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Students' reasoning regarding entropy and the second law of thermodynamics in an upper-level thermal physics course¹ DAVID E. MELTZER, WARREN M. CHRISTENSEN, Iowa State University — We have been extending our investigation of student learning in thermal physics to the upper-level course targeted primarily at junior and senior physics majors. We are monitoring the progress of the students as they attempt to unify the macroscopic and microscopic/statistical viewpoints into a coherent understanding of thermal physics concepts. We will report on initial results of this work regarding the development of students' understanding of entropy and the second law of thermodynamics.

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