EDUCATOR GUIDE
AQUIFER LAB E-LEARNING EXERCISES

GROUNDWATER FOUNDATION
Provide | Educate | Sustain

This guide will provide a brief overview of the e-learning exercises provided as part of the Aquifer Lab curriculum. Though the Aquifer Lab Lesson Plan provides recommendations on when and how to use the exercises, educator's should feel free to leverage these exercises how they see fit, including as stand-alone learning activities.

E-Learning Access

Aquifer Lab E-Learning Exercises (Hyperlink)

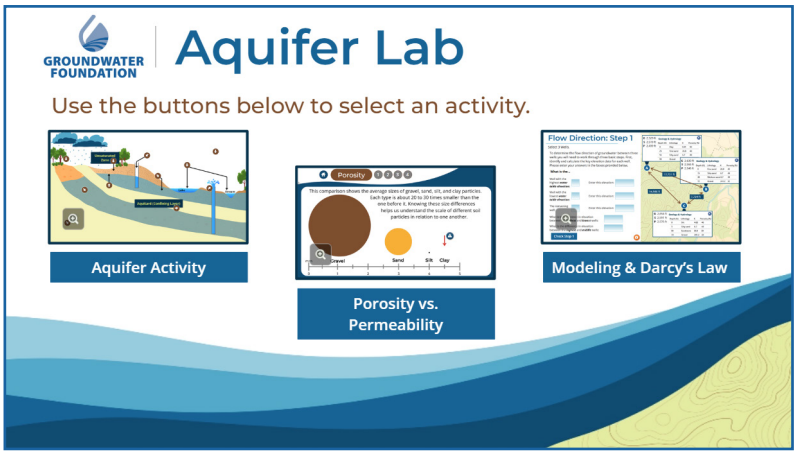
Components

The e-learning module contains three separate exercises:

1. Aquifer Activity (5-10 minutes)

2. Porosity vs. Permeability (10 minutes)

3. Darcy's Law & Groundwater Modeling (10-15 minutes)



1. Aquifer Activity

In this exercise, students will review cross-sections of geologic layers and surface features. They will learn about the key features of aquifers through interactive labels. Students will then practice labeling these key features on additional cross-section models.

2. Porosity vs. Permeability

In this exercise, students can first watch a short 6 minute video about porosity and permeability as characteristics of geologic material. Educators are welcome to have students skip this video if it, or another resource, is covered prior to the exercise.

Students will then work through a brief review of porosity and permeability, including the four main categories of geologic material classification. This is followed by an activity to compare different soil and sediment types where students make predictions about which materials will transmit water more easily.

3. Darcy's Law & Groundwater Modeling

This e-learning exercise walks students through the basics of how hydrogeologists use Darcy's Law and modeling applications to predict groundwater movement. It is specifically designed to help prepare students to use the Aquifer Lab Modeling Application.