

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER May 2009: BED II PRIMARY

COURSE NUMBER: PEC 277

COURSE NAME: CURRICULUM STUDIES: SCIENCE

TIME ALLOWED: 3 HOURS

- INSTRUCTIONS:
1. THIS PAPER HAS FOUR QUESTIONS.
  2. ANSWER QUESTION 1 AND ANY TWO QUESTIONS.
  3. DOCUMENTS REFERRED TO IN SOME OF THE QUESTIONS ARE ATTACHED. IF YOU CAN'T FIND THEM ASK FOR THEM.
  4. ANY PIECE OF MATERIAL WHICH IS NOT FOR MARKING PURPOSES MUST BE CROSSED OUT CLEARLY.

SPECIAL REQUIREMENTS: NCC SCIENCE BOOK

THIS PAPER MUST NOT BE OPENED UNTIL PERMISSION IS GIVEN BY THE  
INVIGILATOR

Answer question 1 and any two other questions from the following

**Question 1**

- a) Objectives, attainment targets and key points are statements of intended outcomes. What does each tell you about the lesson? In your answer, do not copy the question, simply write the number corresponding to the purpose and the statement of intended outcomes.
- i. a step by step focus during the lesson
  - ii. skills and ability developed through a programme
  - iii. overall acquisition of lesson presented (6)
- b) In one or two sentences describe the principle of triangulation. (5)
- c) Study the following lesson.

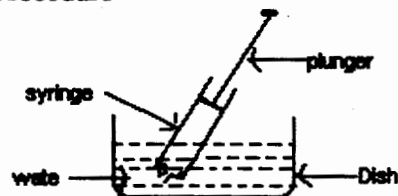
**Topic:** Where air may be found

**Teaching materials:** a dish half full water and a syringe

**Objectives:** by the end of the lesson pupils will be able to:

1. Do the experiment
2. Use a syringe to draw air
3. Explain how a syringe works
4. Answer teacher questions on the experiment
5. Explain why water from the nearby pond should not be used in this experiment
6. Propose another method of finding out where air is found

**Procedure**



Now answer the following questions

- i. Two of these objectives are not meaningful. Identify them and briefly explain, in not more than two lines, why they are not meaningful. Write the number corresponding to the two objectives and the explanation for your answer (4)
- ii. For each of the four remaining objective, indicate the relevant domain. Only write the number of the objective and the domain in each case. (8)

- d) In one or two sentences, describe i. accommodation and ii. assimilation in relation to Piaget's theory. (4)
- e) Distinguish between the pairs of terms. Illustrate your answers in each case with suitable examples. (8)
- i. Observing and inferring  
ii. Hypothesising and predicting

**Total marks 30**

Answer any two questions from the following

**Question 2**

... Science is a tentative human enterprise by which man tries to understand the natural world ...

Starting from the statement above outline the nature of science and show, using Hirst's postulates, how science differs from other forms of knowing. (35)

**Question 3**

The current drought situation has had implications for the availability of water particularly in the Lubombo region. Supposing you were posted to one of the schools in that region and you are ready to teach Unit 3 in the Grade VI NCC materials on how 'weather affects our lives':

- a. Write a detailed contextualised lesson plan for a lesson on this unit. (25)
- b. Write an investigation activity sheet for learners in this lesson. (10)

**Question 4**

A student on teaching practice once complained that his Grade IV class was disappointing him. They were able to solve problems when he provided probing questions. However, when given a class exercise to do individually they could not do it.

- a. Using your knowledge of Vygotsky's Zone of Proximal Development, explain this incidence. (15)
- b. Supposing you were a senior teacher in your school and you were asked to explain the theory of constructivism to the rest of the teaching staff, describe what you would do and say. (20)

**Question 5**

Study the lesson plan below and the answer the questions which follow.

**Grade** VI  
**Topic:** Seeds develop into new plants.

**Introduction:**

*Read the story*

Mrs Dodo gets a lot of maize from her farm at the end of the harvest season. Mr. Zondi who is also a farmer grows beans in his farm. Mr. Zondi is very disappointed that his beans failed to germinate in 2007. He suspects that this was caused by his neighbour Mrs. Dodo who practices witch craft on his soil. He believes that this was the cause for the failure of his bean seeds.

*Speculation*

Do you agree with Mr Zondi? Why or why not?

Discuss this in class.

What do you think might be the cause of the failure of the beans seeds to germinate?

What other possible causes are there?

What conditions are necessary for bean to germinate? List them all.

How can you find out the real cause?

*Instructions*

You will go to your group and write a plan to investigate Mr. Zondi's problem. Each group will select one condition from the list and find out if it is indeed responsible for seed germination. Make sure that your plan shows how you will know if your chosen condition is responsible and not any other. (source: NCC science book)

Answer the questions below

- a. Write three well structured objectives for this lesson. (12)
- b. Discuss the value of the speculation and its contribution to the lesson. (9)
- c. Given that this is a investigation lesson, describe the scientific processes involved stating where they might be encouraged. (14)