

Vernier Software & Technology recommended for Modeling Physics (mechanics)

Summer 2015, by Larry Dukerich

It is less than useful to provide a one-size-fits-none list of what is needed to teach labs with technology in Modeling Physics. What follows are several levels of equipment/software recommendations, depending on what other resources are available to students to perform data analysis as well as save and print files. More detail can be found at the Vernier website: <http://www.vernier.com>

if students primarily use computers in the classroom

Logger Pro software \$249 for school site license
also can be downloaded and installed on student computers

Vernier interface

best	LabQuest 2	\$329	works with computer or as stand-alone. It has 3 analog and 2 digital ports and wifi capability. The LQ 2 also has an audio function generator & power amplifier driver, useful for beyond mechanics.
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acceptable	LabQuest Mini	\$149	connects to USB port on computer - it has 3 analog and 2 digital ports.
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If students are working primarily with tablets or Chromebooks

Vernier interface

	LabQuest 2	\$329	Needed because its wi-fi capability lets it communicate with tablets or web browser. In Fall '15, Chromebook app will support LabQuest Mini for use with digital sensors.
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Graphical Analysis app for iPad, Android or Chrome free

Sensors/apparatus

motion detector	\$79	frequent use
photogates (2)	2 @ \$45	units 2, 3, 6, 8, 9
dual range force sensor	2 @ \$109	units 4-9
dynamics system*	\$279	unit 2-9
ultra pulley attachment	\$24	units 4, 5
pulley bracket	\$12	units 4, 6
picket fence	\$7	unit 3

TOTAL COST/GROUP \$858-\$1038 plus \$249 for Logger Pro

*Most Vernier sensors & equipment are compatible with PASCO tracks and carts. See Vernier catalog (pp 97-9) for further detail). This list presumes standard physics lab equipment (clamps, masses, etc) are available.

Suggested lab sensors/apparatus for 2nd semester physics topics are at <http://modeling.asu.edu/Projects-Resources.html>