

Examining disconnects between mathematics learning and science usage, with calculus as an example

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Refreshments Provided



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It is becoming increasingly clear that there are major gaps between students' learning of mathematics and the usage of those same ideas in science. Even students who get high grades in math classes can struggle to know how to use those math concepts in their science learning. This is true for many secondary and tertiary math courses, and in this talk I will use central calculus concepts as examples to discuss the disconnects: functions, graphs, derivatives, concavity, and integrals. I will explore the meanings and understandings commonly developed and foregrounded within math classes, and compare that to the meanings and understandings often held for these same concepts within science contexts. I will then discuss how we might address some of the disconnects, both on the mathematics teaching side and on the science teaching side.