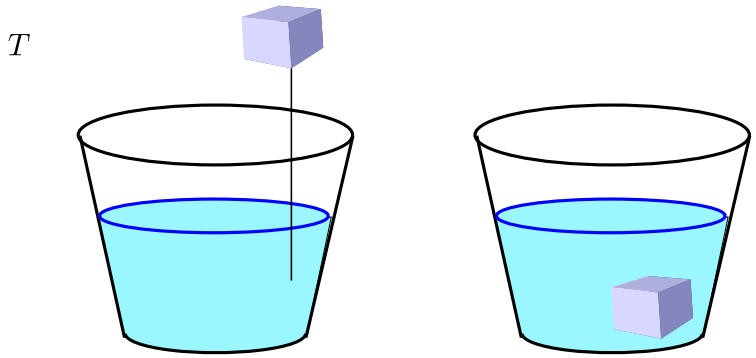

Figure 1: (a) We drop a small 350 K cube of metal into a bucket of water initially at 300 K. (b) After a short while, the metal has cooled to 346 K, and the water has warmed to 301 K.

Find ΔS_{total} as the system (the block and the water) goes from (a) to (b). Assume that it takes 2000 J of energy to raise the temperature of the water bath by 1 K.