

MATHEMATICS RELATED TO OTHER SUBJECTS

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Many aspects of mathematics have a close relation to other subjects at the K-12 level. It is important that some of these connections be in the curriculum. In order to make some general points concerning such connections, I will focus on two particular interdisciplinary topics.

If a high school social studies teacher looks at standards IV-A for Grades 5-8, that teacher will have a good idea of what the students know in her or his class. Of course, that teacher knows that some review might be necessary, but review is not the same as a first-time introduction. This teacher than might want to use some of this data organization skill of his students to, say, study some aspects of population movements within and into the United States. The topic of population movements seems to me to be at the high school level. One needs to look at so many things; for instance: When did various parts of what is now the United States become part of the United States? There are two reasons I think it best if this topic is treated in the social science class rather than the mathematics class: (1) it, and other similar topics, can take large chunks of time away from central mathematics concepts and (2) despite the fact that some math teachers are history buffs, it will typically be the history teacher rather than the math teacher who is aware of the many historical nuances involved.

In contrast to the preceding situation, students can be expected to learn about the Arctic Circle and Tropic of Cancer in K-8, but the calculation of the length of the Tropic of Cancer is a high school mathematics topic. Here it is the mathematics that is the complicating feature, and the social science aspects are relatively simple. If the mathematics teacher is talking about the Arctic Circle, she should be able to expect her students to know that it passes through both Norway and Russia, or at least to recall these facts in their minds if she mentions them in passing.

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