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"A Concrete Transition to Abstract Mathematics" is a collection of classroom notes that introduce students to proofs in a familiar context and progress gradually to more abstract concepts. Notes 1 start by analyzing decimal expansions of rational numbers. Students discover how the prime factorization of  $b$  determines whether a reduced fraction  $a/b$  has a repeating or a terminating decimal expansion, the length of a terminating expansion, and the starting point and length of the period of a repeating expansion. The base-10 theorems are then generalized to base  $r$ . In Notes 2, students get a workout in mathematical induction in the context of the Fibonacci sequence. After two chapters of proofs in concrete settings, students are ready for working in a more abstract context. In Notes 3, they prove basic results for groups, rings and fields, and in Notes 4, the completeness property of the real number system is used to prove basic results in calculus up through the fundamental theorem.

Notes 1, 2, and 3 were originally designed as a sophomore level problems-solving course for computer-science majors, and with the addition of Notes 4, the material was taught with very encouraging results as a transition course for mathematics and mathematics-education majors. (Received September 13, 2007)