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Contrary to accepted belief, gaps in college students' mathematical preparation are often in elementary topics: measurement, place value, and multiplicative thinking, in addition to higher-level mathematics. These topics are introduced in elementary school, but students need experience using these concepts at a college level: real applications, problems with "hard" numbers, including decimals and very large and small numbers; in short, number sense. This project is attempting to identify what number sense encompasses, and how it differs from proficiency in skills. A three-question pretest was given to 250 incoming freshmen in a 6-week Early Start program. The questions addressed measurement and units (How many square inches in a square foot?), a mental approximate multiplicative comparison with real-life numbers, and decimal percent (express 0.05% as a decimal without using a % sign.) The course included college-level material on functions and a support class that included conceptual instruction, with practice, on the topics mentioned above. Correct responses to the pretest were in the 20% range; on the posttest, in the 50% range. This presentation will analyze results and student work, and describe work on a current project to produce an online unit on these topics. (Received September 17, 2019)