

enVISION

ENVIRONMENTAL EDUCATION



**Get the
Creative Advantage...
with High Quality,
Earth Science
Education Materials
for the Classroom
and Lab.**



*Creative
Labworks, Inc.
www.creativelabworks.com*

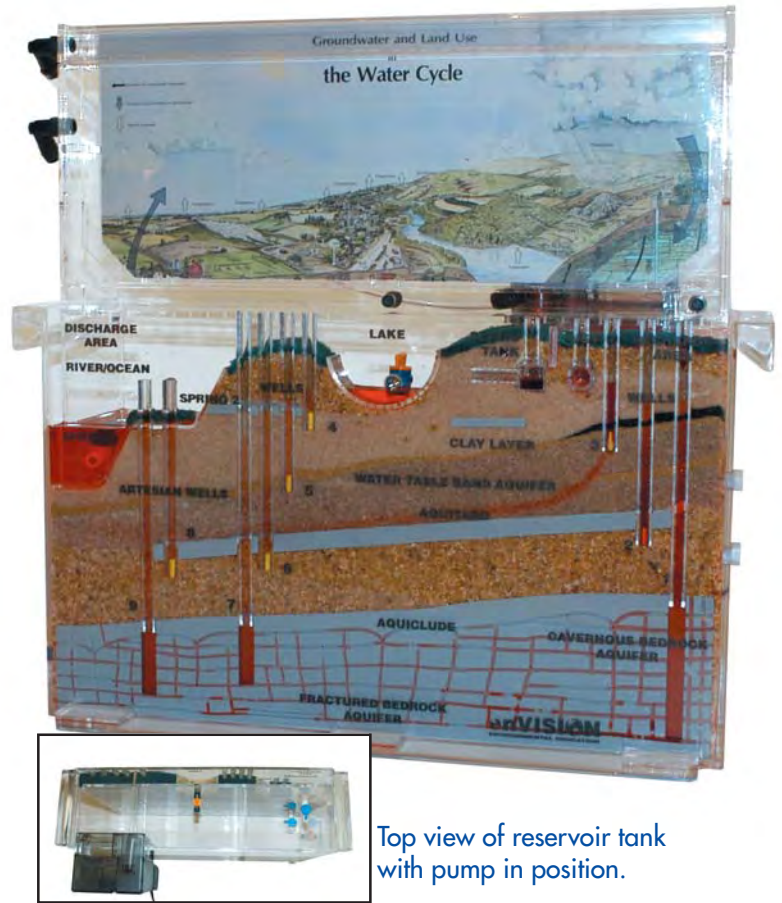
Creative Labworks, Inc. is proud to partner with Envision Environmental Education to provide the most advanced visual simulators of groundwater flow available. Great for educators, students, watershed organizations, drinking water suppliers, geologists, engineers and other groups involved in training or educational outreach on groundwater issues.

The simulator is a hands-on visual aid that takes difficult groundwater concepts and makes them understandable for all ages. The simulator is appropriate for grade schools, high schools and colleges as well as adult groups. It is an excellent resource for schools using any water education curriculum. Anyone with a general understanding of groundwater can give a presentation with the simulator. For schools, the instruction manual includes basic laboratory experiments to use with the simulator.

All of our simulators are constructed of high quality acrylic, and are intended for many years of use. Our simulators are designed to demonstrate a complete water cycle, by recycling the water via a pump mechanism through the simulator. The water pump recharges the front aquifer compartment illustrating groundwater flow through the face of the model. The water then discharges to the stream/ocean, and then to a reservoir tank behind the aquifer compartment. The pump mechanism then returns the water to the recharge area again. This allows the user to avoid the difficulty of emptying and refilling the simulator during or between presentations. During normal operations, the simulator may be used for 6 or more concurrent presentations before it is necessary to change the water. All simulators come with a detailed instruction manual and accessories necessary for basic or in-depth presentations. Additional accessories and lab kits are available for specific presentations.

Key Features of Envision Simulators

- 8 wells in the Envision 2100 (including 2 artesian wells)
- 9 wells in the Envision 3100 (including 2 artesian wells)
- 2 springs
- Lake
- Stream/Ocean
- Septic System
- Sand & Gravel Aquifer
- Confined Aquifer
- Unconfined Aquifer
- Underground Storage Tank
- Aquitard
- Recharge & Discharge Areas
- Recirculating Reservoir and Tank system
- Manual pumping mechanisms simulating high and low volume well pumps
- Top display showing watershed/surface activities
- AC/DC power supply
- Detailed instruction manual with experiments



Concepts demonstrated

- water table (potentiometric surface)
- drawdown
- groundwater flow
- hydraulic gradient
- interaction of ground and surface water
- aquifer contamination
- permeability & porosity
- cone of depression
- multiple pumping well interaction
- gaining or losing stream
- flow through lake
- groundwater contamination of lake or stream
- drought effects on lake
- malfunctioning septic system
- leaking underground storage tank
- laminar flow of contamination plume
- pumping influence on adjacent wells
- artesian well contamination
- contamination of spring
- multiple contamination plumes
- effects of surface spills on groundwater
- in-situ or pumping remediation of contamination
- lake can alternately be used to demonstrate sinkholes or landfills



Standard Simulator Kit - Envision 2100

This simulator shows groundwater flow and contamination in sand and gravel aquifers typical of valley fill and/or glacial-deposit geologic settings. The simulator shows the interaction between wells in unconfined and semi-confined aquifers, including interaction between ground and surface waters. Wells are located at varying depths to simulate the various types of wells in use, from a shallow homeowner well in an unconfined aquifer to a deep commercial well cased to a semi-confined aquifer. Contamination plume flow is accurately simulated showing how some wells can become contaminated while others not contaminated.

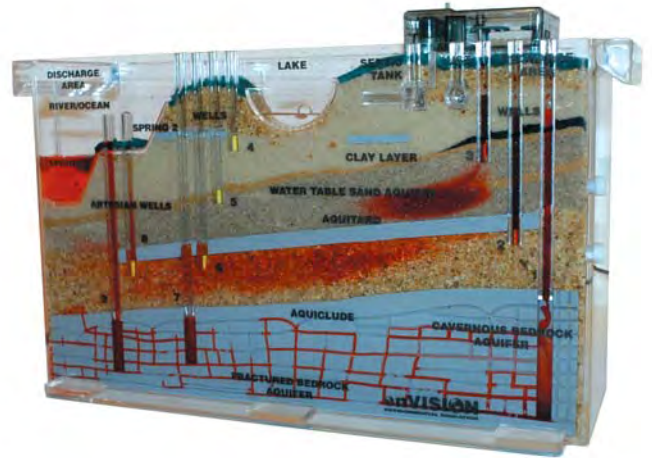
List of Basic Accessories (included with all groundwater simulators)

- User Manual (with demonstration tips & exercises)
- Training Video on DVD
- AC pump
- Siphon bottle pumping system
- Syringe pumping assembly
- High-visibility dye (4 colors in set)
- Wash bottle
- Neon marking bands
- Pipettes
- Valve turner
- Valves & Drain Tubing

Envision Ultra Carry Case Accommodates Groundwater Model and Rainmaker as well as Standard Parts & Accessories for both Kits



Standard Small Carry Case for Groundwater Model



Bedrock Simulator Kit - Envision 3100

This simulator shows all the key features of the Envision 2100 with the added features of a bedrock aquifer. It shows groundwater flow and contamination in both unconfined and confined sand and gravel aquifers overlying cavernous limestone and fractured-bedrock aquifers. Presenters can easily compare and contrast the different flow patterns between the various types of aquifers. This simulator is particularly useful in areas where the local geology contains caves, sinkholes, fractured non-porous bedrock or has been extensively deep-mined.



Rainmaker Simulator Kit

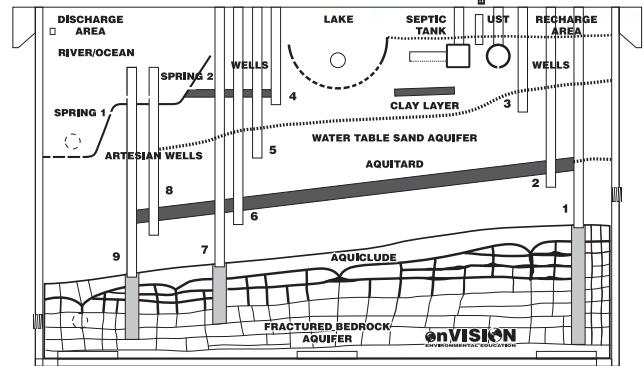
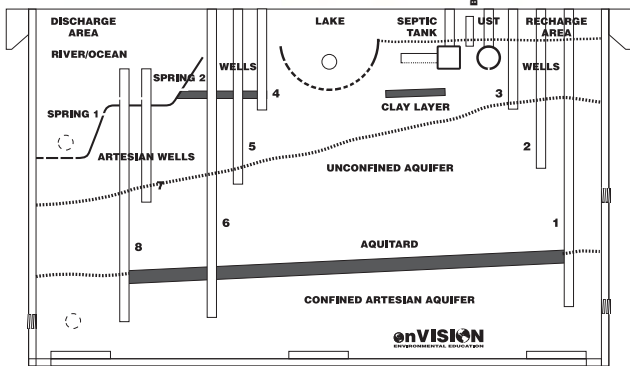
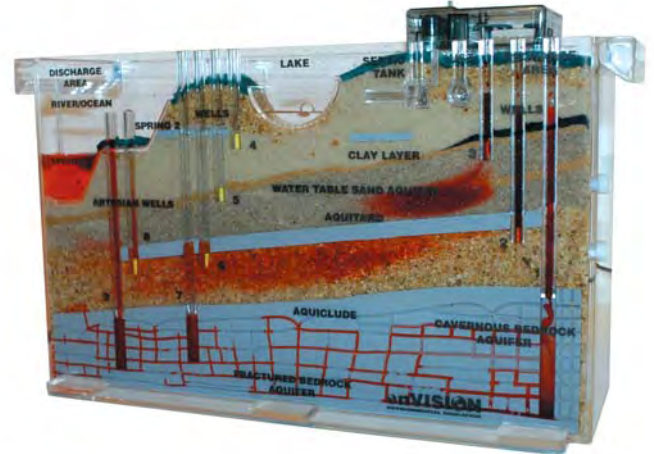
This accessory works with Envision groundwater and septic simulators, as well as many competitor models. The rainmaker sits on top of the simulator and feeds rainwater into the face of the simulator. The rainmaker uses an AC/Battery powered submersible pump, included in kit. (*Simulates Rainfall*)

The Rainmaker can be operated as a separate unit from the groundwater simulator or the pump systems can be interconnected to enhance visual effect.

Heavy Duty Plastic Carry Cases

There are currently 2 different cases available for Envision simulators. The Standard Case accommodates a single simulator kit (including accessories), while the Ultra Carry Case accommodates a simulator, rainmaker and the standard accessories for both kits. With wheels and a telescoping handle, these cases enable the user to safely transport the model and rainmaker easily, the cases are lined with foam padding. We will be offering ATA cases as an upgrade through our website in the Summer of 2009.

Which Simulator is Right for Me?



**STANDARD ENVISION SIMULATOR
MODEL: ENVISION 2100**

**BEDROCK ENVISION SIMULATOR
MODEL: ENVISION 3100**

| Feature | Envision 2100 | Envision 3100 |
|-----------------------------------|---------------|---------------|
| Springs (2) | ✓ | ✓ |
| Artesian wells (2) | ✓ | ✓ |
| Semi-confined Aquifer | ✓ | ✓ |
| Stream | ✓ | ✓ |
| Lake | ✓ | ✓ |
| Septic Tank | ✓ | ✓ |
| UST | ✓ | ✓ |
| Unconfined Aquifer | ✓ | ✓ |
| Shallow Wells | ✓ | ✓ |
| Karst/Cavernous Limestone aquifer | | ✓ |
| Fractured Bedrock aquifer | | ✓ |
| Deep wells in bedrock | | ✓ |

Envision Products are available through our Distributor:

Creative Labworks, Inc.

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in Earth Science Education Materials
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