	Answer	Notes	Marks
6 (a)	any four from: MP1. water near heater is heated; MP2. (heated) water expands; MP3. density of (heated) water decreases; MP4. lower density / warm water rises; MP5. cooler / denser water sinks; MP6. process repeats / is continuous;	allow clear annotations on diagram accept 'particles move apart from each other'/'particles spread out' reject particles expand	4
(b) (i)	temperature increases with time; idea that rate of temperature increase reduces;	 allow 'temperature increases at a decreasing rate'/ EQ for 2 marks	2
(ii)	temperature rise is quicker when container is empty; with any two explanations from: • particles move around quicker/have more KE in gases; • convection current is faster in gases; • energy transfer (by convection) is quicker; • mass of air in empty container less than mass of water in full container; • specific heat capacity of air is lower than water;	allow empty container reaches higher temperature ignore comments about conduction allow particles in gases are more free to move allow less particles in empty container allow RA	3

Total for Question 6 = 9 marks