

WARD'S™ DataHub

The Power of Twelve
The Convenience of One



Test Drive

Ward's DataHub:
iPad App Activity

ward's
science+

Discover the ease of use of Ward's DataHub software app:

This is a one-time action needed to install the DataHub application on your iPad.

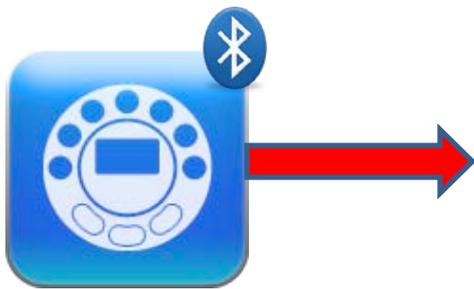
1. Tap the iPad App Store Icon  .
2. Search for "Ward's DataHub"  .
3. Press the FREE download key to install the application.

Ward's DataHub App

Using iPad's Built-In Microphone And Accelerometer

Start recording data:

- Select DataHub icon
- Select sensor(s) to use by turning them on or off
- Select your sample rate and number of samples
 - (start with 1,000 samples at rate of 1/sec)



Start Your Experiment

1. Tap anywhere on the graph to exit the Setup Screen

2. To start the experimental run tap the Run icon



3. Clap your hands or start singing, talking, or shouting at various volumes to use the sound sensor

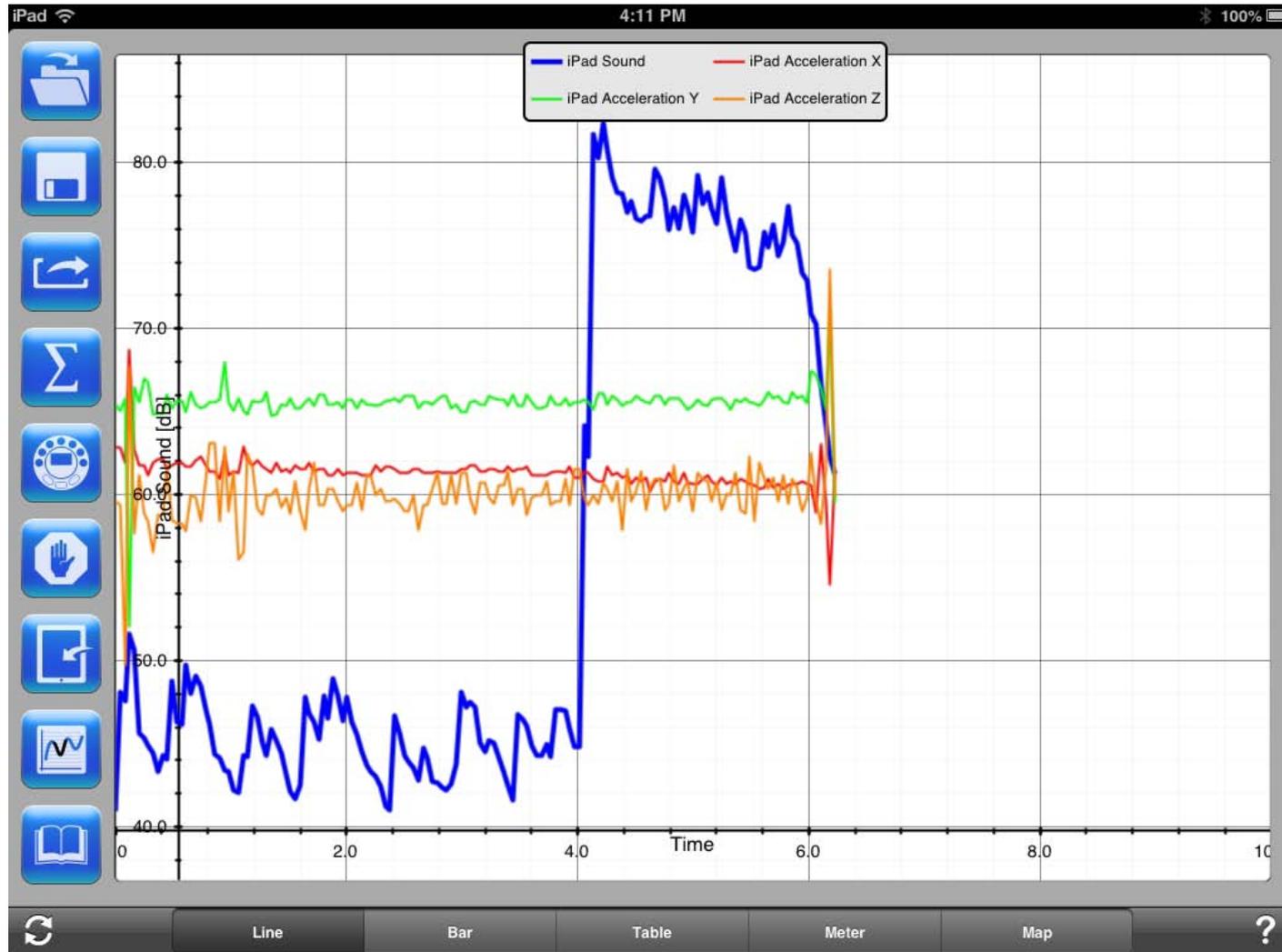
4. Move your iPad up, down, and back and forth to use the accelerometer

5. To stop the experiment tap the Stop icon



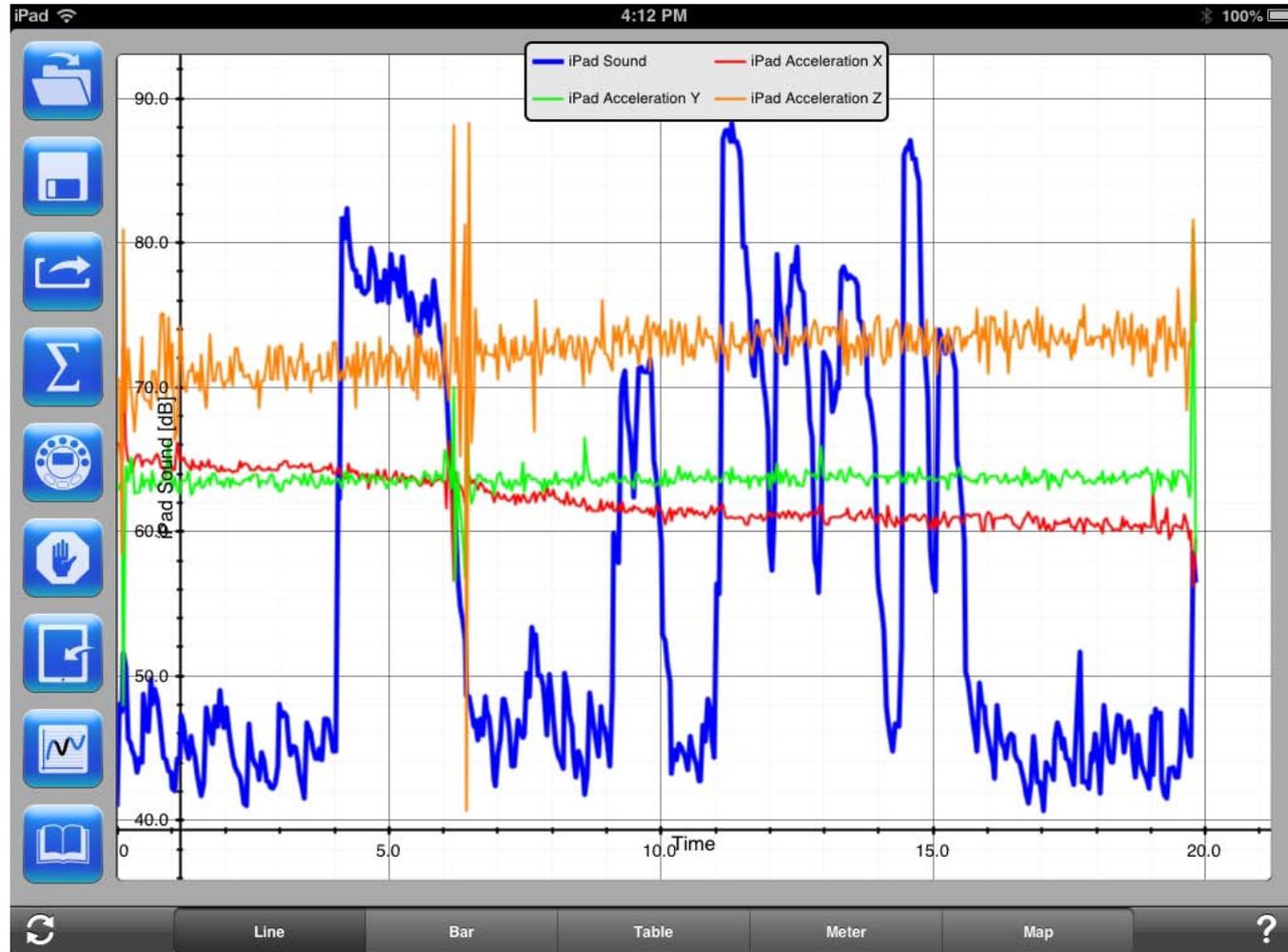
View live data as it records

1. Clap, sing, or shout at various volumes and watch the sound data change
2. Move the iPad around and up and down and watch the accelerometer data change



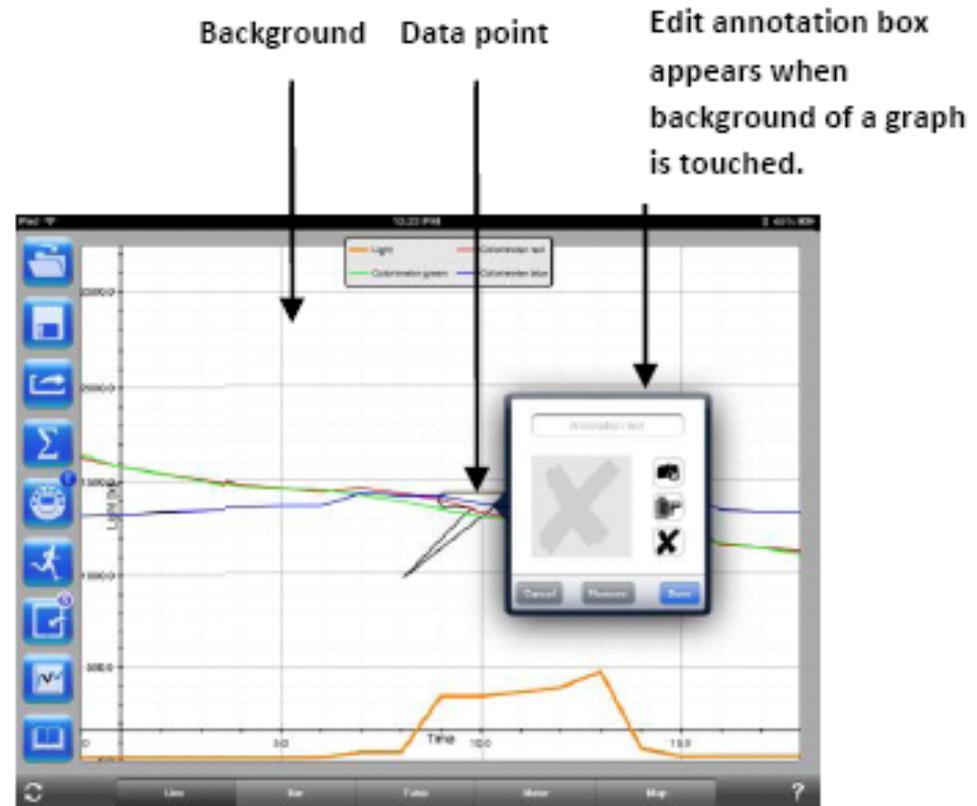
View and analyze your data

1. Data is recorded and graph shown real time
2. Immediate graph of data points allows students to spend more time on analysis
3. Touch and hold your fingers on two separate ends of the graph to expand the graph



Add text, pictures, or graphics to your graph

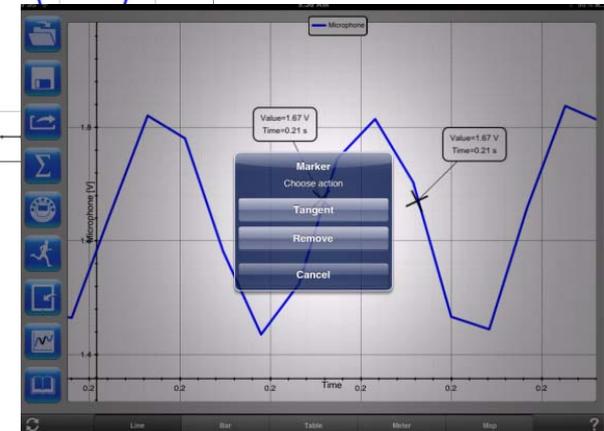
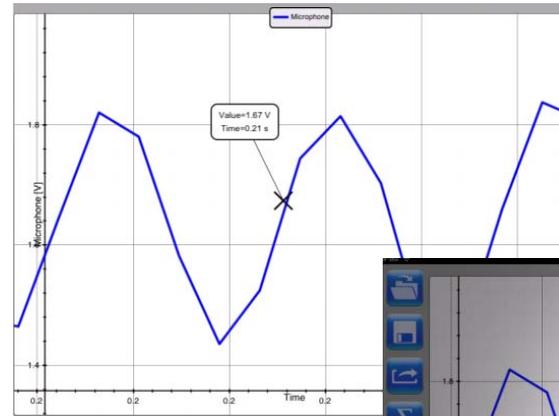
- When a graph is displayed
- Touch and hold on the “background”
- The “edit annotation” box will appear
- **Here you can:**
 - Write or edit an annotation
 - Add an image from the image gallery or take a photo to use
 - Remove an annotation



Add Markers and Use Curve Fitting

Adding a Marker:

1. Touch and hold your finger on the graph of an experiment at a point on the line/dot that you want to add a marker
2. A Marker will appear.
3. Drag the marker- data will change
4. By holding on the marker . The tangent of the line can be determined



If You Add A Second Marker :

- The Curve Fitting Icon can be used to determine Linear Regression or Quadratic regression

Learn more: View sample experiments and access your saved experiments



Tap the “open” icon and select:

- “My Experiments” (previously saved experiments)
- Sample Experiments (Loaded onto the Software)

Learn More About Ward's DataHub Product Line



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4 Unique DataHub Units

- *Each Version Contains Tailored Configuration of Sensors*
- **Biology/Chemistry**
- **General Science**
- **Physics**
- **Environmental Science**



Details on Ward's DataHub

Ward's DataHub		Included Sensors	
Physics		<ul style="list-style-type: none"> Accelerometer Air Pressure Ambient Temperature Barometric Pressure Current Distance (Motion) 	<ul style="list-style-type: none"> External Temperature Light Low Voltage Voltage Microphone Universal Sensor Input
Biology/ Chemistry		<ul style="list-style-type: none"> Air Pressure Ambient Temperature Barometric Pressure Colorimeter Conductivity Dissolved Oxygen External Temperature GPS 	<ul style="list-style-type: none"> Heart Rate Light pH Relative Humidity Thermocouple Turbidity Universal Sensor Input
Environmental		<ul style="list-style-type: none"> Ambient Temperature Barometric Pressure Colorimeter Dissolved Oxygen External Temperature GPS IR Temperature 	<ul style="list-style-type: none"> pH Relative Humidity Sound Level Turbidity Universal Sensor Input UV
General Science		<ul style="list-style-type: none"> Air Pressure Ambient Temperature Current Distance (Motion) External Temperature GPS Light 	<ul style="list-style-type: none"> Microphone pH Relative Humidity Sound Level Universal Sensor Input Voltage

What Comes with Ward's DataHubs?

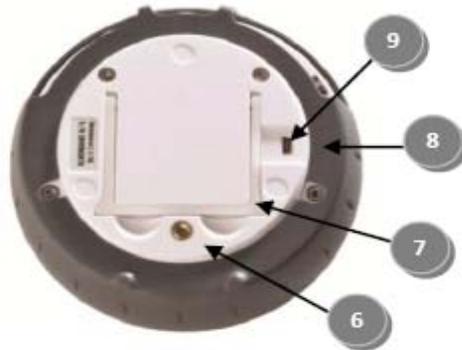


1. DataHub Unit (choose from 4 models – Biology/Chemistry, Physics, Environmental Science, or General Science)
 2. DataHub Charger Cord
 3. USB Cable
 4. DataHub Analysis Software CD
 5. Quick Start Guide
 6. Warranty Page- in Quick Start Guide
- Plastic Stand-Screw

Additional Accessories included with units featuring applicable sensors:

- Air Pressure tube
- External Temperature Probe
- Colorimeter Cuvettes
- pH electrode Probe
- Conductivity Probe
- Heart Rate Ear Clip
- Thermocouple Probe

Ward's DataHub Ports and Controls



- ① Select key
- ② On/Off and Escape key
- ③ Scroll key
- ④ Graphical display 128 x 64 pixels
- ⑤ Sensor selection keys
- ⑥ MS screw insert
- ⑦ Plastic leg
- ⑧ Rotating ring
- ⑨ USB port
- ⑩ GPS
- ⑪ Colorimeter & turbidity
- ⑫ Relative humidity
- ⑬ Heart rate & ext. temperature
- ⑭ Thermocouple & ambient temp.
- ⑮ Light & universal input
- ⑯ pH, dissolved oxygen & conductivity
- ⑰ Air pressure

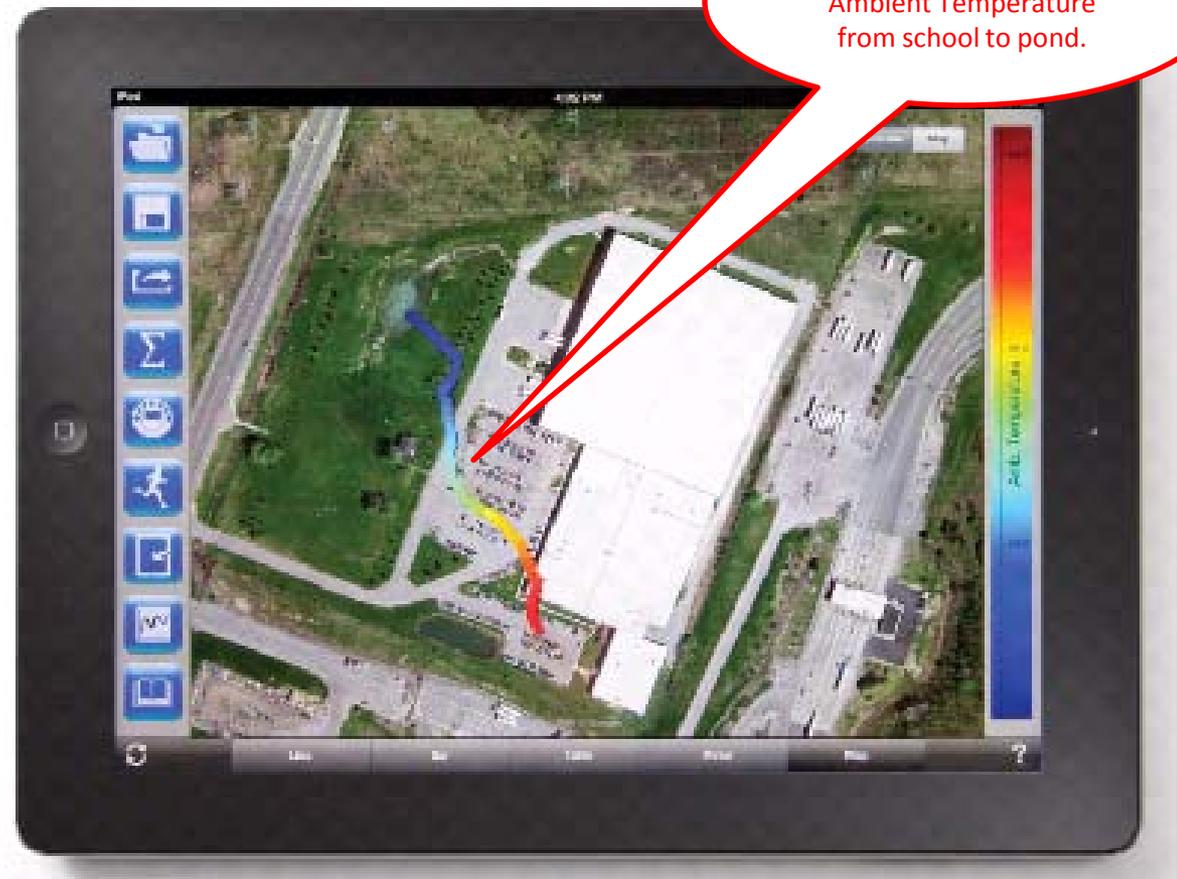
3 WAYS TO USE Ward's DataHub



	DataHub Unit	PC or Mac	iPad
Connection	<ul style="list-style-type: none"> •Standalone •No Connection needed 	<ul style="list-style-type: none"> •USB •Bluetooth 	<ul style="list-style-type: none"> •Bluetooth
Portability	<ul style="list-style-type: none"> •Use in field to log data 	<ul style="list-style-type: none"> •USB- No •Bluetooth – up to 100ft 	<ul style="list-style-type: none"> •Bluetooth – up to 100ft
Control	<ul style="list-style-type: none"> •Buttons on DataHub 	<ul style="list-style-type: none"> •Buttons on DataHub or •Using software 	<ul style="list-style-type: none"> •Buttons on DataHub or •Using software
GPS	<ul style="list-style-type: none"> •GPS Must be turned on •On screen •Longitude/Latitude 	<ul style="list-style-type: none"> •GPS Must be turned on •Google Maps- Must have WiFi available! 	<ul style="list-style-type: none"> •GPS Must be turned on •Google Maps- Must have WiFi available!
Saving Data:	<ul style="list-style-type: none"> •Store up to ~127 runs •Download to DataHub Software 	<ul style="list-style-type: none"> •Save to computer file to open later •Save Data as .csv file (Excel). 	<ul style="list-style-type: none"> •Save experiment in the app •Save to photo album •Save to “clipboard” •Open in spreadsheet app..ie Numbers.

DataHub + GPS + Google Maps

- Built in GPS Sensor allows easy plot of data points on Google Maps
- Students can see where they were as they logged data for real-life applications and increased understanding
- GPS included in General Science, Environmental, and Biology/Chemistry DataHubs



Want to learn more?

[Request a FREE demo](#) of Ward's DataHub
from your Ward's Account Manager

[View Individual DataHub Product Details](#)

[Watch Videos](#) of Ward's DataHub in Action
with Standards-Based Activities

