



education

Department of
Education
FREE STATE PROVINCE

PROVINCIAL FORMAL EXPERIMENT

GRADE 10

TECHNICAL SCIENCES

MARCH 2017

MARKS: 15

TIME: 30 MINUTES

This paper consists of three pages.

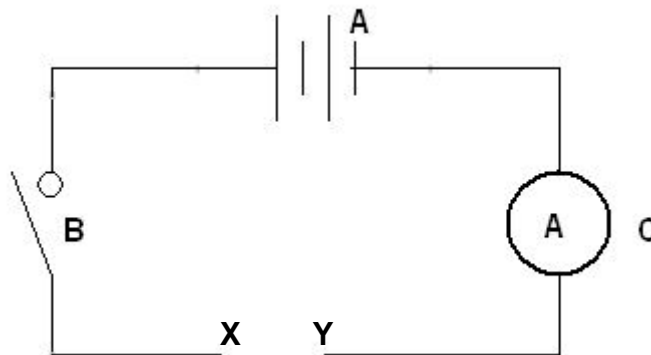
Name of learner Grade

INSTRUCTIONS AND INFORMATION

1. Write your name and grade in the appropriate spaces on the FRONT PAGE of this question paper.
2. Answer ALL questions in the spaces provided in THIS QUESTION PAPER.
3. Give brief motivations, discussions, et cetera where required.

QUESTION 1

The circuit diagram below represents a circuit that was used to investigate the electrical conductivity of different materials. Three circuit components are labelled **A**, **B** and **C**.



1.1 Name component:

A: _____ (1)

B: _____ (1)

C: _____ (1)

1.2 What is the function of component **C**?

_____ (1)

1.3 Why is there an opening between points **X** and **Y** in the circuit?

_____ (2)

1.4 The following results were obtained during the investigation:

Material	Current (A)
Iron	0,4
Copper	0,8
Plastic	0
Lead	0,1
Rubber	0

1.4.1 Which one of the materials has the HIGHEST conductivity?

_____ (1)

1.4.2 Which material is a conductor, but a very WEAK conductor?

_____ (1)

1.4.3 Which material(s) is/are INSULATORS?

_____ (2)

1.5 For this investigation, write down the:

1.5.1 Independent variable _____ (1)

1.5.2 Dependant variable _____ (1)

1.5.3 Controlled variable _____ (1)

1.6 Use your knowledge of materials and write down a conclusion from the results of this experiment.

_____ (2)
[15]