

MSU St. Andrews offers a wide variety of Vernier sensors, probes, and apparatus for use in your classroom. Please refer to the table below for sensors and activities by subject.

Virtual workshops are available for teachers and students. To borrow equipment or schedule a workshop, please contact MSU St. Andrews Outreach Specialist, Dr. Tracy Zhang at zhangcu2@msu.edu.

Subject Matter	Sensors, Probes, and Apparatus	Suggested Activities
Biology	<ul style="list-style-type: none"> • Colorimeter • SpectroVis plus spectrophotometer • Electrophoresis 	<ul style="list-style-type: none"> • More information coming soon!
Chemistry	<ul style="list-style-type: none"> • Conductivity probe • pH sensor • Stainless steel temperature probe • Vernier Optical DO probe (dissolved O₂) 	<ul style="list-style-type: none"> • Effect of temperature on solubility of a salt • Properties of Solutions: Electrolytes and Non-Electrolytes • Conductivity of Solutions: The Effect of Concentration
Earth Science	<ul style="list-style-type: none"> • CO₂ gas sensor • Gas pressure sensor • Oxygen sensor • PAR (Photosynthetically Active Radiation) sensor • Surface temperature sensor • Turbidity sensor • Mirror set for optics expansion kit 	<ul style="list-style-type: none"> • More information coming soon!
Environmental Science	<ul style="list-style-type: none"> • CO₂ gas sensor • Gas pressure sensor • Oxygen sensor • PAR (Photosynthetically Active Radiation) sensor • Surface temperature sensor • Turbidity sensor • Mirror set for optics expansion kit 	<ul style="list-style-type: none"> • More information coming soon!
Physics - Electronics	<ul style="list-style-type: none"> • Current probe • Differential voltage probe • Relative humidity sensor • Voltage probe 	<p>Elementary science:</p> <ul style="list-style-type: none"> • Are all batteries the same? • Stacked batteries <p>Middle school science:</p> <ul style="list-style-type: none"> • Lemon “Juice” <p>High school physics:</p> <ul style="list-style-type: none"> • Series and parallel circuits

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Physics - Mechanics	<ul style="list-style-type: none"> • 25-g accelerometer • 3-D accelerometer • Dual-range force sensor • Force plate • Low g accelerometer • Motion detector 	<ul style="list-style-type: none"> • More information coming soon!
Physics - Light	<ul style="list-style-type: none"> • Go direct rotary motion sensor • Light sensor • Magnetic field sensor • Optical expansion kit • Photogate • Picket fence • T1 light probe • Ultra-pulley attachment • UVB sensor • Dynamics system encode kit with track (combination track optics bench) 	<ul style="list-style-type: none"> • More information coming soon!

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