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murray h. siegel* (murray.siegel@asu.edu), Math & Science Faculty, SLS, Polytechnic Campus, Mesa, AZ 85212. *Alternate Base Arithmetic as a Tool for Preparing Future Elementary Teachers.*

Many math texts used to prepare elementary teachers include a chapter on alternate bases. Typically the focus of this chapter is on translating from one base to another. Actually having pre-service teachers perform calculations using alternate bases is an effective method to heighten understanding of arithmetic operations and allows future teachers to empathize with difficulties students may have when learning whole number operations. Students are introduced to base 5 and prepare a base 5 addition table. This table is used to complete addition and subtraction computations in base 5. Since multiplication is repeated addition, the addition table is used to create a base 5 multiplication table. That is used for multi-digit multiplication problems. Both tables are used to perform long division exercises. Students are then introduced to other bases, including base 12. At some point many students find the computations difficult. It is then pointed out to the class that they are having difficulties even though they have mastered whole number arithmetic. Students are asked to “remember this moment” when dealing with the frustrations expressed by your future students. There are some very appealing side topics. Is 3113 odd or even in base 5? How about 1134? (Received July 18, 2013)