

Question number	Answer	Notes	Marks
12 (a)	idea that the <b>temperature</b> outside the box is greater than the <b>temperature</b> inside the box;	however described  e.g. “it is hotter outside the box than inside the box”	1
(b)	any two from: MP1. air / cardboard is a poor conductor / (good) insulator;  MP2. air is a gas (which are poor conductors); MP3. particles in air are far apart / collide with each other rarely; MP4. idea that thicker objects (of the same material) conduct slower;	ignore idea of trapped air  condone idea of ‘non-conductor’	2
(c)	idea that air (particles) cannot move around;  lid stops or reduces convection currents forming;	e.g. air cannot flow or air trapped  accept idea that box is a solid and convection is impossible in solids for 1 mark	2
(d)	white / silver ; (because) these are poor emitters of infrared / radiation;	accept ‘radiators’ for emitters  ignore references to absorption or reflection	2

**Total for Question 12 = 7 marks**