

MARK SCHEME

GCSE

PHYSICS

AQA - COMBINED SCIENCE

P3 - TEST 2

PARTICLE MODEL OF MATTER

Beginner

Mark schemes

- 1.** (a) condensation 1
- (b) larger (exposed) surface area 1
- (so) water can evaporate faster
or
(so) more water (molecules) can escape
allow more water can evaporate 1
- [3]**
- 2.** (a) balls are far apart from each other 1
- balls move randomly 1
- (b) solid 1
- gas 1
- [4]**
- 3.** (a) (i) Z 1
- (ii) X 1
- (b) (i) moving randomly 1
- (ii) stronger than 1
- (c) (i) evaporation 1
- (ii) any **one** from:
- becomes windy
 - temperature increases
accept (becomes) sunny
"the sun" alone is insufficient
 - less humid 1
- [6]**

4.	(a) kilograms per metre cubed, kg / m ³	1
	(b) (solid has) more particles <i>allow atoms for particles</i>	1
	in the same volume or in a given volume <i>allow description of a given area</i>	1
	(c) randomly <i>this order only</i>	1
	kinetic	1
	(d) (pressure) rises	1
		[6]
5.	(a) (use a) displacement / eureka can filled with water	1
	collect the water that is displaced (by the stone)	1
	measure volume of water with a measuring cylinder	1
	or	
	(use a) measuring cylinder of water (1)	
	take a start and end level of the water (in the measuring cylinder) (1) <i>allow idea of measure how far water has risen from original level</i>	
	calculate volume of water rise (1)	
	(b) Vernier callipers	1
	(c) 11.2 (cm ³) <i>allow 11</i>	1

(d) $\frac{56}{11.2}$

allow ecf from part (c)

1

5(.0)(g/cm³)

1

an answer of 5(.0) scores 2 marks

(e) haematite

1

[8]

6.

(a) ice
water
steam

allow 1 mark for 1 or 2 correct answers

2

(b) 1 kg of steam

1

(c) steam

1

(d) $\rho = 11\,200 / 12.0$

1

$\rho = 933 \text{ (kg/m}^3\text{)}$

an answer of 933 (kg/m³) scores 2 marks

1

(e) the internal energy of the iceberg increases

allow there is a temperature difference between ice and water / air

1

because

therefore

energy is transferred from the sea/water to the ice(berg)

1

[8]