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Using Smartphone Technology in Geoscience Education

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Many interesting topics are hard to demonstrate in classes without costly equipment and logistic hassles. Good examples of such topics are ad hoc polls, making measurements, and calculations. In fact, many instructors will have thought "Darn! I wish we could do that in class...". Smartphones, which students own and are (perhaps unduly) comfortable with, have many otherwise expensive instruments as built-in sensors that are used for phone operations such as navigation, screen rotation, and personal customization of apps. But, they are also nifty tools that make class activities easier, faster, and more fun. We present applications that illustrate the potential for using smartphones in a wide variety of geophysics teaching. Instructors have two options: forget about these nifty tools and keep doing labs in the old ways, or benefit from smartphones as mini-computers and tiny, powerful instruments. Our advice to instructors is to see whether smartphones work in their applications.