



education

Department of
Education
FREE STATE PROVINCE

**PROVINCIAL PRACTICAL TASK
*PROVINSIALE PRAKTIESE TAAK***

GRADE/GRAAD 10

**PHYSICAL SCIENCES
FISIESE WETENSKAPPE
MEMORANDUM**

MARCH/MAART 2017

MARKS/PUNTE: 40

TIME/TYD: 1 HOUR/UUR

**This memorandum consists of FOUR pages.
*Hierdie memorandum bestaan uit VIER bladsye.***

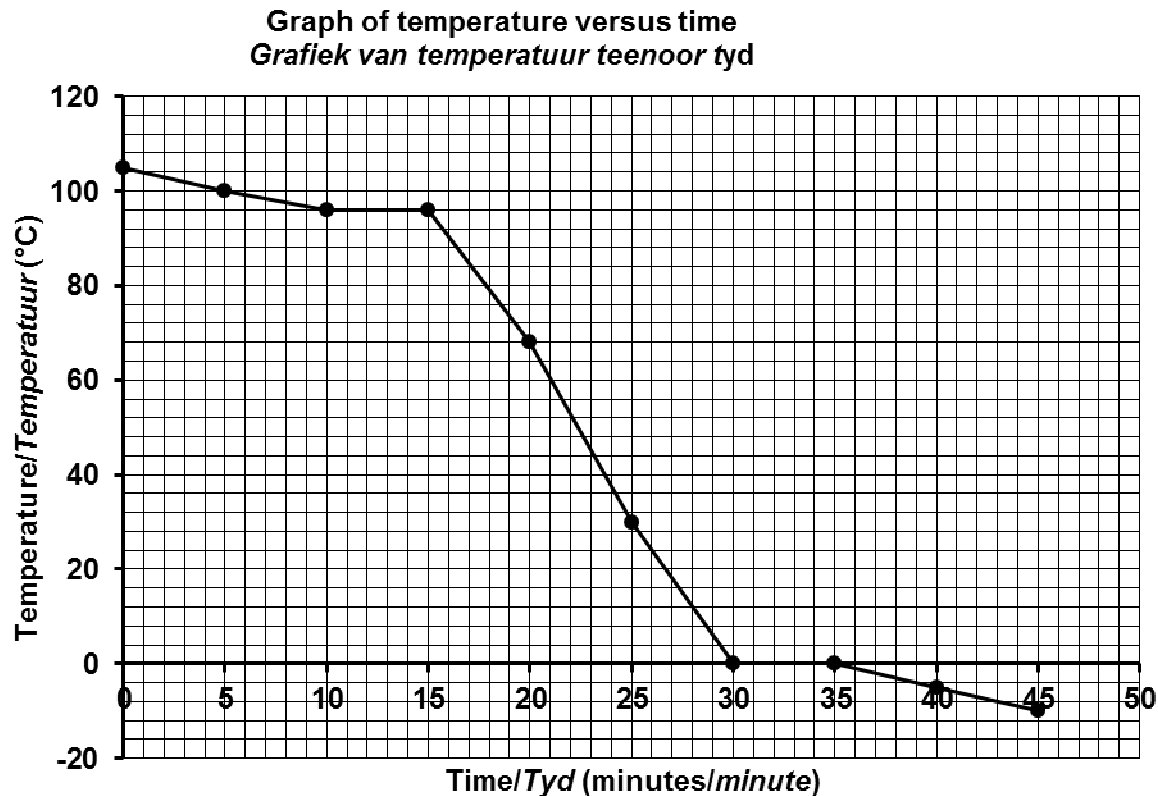
QUESTION 1/VRAAG 1

- 1.1 (Pen) 2 ✓
Same pattern. / Same number of dots on same height. ✓
Dieselfde patroon. / Dieselfde aantal kolle op dieselfde hoogte. ✓ (2)
- 1.2 $R_f = \frac{\text{distance travelled by sample}}{\text{distance travelled by solvent}}$ / $R_f = \frac{\text{afstand beweeg deur monster}}{\text{afstand beweeg deur oplosmiddel}}$ ✓
 $= \frac{4,1}{8,0}$ ✓
 $= 0,51$ ✓ (3)
- 1.3 **ANY TO/ENIGE TWEE:**
Temperature / *Temperatuur* ✓
Solvent / *Oplosmiddel* ✓
Type of paper / *Soort papier* ✓ (2)
- 1.4
1.4.1 Water / *solvent / oplosmiddel* ✓ (1)
1.4.2 Paper / *Papier* ✓ (1)
[9]

QUESTION 2/VRAAG 2

- 2.1 Thermometer/ *Termometer* ✓
To measure the temperature of water. / *Om die watertemperatuur te meet. ✓* (2)
- 2.2 C: tripod / *driepootstaander* ✓ (1)
D: Bunsen burner/ bunsenbrander ✓ (1)
- 2.3
2.3.1 Time / *Tyd* ✓ (1)
2.3.2 Temperature / *Temperatuur* ✓ (1)
- 2.4

Marking criteria for graph/ <i>Nasienriglyne vir grafiek</i>	
Correct title. / <i>Korrekte opskrif.</i>	✓
Suitable scale on both axis. / <i>Geskikte skaal op beide asse.</i>	✓
Any 4 points correctly plotted/ <i>Enige 4 punte korrek gestip.</i>	✓
All the points (8) correctly plotted. / <i>Al die punte (8) korrek gestip.</i>	✓
Shape of graph shown. / <i>Vorm van grafiek soos getoon.</i>	✓✓



(6)

2.5

2.5.1 Decreases / Verlaag ✓

(1)

2.2.2 No change / Constant ✓

Geen verandering nie / Konstant

(1)

2.5.3 The water freezes / phase changes from liquid to solid phase. ✓

Heat is released (when water becomes ice) preventing the water from cooling down further (even when the external temperature is lower than the temperature of the water). ✓

Water vries / fase verander van vloeistof na vaste stof.

Warmte word vrygestel (wanneer die water ys word) wat verhoed dat die water verder afkoel selfs al is die eksterne temperatuur laer is as die temperatuur van die water. (2)

2.6 96 °C ✓

(1)

2.7 average ✓ kinetic ✓
gemiddelde kinetiese

(2)

[19]

QUESTION 3/VRAAG 3

3.1 To clean the wire. / Om die draadjie skoon te maak. ✓ (1)

3.2.1

Salt / Sout	Chemical formula Chemiese formule	Flame colour Vlamkleur
Potassium chloride Kaliumchloried	<u>KCl</u> ✓	<u>Lilac / purple</u> <u>(lig)pers</u> ✓
Sodium chloride Natriumchloried	<u>NaCl</u> ✓	<u>(Golden) yellow</u> <u>(goud)geel</u> ✓

(4)

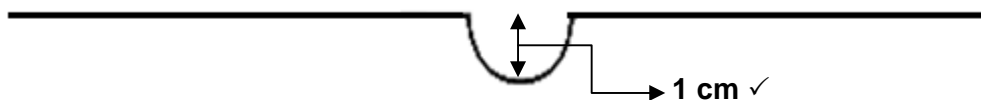
3.2.2 Barium chloride / Bariumchloried ✓
 BaCl_2 ✓

(2)

[7]

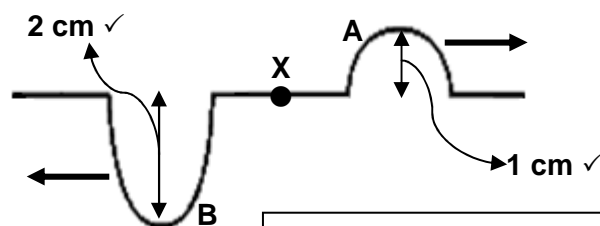
QUESTION 4/VRAAG 4

4.1 One pulse below equilibrium position ✓
Een puls onderkant ewewigsposisie



(2)

4.2



One mark for/Een punt vir: ✓

- Pulse B shown to the left of X below equilibrium position.
Puls B links van X getoon onderkant ewewigsposisie.
- Pulse A shown to the right of X above equilibrium position.
Puls A regs van X getoon bokant ewewigsposisie.

(3)

[5]

GRAND TOTAL/ GROOTTOTAAL: [40]