by clicking in cell A1 and dragging to the bottom right hand cell of your (visible) page → **right click** → **format cells** → **fill** → **select colour** → **OK**

19. Print your spread sheet and graph → **File** → **Print** → **OK**



Print

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