AQA GCSE Science Combined Foundation

Practice answers

Question	Answers	Extra information	Mark	AO / Specification reference
01.1	solid state — particles close together and vibrating liquid state — particles close together and moving gas state —particles moving fast and far apart	two marks for all lines correct one mark for one line correct	2	AO1 6.3.1.1
01.2	gas		1	AO1 6.3.1.1
01.3	stays the same conserved		1 1	AO1 6.3.1.2
02.1	mass energy transferred		1	AO1 6.3.2.3
02.2	correct method that explains: - how to measure the energy - how to measure the mass of water - how to calculate the specific latent heat. for example: measure the mass of the beaker. connect the immersion heater to joulemeter place the ice in the beaker with the immersion heater. put the beaker under the funnel. turn on the immersion heater. leave it on while the ice melts and turn it off. measure the mass of the water and beaker subtract the mass of the beaker to find the mass of water divide the energy by the mass to find the specific latent heat		6	AO1 6.3.2.3
03.1	density = $\frac{\text{mass}}{\text{volume}}$		1	AO1 6.3.1.1

AQA GCSE Science Combined Foundation

Practice answers

Question	Answers	Extra information	Mark	AO / Specification reference
03.2	correct method that describes: • how to measure the mass of the liquid (e.g., measure the mass of a beaker, measure the mass of the beaker and liquid, subtract the mass of the beaker to find the mass of the liquid) • how to measure the volume of the liquid (e.g., use a measuring cylinder) • how to calculate density $\left(\frac{\text{mass}}{\text{volume}}\right)$		2 1 1	AO1 6.3.1.1
03.3	beaker of treacle		1	AO3 6.3.1.1
03.3	$0.80 = \frac{\text{mass}}{150}$ mass = 0.80 × 150 = 120 g		1 1	AO2 6.3.1.1
04.1	vibrating potential moving fast kinetic		1 1 1 1	AO1 4.3.2.1
04.2	the internal energy changes from mainly potential to mainly kinetic/more kinetic	do not accept answers involving solids/liquids/gases	1 1	AO1 4.3.2.1
04.3	the particles in a gas are in random motion		1	AO1 4.3.2.1
05.1	volume = 20 x 5 x 4 = 400 cm^3		1 1	AO2 6.3.1.1

AQA GCSE Science Combined Foundation

Practice answers

Question	Answers	Extra information	Mark	AO / Specification reference
05.2	density = $\frac{\text{mass}}{\text{volume}}$		1	AO1 6.3.1.1
05.3	density = $\frac{300}{4000}$ = 0.75 g/cm^3		1 1 1	AO1 AO2 6.3.1.1
05.4	bigger		1	AO2 6.3.1.1
05.5	yes the density of the block is lower than the density of water		1 1	AO3 6.3.1.1
06.1	random		1	AO2 6.3.3.1
06.2	the temperature of the gas inside the tyre is related to — the average kinetic energy of the gas molecules if the volume the gas stays the same then — increasing the temperature will increase the pressure if the molecules are moving faster then — the pressure of the gas will be bigger	all lines correct for two marks one line correct for one mark	2	AO2 6.3.3.1
06.3	bigger quickly		1 1	AO3 6.3.3.1
07.1	bar chart one of the variables is categoric/words		1	AO1 6.1.1.3

AQA GCSE Science Combined Foundation

Practice answers

Question	Answers	Extra information	Mark	AO / Specification reference
07.2	660 - 20 = 640 (°C)	one mark for 576 000	1 1	AO2 6.1.1.3
07.3	energy = mass x specific heat capacity x temperature difference = 0.001 x 900 x 640 = 576 (J)		1 1	AO3 6.1.1.3
07.4	correct suggestion e.g., gold has a lower melting point so takes less time/energy to heat before it melts		2	AO3
08.1	volume before = 70 cm^3 volume after = 85 cm^3 volume of clay = 85 cm^3 – 70 cm^3 = 15 cm^3		1 1	AO2 AO3 4.3.1.1
08.2	2.5 cm^3		1	AO3
08.3	digital balance/top pan balance		1	AO1
08.4	density = $\frac{\text{mass}}{\text{volume}}$	allow $\rho = \frac{m}{v}$	1	AO1
08.5	density = $\frac{23.41}{15}$ = 1.56 g/cm^3	accept 1.56 or 1.6 with no working shown for two marks	1 1	AO2 4.3.1.1
08.6	measure the length of each side (in cm)/measure the length, breadth and height cube the answer/multiply length x breadth x height		1 1	AO1 4.3.1.1

AQA GCSE Science Combined Foundation

Practice answers

Question	Answers	Extra information	Mark	AO / Specification reference
09.1	B D the temperature isn't changing/doesn't change even though the substance is being heated		1 1 1	AO2 AO3 4.3.1.2
09.2	solid it changes state twice/goes from solid to liquid, then liquid to gas		1	AO3 4.3.1.2
09.3	A		1	AO1 4.3.1.2
09.4	**two** from: • A • C • E		1 1	AO1 4.3.1.2
10.1	the dry ice changes from a solid to a gas — sublimation water changes from a liquid to a gas — evaporation the water ice changes from a solid to a liquid — melting steam changes from a gas to a liquid — condensation	three marks for all lines correct two marks for two or three lines correct one line correct for one mark	3	AO2 6.3.1.2
10.2	the material recovers its original properties if the process is reversed		1	AO2 6.3.1.2
10.3	the energy transferred to the dry ice increases the internal energy of the dry ice the energy transferred to the dry ice makes the particles move further apart		1 1	AO3 6.3.1.2 6.3.2.1