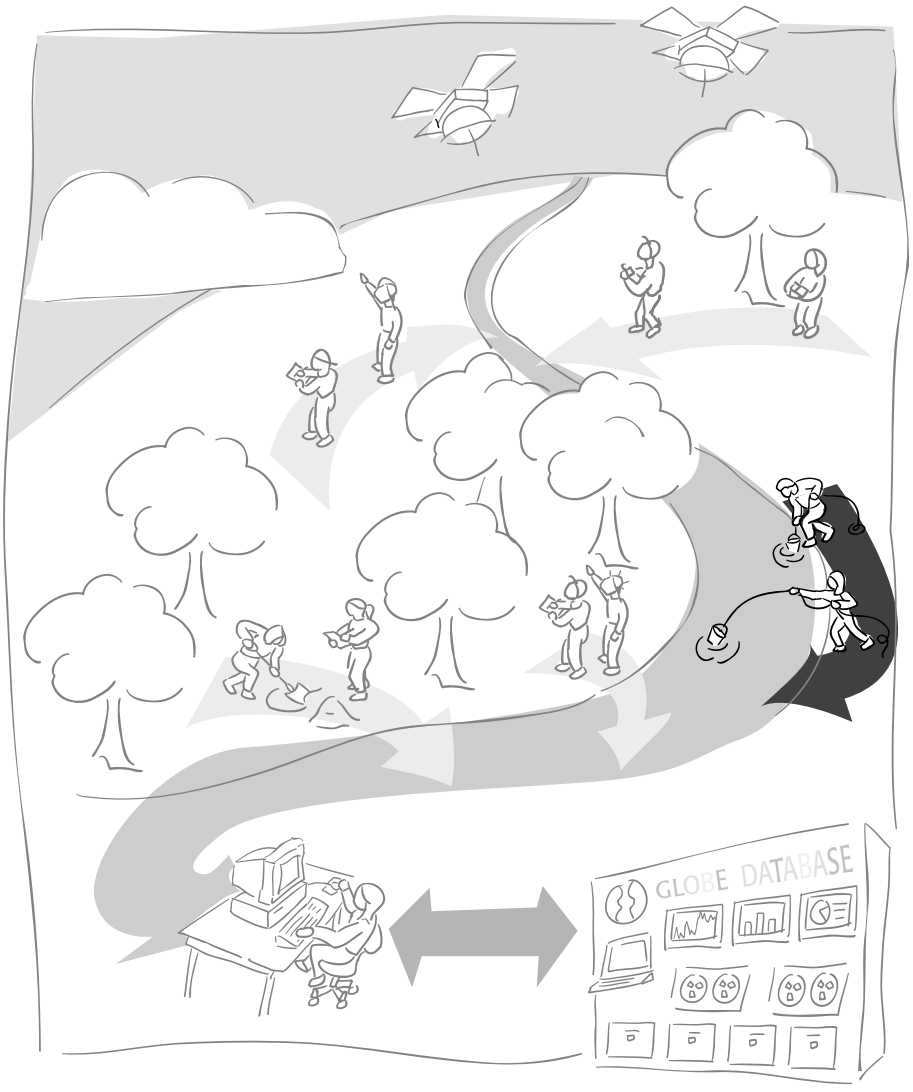
DEACTIVATED PROTOCOL: Please note that the GLOBE Hydrosphere Protocols - Mosquito Larvae and Salinity Titration have been deactivated as of September 2023. To learn more about the Deactivation Process, please visit the GLOBE.gov website.

Hydrosphere Investigation



A GLOBE® Learning Investigation

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Hydrosphere Investigation at a Glance

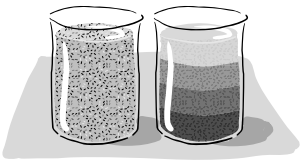
Protocols

Weekly Measurements
Basic
Transparency
Water Temperature
Dissolved Oxygen
Electrical Conductivity
Salinity
Salinity Titration (optional)
pH
Alkalinity
Nitrate

Additional Measurements
Freshwater macroinvertebrates (twice a year)
Mosquito Larvae

Suggested Sequence of Activities

- Read the Introduction, especially the sections *What Measurements Are Taken* and *Getting Started*.
- The *Water Walk Learning Activity* sets the stage for developing a baseline knowledge and interest in your Hydrosphere Study Site.
- The *Model a Catchment Basin Learning Activity* provides the big picture view of the students' watershed and the water and study site in relation to this watershed.
- Map Your Hydrosphere Study Site. At the beginning of your study as part of defining your site, and once each year thereafter, create a map of the Hydrolosphere Site and take photographs.



- The *Practicing Your Protocols Learning Activity* guides students through learning how to use the instruments and following the protocols so they collect reliable data.
- Begin Field Sampling. Go to the site and begin the weekly measurements for water.
- Use the *Looking at Data* section at the end of each protocol as a guide to examine your data, ask questions and interpret what you find. Start linking water data to other GLOBE measurements.
- Focus on Key Science Ideas by performing the following Learning Activities:
  - *Water Detectives* and *The pH Game* introduce students to key water chemistry variables and to the need using instruments to take certain measurements.
  - *Modeling Your Water Balance* lets students explore how to use their data for modeling.

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