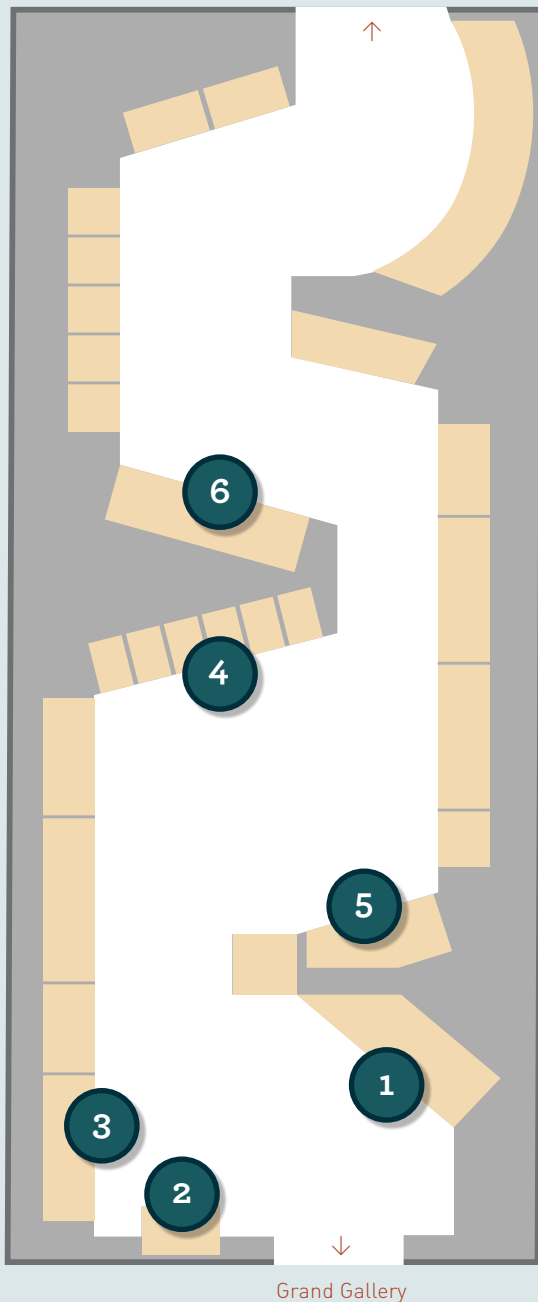


# Warburg Hall of New York State Environment

## TEACHING in the Hall

This hall uses a particular area—the village of Pine Plains and Stissing Mountain in Dutchess County—as a case study to explore the environment of New York State. This area contains mountains, lakes, forests, and farmland. The following exhibits will help you and your students identify and explore patterns and interactions between abiotic (rocks, water, seasons) and biotic factors (plants, animals).

Hall of North American Forests

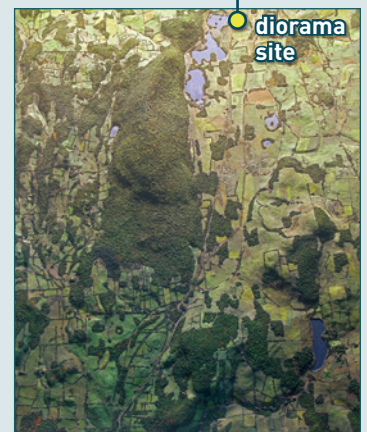


**Before Your Visit:** Have students find a satellite image of Pine Plains online to explore its current geographic features and to figure out its distance from your school.

**1. “An October Afternoon Near Stissing Mountain” diorama:** This scene introduces students to the region’s geology and ecology, which they will be investigating throughout the hall. Ask students to imagine they’re “on location,” and to identify all the living and nonliving things they see (e.g. *birds, mammals, insects, grass, woodland, lake, mountain*).



**2. “A Bird’s Eye View of Stissing Mountain and the Valley of Pine” map:** This aerial map shows the area in the 1950s, when the hall was constructed. Have students identify some of the region’s geographic features, such as mountains, lakes, forests, and farmland (point out that there’s no farmland on the mountain). Then invite students to consider what this place might look like today (e.g. *fewer farms, more forests, more towns, more roads*) and in the future.



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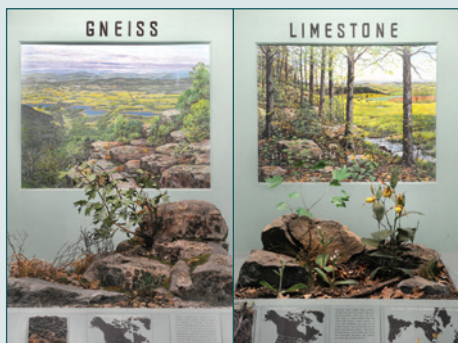
# Warburg Hall of New York State Environment

## TEACHING in the Hall

**3. “Geological History and Structure” exhibit:** The cross section at the top illustrates the different kinds of rocks that underlie this region, with corresponding rock specimens displayed below. Tell students that this cross section shows an area much larger than the aerial map they just saw, and ask them to locate Stissing Mountain. Have students share observations about the types of vegetation that grow on the mountain (*forests*) and its surrounding valleys (*crops or pastures*). Then, have them use the chart on the left wall to identify the types of rock that make up the mountain (*Gn = gneiss*) and the valleys (*C-Ow = limestone*), and observe those specimens on display. Point out to students that gneiss is a type of metamorphic rock (formed from other rocks that are changed by heat and pressure underground), and limestone is a type of sedimentary rock (formed from accumulation of sediments such as sand, silt, dead plants, and animal skeletons). Tell them that in the next exhibit, they will explore why farmland is located in the valleys and not on the mountain.



**4. “Relation of Plants to Geology and Soil” exhibit:** The first two display cases show landscapes shaped by gneiss, which makes up Stissing Mountain, and limestone, which underlies the surrounding valley. To help students explore how the type of rock affects the composition of soil and influences which plants grow where, have them examine the two cases for information about why farmers farm in the valleys and not on the mountain. (*Gneiss weathers into a thin layer of nutrient-poor soil that*



*is not suitable for farmland. Limestone weathers into a loose layer of nutrient-rich soil that is excellent for crop growth and pastures.)*

**5. “Life in the Soil” exhibit:** These four display cases explore how animals in two different locations depend on the soil below ground, where the temperature is more constant than on the surface. First, have students examine the two “edge of woodland” cases to compare the animal life during different seasons, winter and spring (*e.g. the chipmunk spends part of the winter hibernating in its nest below the frost line; it emerges above ground in the spring to forage for food while its young stay inside the burrow*). Then, have them look for similar patterns in the “farmer’s lawn” cases (*e.g. the toad overwinters below ground; it is more active above ground in the spring*).



**6. “From Field to Lake” diorama:** This diorama shows ecosystems transitioning from field to forest to lake, along with a glimpse of what’s underground and underwater. Have students identify the different ecosystems, and then look for examples of interaction between organisms. For example, animals are taking care of offspring (*e.g. Brown Bullhead Catfish in pond*), feeding on plants (*e.g. Common Sulphur Butterfly feeding on flower in field*) or other animals (*e.g. Common Box Turtle catching beetle*), and collecting resources to make shelter (*e.g. Muskrats using cattails*). Also, have students look for evidence of human activity (*e.g. domesticated cattle feeding on land cleared by a farmer for pasture*).



**Back in the Classroom:** This case study within Dutchess County is just one example of how all plants and animals, including humans, rely on the environment around them. Encourage students to think about and investigate the interactions between living things and the environment where they live.