1037-97-337   **Ted Stanford*** (`stanford@nmsu.edu`), Department of Mathematical Sciences, NMSU Mail Stop 3MB, Las Cruces, NM 88003. *Identifying and analyzing alternative sequences for learning mathematical concepts.* Preliminary report.

Almost every mathematics teacher has to confront the issue of students who arrive in their classes without the knowledge or skills they were supposed to acquire at a previous grade level. Teachers often are confronted with a choice: waste valuable weeks re-teaching lower-level material, or move on and leave some students behind. Sometimes there is a third option: find alternative ways to teach new material which do not rely so heavily on the standard prerequisites. However, finding these alternative learning sequences, and analyzing their mathematical validity, requires an advanced understanding of the mathematics being taught. I will discuss this issue through several specific examples from the middle school level. (Received February 05, 2008)