



education

Department of
Education
FREE STATE PROVINCE

PRACTICAL TASK

GRADE 10

PHYSICAL SCIENCES

MARCH 2018

MARKS: 15

TIME: 30 MINUTES

This paper consists of THREE pages.

Name of learner Grade

INSTRUCTIONS AND INFORMATION

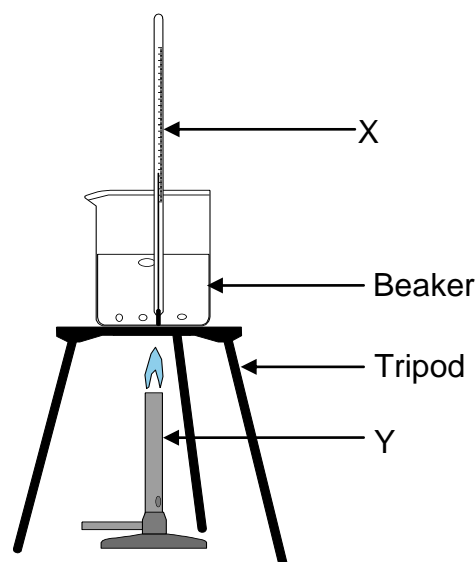
1. Write your name and grade in the appropriate spaces on the FRONT PAGE of this question paper.
 2. Answer ALL questions in the spaces provided in THIS QUESTION PAPER.
 3. You may use a non-programmable pocket calculator.
 4. You may use appropriate mathematical instruments.
 5. Give brief motivations, discussions, et cetera where required.
 6. Write neatly and legibly.
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QUESTION 1

The apparatus shown on the right was used to investigate the heating curve of water.

Learners placed ice cubes in a glass beaker and heated it while they constantly stirred the contents of the beaker.

The temperature was taken once a minute and recorded in a table such as the one shown on the next page.



- 1.1 Give the names of **X** and **Y** in the diagram. (2)

X: _____

Y: _____

- 1.2 Identify the:

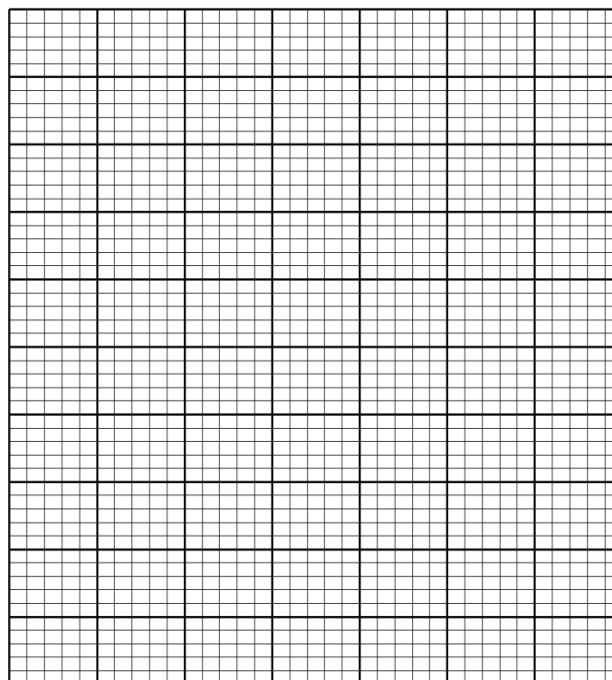
1.2.1 Dependent variable _____ (1)

1.2.2 Independent variable _____ (1)

- 1.3 The table of results is as follows:

Time (minutes)	Temperature (°C)
0	0
2	0
4	0
5	2
10	36
15	68
20	96
25	100
30	100

Draw a graph of temperature versus time. Choose a suitable scale, label your axes, plot the points and draw the graph.



(6)

- 1.4 Which time interval on your graph represents the phase change from liquid to gas? (1)

- 1.5 What was the temperature reading at 18 minutes? (1)

- 1.6 How many phase changes are represented by the graph? (1)

- 1.7 A wire gauze, such as the example in the picture, is normally placed on the tripod between the glass beaker and the flame. Apart from supporting the glass beaker, it mainly protects the glass beaker from cracking. Briefly explain how the wire gauze succeeds in protecting the beaker from cracking?



(2)

[15]