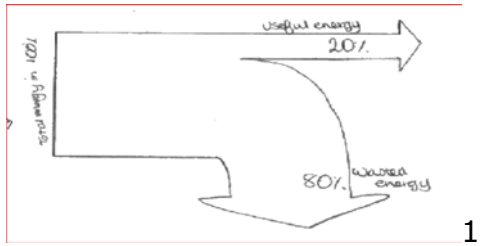
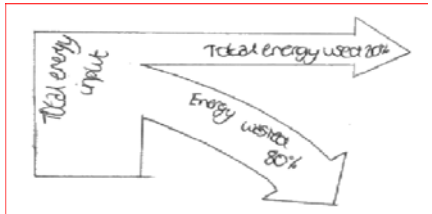
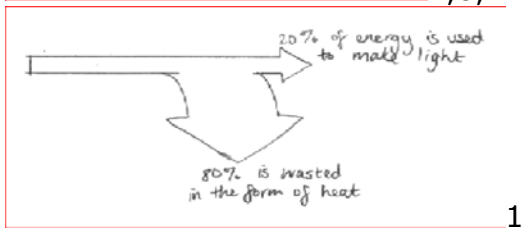
Question number	Answer	Notes	Marks
2 a i	B kettle		1
ii	A food mixer		1
b	any one from MP1 total energy always has the same value; MP2 energy cannot be created or destroyed; MP3 energy input = energy output ;	Allow student speak with two distinct ideas on energy e.g. none is lost or gained none is lost just transferred	1
c i	Both of: MP1 . is 20% of the energy input ; MP2 . (20%) is transferred usefully / as light; **OR both of:** MP3 . 80% of the energy input ; MP4 . (80%) is wasted / transferred as heat;	allow energy used for energy input 20% (or 80%) is not enough for the mark, 'energy input' or 'energy used' must be mentioned allow for 1 mark, a definition of efficiency condone power for energy independent marks	1 1
ii	Sankey diagram giving – MP1. One input and ONLY two outputs; MP2. Roughly correct proportions; MP3. Two correct labels; e.g.	allow • output arrows in either direction • both output arrows in same direction • 2 from o input/electrical/total, o useful/light, o wasted/heat/thermal ignore % on labels sound	1 1 1

	 1,1,1	there must not be a size difference between input and outputs, even if the light is ~ 1/4 of heat i.e. 100 units in and 100 units out  1,0,1  1,0,1	

(Total for Question 2 = 8 marks)