The entropy of melting for ice is $\Delta S_{melt} = \Delta H_{melt}/T$. Energy is taken into the ice during melting, so ΔH_{melt} is positive. Any value of temperature, T, is positive so ΔS_{melt} is positive at any temperature. Why does ice melt only above a particular temperature, 273K? Why not 230K? When crafting your answer, do not use auxiliary functions like Helmholtz or Gibbs free energy. (Hint: get Bent, the book not the beer).

To melt ice at 230K instead of the usual 273K, the surroundings must supply it. Entropy has to do with the quality of energy—i.e., its availability. The heat energy in the surroundings is just not easy enough to focus into a system until one gets to 0^oC. Trying to focus energy at 230K causes a reduction in surroundings entropy larger than the gain in system energy at this same temperature. It's hard to blood from a stone and hard to get energy from a cold object.

We could ask the opposite question: why doesn't ice FORM at $+10^oC$. Here's that answer: You have to watch not onlythe ice, but also the surroundings. The entropy reduction during the formation of ice is balanced by entropy generation in the surroundings. Dumping heat into the surroundings only generates enough energy if the surroundings are cold enough. In other words, it's not enough to just dump the energy that was in the water someplace else; it has to be put into a cold system, where it is difficult to get back. Entropy is very much about the quality(i.e., availability) of energy.