

**QUESTION 3/VRAAG 3**

- 3.1 The temperature of the liquid at which the vapour pressure equals the external (atmospheric) pressure. ✓✓/Die temperatuur van die vloeistof waarteen die dampdruk aan die eksterne (atmosferiese) druk gelyk is. (2)
- 3.2.1 80 °C ✓ (1)
- 3.2.2 D ✓ (1)
- 3.2.3 C ✓ (1)
- 3.3 Liquid changes to gas ✓/Vloeistof verander na gas (1)
- 3.4 Remains the same. ✓/Bly dieselfde (1)
- 3.5   
– Energy is used to overcome the intermolecular forces. ✓/Energie word gebruik om die intermolekuläre kragte te oorkom.  
No energy available to increase the kinetic energy of the particles. ✓/Geen energie beskikbaar om die kinetiese energie van die partikels te verhoog nie. (2)
- 3.6   
– A ✓ Lowest boiling point. ✓✓/Laagste kookpunt

**OR/OF**

Highest vapour pressure at a specific temperature./Hoogste dampdruk by 'n spesifieke temperatuur (3)

- 3.7 Vapour pressure increases with an increase in temperature. ✓✓/Dampdruk verhoog wanneer temperatuur verhoog.

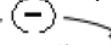
**OR/OF**

Vapour pressure is proportional to temperature. ✓✓/Dampdruk is direk eweredig aan temperatuur.

(2)  
[14]

## Fases Memo

November 2017

- |       |   |     |
|-------|---|-----|
| 1.2   | A ✓✓  | (2) |
| 1.6   | A ✓✓  | (2) |
| 1.8   | A ✓✓  | (2) |
| 2.6.1 | Physical ✓/Fisies ✓   | (1) |
| 2.6.2 | Boiling point ✓/Kookpunt ✓  | (1) |
| 2.6.3 | Nitrogen ✓; it has the  lowest boiling point. ✓/Stikstof ✓. Laagste kookpunt ✓ | (2) |
| 2.7.1 | INCREASE. ✓/TOENEEM✓  | (1) |
| 2.7.2 | DECREASE. ✓/AFNEEM✓   | (1) |
| 2.7.3 | INCREASE. ✓/TOENEEM✓  | (1) |

## Fases Memo

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- 1.2 A ✓✓  
1.3 C ✓✓

(2)  
(2)

### QUESTION 3/VRAAG 3

- 3.1 3.1.1 Temperature ✓/Temperatuur (1)  
3.1.2 Time ✓ Also accept phase change  
*Tyd. Aanvaar ook faseverandering* (1)
- 3.2 What is the relationship between an increase in temperature over a period of time and/or phase change? ✓✓  
*Wat is die verwantskap tussen 'n toename in temperatuur vir 'n tydperk en/of faseverandering?*  
**NOTE:** ✓The dependent and independent variable must be mentioned.  
✓The relationship between the variables must be identified.  
The question should not be answered with a YES or NO.  
**LET WEL:** *Die onafhanklike en afhanklike veranderlike moet genoem word.*  
*Die verwantskap tussen die veranderlikes moet ook genoem word.*  
*Die vraag moet nie kan beantwoord word deur 'n JA of NEE antwoord nie.* (2)
- 3.3 Solid ✓/Vaste stof (1)
- 3.4 -24 °C ✓ (1)
- 3.5 Boiling point is the temperature of a liquid at which its vapour pressure is equal to the external (atmospheric) pressure. ✓✓  
*Kookpunt is die temperatuur van 'n vloeistof waar sy dampdruk gelyk is aan die eksterne (atmosferiese) druk.* (2)
- 3.6 Liquid changes to gas. ✓/Vloeistof na gas (1)
- 3.7 The kinetic energy of the particles remains the same✓, the energy is used to overcome/break/weaken the intermolecular forces (forces of attraction) between the particles✓, particles move further away from each other (increase in potential energy)✓ resulting in a phase change✓.  
*Die kinetiese energie bly dieselfde✓, die energie word gebruik om die intermolekulêre kragte (aantrekingskragte) tussen die deeltjies te oorkom /breek/verswak ✓, die deeltjies beweeg verder uit mekaar uit, dus neem die potensiële energie toe.✓ en sodende vind 'n faseverandering plaas.✓* (4)
- 3.8 Substance 2.✓  
Substance 2 has a lower melting and/or boiling point than substance 1. ✓  
*Stof 2.*  
*Stof 2 het 'n laer smelt- en/of kookpunt as stof.* (2)
- 3.9 Thermometer ✓/Termometer (1)
- DEPARTMENT OF BASIC
- 3.10 EQUAL TO.✓  
⊖ Substance 1 and 2 are at the same temperature. Therefore they will have the same average kinetic energy.✓  
*GELYK AAN.*  
*Stof 1 en 2 is by dieselfde temperatuur. Dus sal hulle oor dieselfde gemiddelde kinetiese energie beskik.* (2)

1.2 B ✓✓

(2)

### QUESTION 3/VRAAG 3

3.1

3.1.1 The temperature ✓ at which the vapour pressure is equal to the external/atmospheric pressure. ✓

*Die temperatuur waarby die dampdruk gelyk is aan die eksterne/atmosferiese druk.*

(2)

3.1.2 (a) D ✓

(1)

(b) B ✓

(1)

(c) C ✓

(1)

3.1.3 I ✓

(1)

3.2

3.2.1 Liquid/Vloeistof ✓

(1)

3.2.2 132 °C ✓

(1)

3.2.3 (a) Increases/Toeneem ✓

(1)

(b) Remains the same/Bly dieselfde ✓

(1)

3.2.4 Heat energy is used to break forces between particles ✓ resulting in a phase change ✓

and not to change the speed at which particles move. ✓

*Warmte energie word gebruik om kragte te breek tussen deeltjies wat lei tot 'n faseverandering*

*en nie tot verandering in die spoed waarteen deeltjies beweeg nie.*

### OR/OF

Heat energy is used to increase the potential energy ✓ of the particles making them move further apart ✓ resulting in a phase change. ✓

*Warmte energie word gebruik om die potensiële energie van die deeltjies te verhoog en veroorsaak dat hul verder vanmekaar beweeg en 'n faseverandering tot gevolg het.*

(3)

[13]