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**Suzanne Ingrid Dorée\*** ([doree@augsborg.edu](mailto:doree@augsborg.edu)), Augsburg College Campus Box 61, Minneapolis, MN 55454. *Making Discrete Inquiries: Effective IBL Structures for a Multi-Audience Discrete Mathematics Course*. Preliminary report.

Mathematical inquiry is the core of what mathematicians do. Teaching inquiry helps students grow their inner mathematician. For example, teaching students to pose/test conjectures motivates writing proofs, improves reasoning skills, and builds confidence. The MAA CUPM Curriculum Guide 2015 agrees: “programs should include activities designed to promote students’ progress in learning to . . . assess the correctness of solutions, create and explore examples, carry out mathematical experiments, and devise and test conjectures . . . Students should develop mathematical independence and experience open-ended inquiry.” (Cog. Rec. 1,4) How do we teach inquiry? Discrete mathematics and inquiry-based learning is an ideal content-pedagogy pair. For 17 years I have taught a sophomore level discrete mathematics course using IBL. This talk will describe the practical elements of the IBL course structure and highlight a few activities that have been particularly effective in teaching conjecturing. Materials are available for class testing. Our results couldn’t be better: students love the course, spend a lot of time working in and out of class, are prepared for advanced proof courses, and more students are continuing in mathematics. Work supported in part by AIBL Small Grant. (Received September 13, 2016)