In response to the changes proposed by the federal legislation No Child Left Behind, the Mathematics Department and the Elementary Education Department at The University of Alabama formed a committee to redesign the math courses required for elementary teachers. We began in our work in January 2003. Our first goal was to have a sequence of courses that 1) reflect the recommendations from the Conference Board of Mathematical Sciences (CBMS) 2) reflect the recommendations from the National Council of Teachers of Mathematics (NCTM), and 3) offer the elementary prospective teachers meaningful experiences for their professional practice. The result of this work is a sequence of three courses including the strands: Numbers and operations, Geometry and measurement, Data analysis and probability. In this session we will share some of the challenges we had in the process of designing a unit on fractions for one of these courses. (Received September 13, 2004)