Question number	Answer	Notes	Marks
8 (a) (i)	any FOUR from: MP1. measure mass; MP2. use (mass) balance; MP3. measure diameter; MP4. use ruler/callipers/micrometer; MP5. further experimental detail e.g. use set square against ruler/use callipers in different orientations/fully submerged/avoid splashing; MP6. repeat readings and take average; MP7. use formula to find volume of a sphere e.g. $V = 4/3\ \pi r^3$; MP8. use density = mass ÷ volume;	condone reference to letting the ice melt allow scales reject scale allow use of displacement method and measuring cylinder for MP3, MP4, MP7	4
(ii)	substitution into equation density = mass ÷ volume; evaluation; unit i.e g/cm^3; correct answer = 0.85 g/cm^3 e.g. density = mass ÷ volume density = 0.94 ÷ 1.1 density = 0.8545… density = 0.85 g/cm^3	allow use of standard symbols e.g. D = M ÷ V accept ρ for density -1 for POT error independently marked accept unit matching calculation i.e. if mass converted into kg accept 0.854 or 0.855	3
(b)	any TWO from: MP1. warm **air** rises; MP2. warm **air** expands; MP3. warm air is less dense than cold air; MP4. a convection <u>current</u> is formed;	allow ‘cloud’ for ‘air’ allow air particles spread out reject ‘particles expand’	2

(Total for Question 8 = 9 marks)