

**INSET WORKSHOP : Chesterfield and London, Autumn 1998**

**Using the IT tools on BNSC CD-ROM  
- Paul Mason**

**Meeting the needs of the National Curriculum in Geog/Sci & ICT  
- Alison Caldwell**

**SCIENCE**

In groups of two or three explore the CD-ROM and plan a Science exercise/class assignment for a Key Stage 3 class, using the material on the CD and involving one or more of these facilities on the CD-ROM -

- Project Clipboard
- Search Tool
- Guided Tour

This could be done by pupils on their own or by pupils in a lesson context involving greater teacher input.

**Suggested Task:**

1. Design an exercise on the Greenhouse Effect and Global Warming -

so that pupils;

appreciate the underlying causes

appreciate the possible effects on humans and actions needed to prevent adverse effects

appreciate the underlying science and understand scientific terms; such as

the sun as energy source, wavelengths (electromagnetic spectrum), radiation from sun and from the earth, composition of atmosphere.

|               |        |                          |                      |                   |                          |
|---------------|--------|--------------------------|----------------------|-------------------|--------------------------|
| Choose (tick) | Year 7 | <input type="checkbox"/> | Length of time(tick) | 1 Lesson (1 hour) | <input type="checkbox"/> |
|               | Year 8 | <input type="checkbox"/> |                      | 2 Lessons         | <input type="checkbox"/> |
|               | year 9 | <input type="checkbox"/> |                      | 3 Lessons         | <input type="checkbox"/> |

2. Use the check list of the National Curriculum requirements for Science to evaluate how your designed task matches these and to assess what other learning objectives have been met through this exercise.

3. Discuss what other materials you would consider necessary/useful for achieving these learning objectives.

4. Discuss the practical issues that would need to be taken into consideration before this exercise could be used in your school situation.

5. Either today or later consider other topics for which assignments could be developed using the CD-ROM - see particularly the section on Principles of Earth Observation





## **SCIENCE Key Stage 3 PROGRAMME OF STUDY      **Check List****

Reference: SCAA (now QCA) 1995 "Science in the National Curriculum." HMSO Publications © Crown Copyright. Licence issued by HMSO Copyright Unit

Common requirements which apply across all 4 Attainment Targets

### **1. Systematic enquiry**

|                                                                                                              |  |
|--------------------------------------------------------------------------------------------------------------|--|
| 1.b<br>Use both first-hand experience and secondary sources of information, and decide which sources to use. |  |
| 1.d.<br>Choose ways of using IT to collect, store, retrieve and present scientific information               |  |

### **2. Application of Science**

|                                                                                                                                  |  |
|----------------------------------------------------------------------------------------------------------------------------------|--|
| 2.a.<br>relate scientific knowledge and understanding to familiar phenomena and to things that are used everyday                 |  |
| 2.b.<br>consider how applications of science, including those relating to health, influence the quality of their lives           |  |
| 2.c.<br>relate scientific knowledge and understanding to the care of living things and of the environment                        |  |
| 2.d.<br>consider the benefits and drawbacks of scientific and technological developments in the environmental and other contexts |  |

### **3. The of nature of scientific ideas**

|                                                                                                        |  |
|--------------------------------------------------------------------------------------------------------|--|
| 3.b<br>Consider how scientific knowledge and understanding needs to be supported by empirical evidence |  |
|--------------------------------------------------------------------------------------------------------|--|

### **4. Communication**

|                                                                                                                               |  |
|-------------------------------------------------------------------------------------------------------------------------------|--|
| 4.a<br>use a wide range of scientific terms and symbols, and to consider why scientific and mathematical conventions are used |  |
|-------------------------------------------------------------------------------------------------------------------------------|--|

Attainment Target: **Life Processes and Living Things**

### **5. Living things in their environment**

|                                                                     |  |
|---------------------------------------------------------------------|--|
| 5.a<br>that different habitats support different plants and animals |  |
|---------------------------------------------------------------------|--|

Attainment Target: **Materials and their Properties**

### **2. Changing Materials**

|                                                                          |  |
|--------------------------------------------------------------------------|--|
| 2.d<br>to relate changes of state to energy transfers                    |  |
| 2.p<br>about possible effects of burning fossil fuels on the environment |  |

Attainment Target: **Physical Processes**

### **2. Forces and Motion**

|                                                                                     |  |
|-------------------------------------------------------------------------------------|--|
| 2.b<br>the quantitative relationship between speed, distance and time               |  |
| 2.e<br>the way in which frictional forces, including air resistance, affect motion, |  |

Attainment Target: **Physical Processes cont..****3. Light and Sound**

|                                                                                      |  |
|--------------------------------------------------------------------------------------|--|
| 3.a<br>that, in a uniform medium, light travels in a straight line at a finite speed |  |
| 3.e<br>how light is reflected at plane surfaces                                      |  |
| 3.g<br>that white light can be dispersed to give a range of colours                  |  |

**4. The Earth and beyond**

|                                                                                                                         |  |
|-------------------------------------------------------------------------------------------------------------------------|--|
| 4.d<br>that the Sun and other stars are light sources and that the planets and other bodies are seen by reflected light |  |
| 4.e<br>that artificial satellites can be used to observe the Earth and to explore the solar system                      |  |

**5. Energy resources and energy transfer**

|                                                                                                                        |  |
|------------------------------------------------------------------------------------------------------------------------|--|
| 5.a<br>that there is a variety of energy resources, including oil, gas, coal, biomass, food, wind, waves and batteries |  |
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