

1014-I1-823

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We shall discuss two examples of the challenges and benefits of student study directly from primary historical sources, part of our long-term effort to inject primary sources throughout the curriculum.

In a beginning course on Discrete Mathematics and proofs, students engage in a multi-week project based on Pascal's Treatise on the Arithmetical Triangle. His was the first complete enunciation and application of the modern principle of mathematical induction, and we have students develop their own understanding of induction directly from Pascal's explanation. The Treatise abounds in rich results and proofs about the numbers in the triangle and applications to binomials, combinatorics and probability, and figurate numbers.

In a first Abstract Algebra course, students read Cayley's original paper on group theory and connect it to topics throughout the course. Cayley introduces the concept of a 'group' as a unifying framework for key phenomena in early nineteenth century mathematics. He develops initial steps of a theory, including what Lagrange's theorem dictates on orders of elements, which classifies groups of prime order. Then he provides a detailed classification of groups of order up to six, and gives a brief description of how to form what we call a group algebra. (Received September 25, 2005)