

HI3899BP

Backpack Lab® Marine Science Educational Test Kit

Backpack Lab® Includes:

- 110 tests each for acidity and alkalinity, 100 tests for ammonia, carbon dioxide, dissolved oxygen, hardness, nitrate, nitrogen, phosphate and salinity
- Hanna's HI98129 Combo pH/EC/TDS/temperature tester
- Hydrometer for salinity
- Secchi disk for turbidity
- Backpack-style carrying case which holds all components of the kit
- Teacher's manual with a curriculum that meets National Science Teachers Association Standards
- Parameter summary in PDF and PowerPoint format (on included CD)
- Laminated, laboratory instruction cards with step-by-step field-test procedures

- Reproducible lab activity worksheets with instructions, goals, hypothesis, and testing procedure results/observations (on included CD)
- A glossary of key terms in PDF format (on included CD)

Backpack Lab is designed with all the necessary components in one place, reducing the chance of misplacing an item. Ideal for transporting, take this durable backpack to the field for on-site measurements.

This kit is designed to provide a complete unit for teachers to introduce students to important marine science topics. The teacher's guide provides detailed background information for marine science lessons and activities that can be adapted to various grade levels. Field tests are included to complement classroom lessons. All materials fit easily into the supplied backpack for convenient transport.

Specifications	HI3899BP Backpack Lab Marine Science Educational Test Kit				
Test	Type	Range	Method	Number of Tests	Individual Kit Reorder Code
Acidity (CaCO ₃)	titration	0-100 mg/L (ppm) 0-500 mg/L (ppm)	methyl-orange phenolphthalein	110 avg.	HI3820
Alkalinity (CaCO ₃) Phenolphthalein & Total	titration	0-100 mg/L (ppm) 0-300 mg/L (ppm)	phenolphthalein/ bromphenol blue	110 avg.	HI3811
Ammonia (as NH ₃ -N) in saltwater	colorimetric	0.0-2.5 mg/L (ppm)	Nessler	25 avg.	HI3826
Carbon Dioxide	titration	0.0-10.0 mg/L (ppm) 0.0-50.0 mg/L (ppm) 0-100 mg/L (ppm)	phenolphthalein	110 avg.	HI3818
Oxygen, Dissolved	titration	0.0-10.0 mg/L (ppm)	modified Winkler	110 avg.	HI3810
Nitrite	colorimetric	0.0-1.0 mg/L (ppm)	chromotropic acid	100	HI3873
Nitrate (NO ₃ -N)	colorimetric	0-50 mg/L (ppm)	cadmium reduction	100	HI3874
Phosphate	colorimetric	0-5 mg/L (ppm)	ascorbic acid	50	HI3833
Salinity	titration	0.0-40.0 g/kg	mercuric nitrate	110 avg.	HI3835
Specifications	HI98129 Combo pH/EC/TDS/Temperature Tester				
Type	Range	Resolution	Accuracy	Calibration	
pH	0.00 to 14.00 pH	0.01 pH	±0.05 pH	automatic, one or two-point with two sets of standard buffers (pH 4.01 / 7.01 / 10.01 or 4.01 / 6.86 / 9.18)	
Conductivity	0 to 3999 µS/cm	1 µS/cm	±2% F.S.	automatic, one point at 1413 µS/cm	
TDS	0 to 2000 mg/L (ppm)	1 mg/L (ppm)	±2% F.S.	automatic, one point at 1382 mg/L (ppm)	
Temperature	0.0 to 60.0°C / 32.0 to 140.0°F	0.1°C / 0.1°F	±0.5°C / ±1°F	-	
Ordering Information	HI3899BP Backpack Lab includes acidity test kit, alkalinity test kit, carbon dioxide test kit, ammonia test kit, dissolved oxygen test kit, nitrate test kit, nitrite test kit, phosphate test kit, salinity test kit, secchi disc, hydrometer, HI98129 Combo pH/EC/TDS/temperature tester, set of 6 field test procedures, teacher's resource CD, teacher's guide and backpack.				
Reagents and Solutions only	HI3820-100 Acidity (as CaCO ₃), 110 tests avg. HI3811-100 Alkalinity (as CaCO ₃), 110 tests avg. HI3826-025 Ammonia, seawater (as NH ₃ -N), 25 tests avg. HI3818-100 Carbon Dioxide, 110 tests avg. HI3810-100 Dissolved Oxygen, 110 tests avg. HI3874-100 nitrate (as NO ₃ -N), 100 tests avg. HI3873-100 nitrite (as NO ₂ -N), 100 tests avg.		HI3833-050 Phosphate, 50 tests avg. HI3835-100 salinity, 100 tests avg. HI70004P pH 4.01 buffer solution for HI98129, 20 mL sachets (25) HI70007P pH 7.01 buffer solution for HI98129, 20 mL sachets (25) HI70010P pH 10.01 buffer solution for HI98129, 20 mL sachets (25) HI70031P 1413 µS/cm conductivity calibration solution for HI98129, 20 mL sachets (25) HI70032P 1382 mg/L (ppm) TDS calibration solution for HI98129, 20 mL sachets (25)		

Backpack Lab™ contents subject to change