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Building context with tumor growth modeling projects in differential equations.

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Summary: The use of modeling projects serves to integrate, reinforce, and extend student knowledge. Here we present two projects related to tumor growth appropriate for a first course in differential equations. They illustrate the use of problem-based learning to reinforce and extend course content via a writing or research experience. Here we discuss methods of preparing students for a research/writing experience, the critical thinking involved in completing the project, and the basic assessment of student work.

Classification: M65 I75

Keywords: mathematical modeling; tumor growth; differential equations

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