

Course: Diploma in Primary Education

Unit: Science and technology

1.0 PHILOSOPHY OF SCIENCE

1.1 NATURE OF SCIENCE

PROBLEM SOLVING PROCESS

Step 1

DEFINE THE SPECIFIC PROBLEM. -The starting point is recognizing and stating a very specific question/

Step 2

COLLECT INFORMATION BY MAKING OBSERVATIONS. -Gather background information on the problem, and make many observations, information obtained by using the senses.

Step 3

FORM A HYPOTHESIS. -Utilize your observations to form a hypothesis, a testable explanations for the problem.

Step 4

TEST THE HYPOTHESIS BY EXPERIMENTATION. -An experiment is a procedure that tests a hypothesis by the process of collecting information under controlled conditions. A controlled experiment involves two groups: the control group and the experimental group.

Step 5

ORGANIZE AND RECORD COLLECTED DATA. -The information obtained during the experimental procedure, the data, must be accurately recorded.

Step 6

DRAW CONCLUSIONS. -The data must be analyzed to determine if the results supported the hypothesis. If the hypothesis is not supported, propose a new hypothesis to test.

Example: The fire alarm is not working.

1) Observe/Define the problem: it does not beep when I push the button.

2) Hypothesis: it is caused by a dead battery.

3) Test: try a new battery.

4) Confirm/Disconfirm: the alarm now works. If it does not work, start over by testing another hypothesis like "it has a loose wire."

3.0 LIVING THINGS

3.1 Classification of living Things