

**TITLE / KEY QUESTIONS:**  
**WHAT ARE THE ENVIRONMENTAL IMPACTS OF DAM AND RESEVOIR CONSTRUCTION?**

**AIM(S):**  
**TO DEVELOP CASE STUDY KNOWLEDGE OF THE ENVIRONMENTAL IMPACT OF DAM AND RESEVOIR CONSTRUCTIONS: CASE STUDY OF TRIKALA, GREECE.**

- OBJECTIVES / INTENDED OUTCOME:**
- TO BEGIN TO APPRECIATE THE ROLE WHICH ICT HAS IN GEOGRAPHICAL EDUCATION AND RESEARCH.
  - TO USE ICT AS A MEANS OF ACCESSING GEOGRAPHICAL INFORMATION, WITH PARTICULAR REFERENCE TO CD-ROMS.
  - TO ENCOURAGE STUDENTS TO EXAMINE ENVIRONMENTAL ISSUES FROM AN INTER-DISCIPLINARY PERSEPCTIVE.
  - TO ENCOURAGE STUDENTS TO APPROACH ENVIRONMENTAL DECISION MAKING FROM A HOLISTIC PERSPECTIVE BASED ON CAREFUL CONSIDERATION OF A RANGE OF ENVIRONMENTAL, SOCIAL, POLITICAL AND ECONOMIC FACTORS.
  - TO BEGION TO UNDERSTAND HOW ICT CAN BE HARNESSSED TO ASSIST WITH ENVIRONMENTAL DECISION MAKING.
  - TO ACQUIRE KNOWLEDGE OF A RESEVOIR PROJECT WITH REFERENCE TO A SPECIFIC CASE STUDY
  - TO INTRODUCE STUDENTS TO ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AS A MEANS OF PREDICTING ENVIRONMENTAL IMPACTS FROM DEVELOPMENTS.
  - TO ENCOURAGE STUDENTS TO FOSTER AN INDEPENDENT APPROACH TO STUDY AND TO DEVELOP RESEARCH SKILLS .

**RESOURCES:**  
 COMPUTERS (1 BETWEEN 2 PUPILS)  
 WINDOW ON THE WORLD CD-ROM  
 CASE STUDY 5: ENVIRONMENT: BUSINESS APPLICATIONS  
 PRINTER

**HOMEWORK:**  
 TO WRITE A BRIEF REPORT (750WORDS) BASED ON THE CASE STUDY INFORMATION THEY HAVE GATHERED FROM THE CD ROM. THE REPORT SHOULD BE DIVIDED INTO 5 KEY SECTIONS:PROBLEM, SOLUTION, COST BENEFIT ANALYSIS AND METHODOLOGY. THE REPORT WILL BE IN THE FORMAT OF BULLET POINTS, HIGHLIGHTING THE KEY FEATURES OF THE CASE STUDY SO THAT IT CAN EASILY BE REVISED FOR EXAMS. THE SECTION ENTITLED 'METHODOLOGY' SHOULD FOCUS ON THE I.T THAT WAS EMPLOYED TO AID THE ENVIRONMENTAL IMPACT ASSESSMENT. THE REPORT SHOULD BE SUPPORTED BY A BRIEF STATEMENT (500WORDS) EXPLAINING ANY DRAW BACKS WITH THE METHODS OF EIA USED... I.E, HAS ICT BEEN RELIED ON TOO HEAVILY TO JUDGE THE ENVIRONMENTAL IMPACT OF THE PROJECT, WOULD A MORE HUMAN APPROACH HAVE BEEN MORE EFFECTIVE IN CONSIDERING THE IMPACTS ON LOCAL RESIDENTS ETC, TOO MUCH FOCUS ON A GLOBAL RATHER THAN A LOCAL LEVEL. WHAT DECISION WOULD THE PUPILS HAVE COME TO BASED ON THE INFORMATION THEY HAVE GATHERED. HAS ANYTHING BEEN OVERLOOKED?

**SUBJECT CONTENT: CURRICULUM/SYLLABUS LINKS:**

**CROSS CURRICULAR LINKS/THEMES/COMPETENCES:**  
 I.C.T

**ADVANCE PREPARATION (ROOM AND EQUIPMENT):**  
 ENSURE THAT THE COMPUTER ROOM IS FREE AND LOAD THE CD-ROM ONTO EACH OF THE COMPUTERS. THE ACTUAL LOGGING ON TO THE COMPUTERS AND NAVIGATING THE CD-ROM WILL BE DISCUSSED IN THE CLASS AS IT IS PART OF THE I.C.T. LEARNING EXPERIENCE.

**DIFFERENTIATION:**  
 MANY OF THE PUPILS WILL BE FAMILIAR WITH THE TECHNOLOGY USED IN THE LESSON AND WILL HAVE A CONSIDERABLE AMOUNT OF EXPERIENCE OF WORKING OR PLAYING WITH COMPUTERS AND CD-ROMS. IT IS PERFECTLY REASONABLE HOWEVER TO EXPECT A PROPORTION OF THE CLASS TO HAVE VERY LIMITED IT EXPERIENCE AND IT IS IMPORTANT THAT DURING THE PRACTICAL EPISODE OF THE LESSON THOSE PUPILS WITH MINIMAL I.T. EXPERIENCE ARE GIVEN EXTRA ATTENTION AND GUIDANCE.

**OVERALL TEACHING AND LEARNING STRATEGIES**

**TEACHER ACTIVITY**

**TIME**

**STUDENT ACTIVITY**

***Introduction***

- TEACHER INSTIGATES AN INTERACTIVE DISCUSSION FOCUSED ON THE ROLE OF ICT WITHIN GEOGRAPHICAL STUDIES. THE TEACHER ASKS HOW IT CAN BE USED BY GEOGRAPHERS. A SPIDER DIAGRAM IS DRAWN ON THE BLACKBOARD. FOCUS THE DISCUSSION TO CD-ROMS: EXPLAIN WINDOWS ON THE WORLD TO PUPILS.
- EXPLANATION OF THE OBJECTIVES OF THE LESSON. ESSENTIALLY THAT THEY ARE RESEARCHING A CASE STUDY OF THE ENVIRONMENTAL IMPACT OF A DAM PROJECT, WITH AN ADDITIONAL FOCUS ON THE APPLICATIONS OF ICT IN GEOGRAPHY. PUPILS ARE TOLD HOW TO FIND THE RELEVANT PAGE ON THE CD-ROM AND ARE BRIEFLY TAUGHT HOW TO NAVIGATE THE PAGES AND GO TO LINKS. THE HOMEWORK IS EXPLAINED SO THAT THE PUPILS ARE MORE FOCUSED ON WHAT EXACTLY IT IS THEY HAVE TO DO

20MINS

***Introduction***

STUENTS PUT FORWARD IDEAS AS TO HOW ICT CAN BE USED BY GEOGRAPHERS.

***Development***

TEACHER CIRCULATES AROUND THE CLASSROOM ENSURING THAT EVERYONE IS MANAGING TO ACCESS THE CORRECT INFORMATION AND UNDERSTANDS WHAT THEY ARE MEANT TO BE AIMING TOWARDS.

45MINS

***Development***

PUPILS ARE ENCOURAGED TO WORK WITHOUT ASSISTANCE AND EXPLORE THE CD-ROM, MAKING NOTES ON THE RELEVANT INFORMATION. PARTICULAR ATTENTION SHOULD BE GIVEN TO THE METHODOLOGY SECTION WHICH HIGHLIGHTS THE ROLE OF ICT IN THE PROJECTS EIA. NOTE TAKING IS RECOMMENDED FOR ANY IDEAS WHICH THEY MAY HAVE OR QUESTIONS WHICH THEY WOULD LIKE TO ASK, HOWEVER, THE CASE STUDY IS PRINTABLE SO EACH PUPIL WILL BE ABLE TO HAVE A COPY OF THE CD-ROM SITE.

***Conclusion***

BRIEF COMMENTS ON THE KEY FEATURES OF THE CASE STUDY, AND A RE-CAP OF THE HOMEWORKS AIMS AND OBJECTIVES.

THE TEACHER WILL NEED TO REMAIN BEHIND AFTER THE LESSON FOR 5 MINS TO LOG THE COMPUTERS OFF AND COLLECT THE CD-ROMS FROM THE DISC DRIVES

5MINS

***Conclusion***

PUPILS HAVE THE OPPORTUNITY FOR ANY QUESTIONS TO BE DEALT WITH AND TO MAKE SURE THEY HAVE FULLY UNDERSTAND THE PURPOSE OF THE HOMEWORK

**ASSESSMENT OPPORTUNITIES, OBJECTIVES AND EVIDENCE**

THIS LESSON IS QUITE UNUSUAL DUE TO THE FACT THAT IT IS BASED ON THE PUPILS WORKING EXPLORING THE CD-ROM AND HOPEFULLY 'ENJOYING' THE RESOURCE AS A MEANS OF DEVELOPING IT SKILLS, RATHER THAN PURELY BEING A GEOGRAPHY ASSIGNMENT. MOST OF THE 'ACADEMIC' WORK WILL BE CARRIED OUT DURING THE HOMEWORK EXERCISE. THE LESSON IS INTENDED TO BE PREDOMINANTLY AN OPPORTUNITY FOR THE PUPILS TO FAMILIARISE THEMSELVES WITH NEW TECHNOLOGY.

## **EVALUATION OF TEACHING**

- IT IS IMPORTANT THAT THE INTRODUCTION TO THE LESSON IS CONCISE AND TO THE POINT, PUPILS NEED TO APPRECIATE THE GROWING ROLE OF ICT WITHIN GEOGRAPHY RATHER THAN SEEING IT MERELY AS A 'GAME' OR AN 'EASY' LESSON. IT IS IMPORTANT FOR THE TEACHER TO STAND BACK AND LET THE PUPILS FIND THEIR OWN WAY AROUND THE CD-ROM, THIS HAS THE BENEFIT OF FREEING THE TEACHER TO FOCUS ON THOSE LESS ABLE PUPILS.

## **EVALUATION OF LEARNING**

- ON THE WHOLE THE LESSON HAS THE POTENTIAL TO BE A CONSIDERABLE LEARNING EXPERIENCE. PUPILS HAVE THE OPPORTUNITY TO DEVELOP THEIR ICT SKILLS, APPLY THESE SKILLS WITHIN A GEOGRAPHICAL CONTEXT AND ALSO LEARN A CASE STUDY FOR USE IN EXAMS. THE CASE STUDY IS ALSO PRESENTED WITHIN THE CONTEXT OF AN EIA WHICH WILL PROBABLY BE A NEW INSIGHT INTO ENVIRONMENTAL DECISION MAKING FOR MOST PUPILS.
- THE HOMEWORK GIVES THE PUPILS THE OPPORTUNITY TO REFLECT AND DOCUMENT WHAT THEY LEARNT DURING THE LESSON AND DEVELOP A CASE STUDY FOR FUTURE REFERENCE.
- THIS EXERCISE SUPPORTS THE TRADITIONAL 'ASWAN HIGH DAM' CASE STUDY THEME WHICH IS MOST COMMONLY REFERRED TO IN THE A'LEVEL SYLLABUS. THIS NEW CASE STUDY PROVIDES A FURTHER EXAMPLE OF THE POTENTIAL ENVIRONMENTAL IMPACTS OF DAMS AND WOULD PROBABLY BENEFIT THE PUPILS IN THEIR EXAMS.
- THE PURPOSE OF THE HOMEWORK IS TO ALLOW PUPILS TO GET TO GRIPS WITH THE CD-ROM IN THE CLASS ROOM RATHER THAN SPEND TIME WRITING UP IN CLASS

## **ACTION POINTS**

- THIS LESSON PLAN IS QUITE AMBITIOUS IN THE CONTENT WHICH IT COVERS. I FEEL THAT THE STRUCTURE AND CONTENT OF THE LESSON IS WORTHWHILE AND WILL BENEFIT THE PUPILS IN TERMS OF BOTH THEIR GEOGRAPHICAL KNOWLEDGE AND THEIR ICT CAPABILITIES. THE MAIN FAULT IS THAT THERE MAY BE TOO MUCH FOR ONE LESSON AND IT MAY BE ADVISABLE TO SPREAD THE LESSON PLAN OVER TWO DOUBLE PERIODS
- IF APPROPRIATE THE PUPILS COULD BE GIVEN THE OPPORTUNITY TO TAKE THE CD'S HOME FOR FURTHER REFERENCE.