To help 8th grade students at Northview Middle School, in Kodak, Tennessee, experience the excitement towards Earth Science research, an inquiry-based project was developed in which students evaluated and cataloged their campus geology and pedology. After studying physical, chemical, and biological weathering processes, the students worked together to excavate multiple soil pits for characterization of soil morphology, and collected both soil and bedrock samples for thin-section, pollen, and scanning-electron microscope (SEM) analyses. The students also gained hands-on experience with geospatial and mathematical skills from recording compass, distance, and orientation measurements while establishing a base map for our research site. Corollary discoveries made by the students included the composition and texture of the bedrock and soils, which enabled group discussion and interpretations as to questions that included: 1) How does water flow through the soils investigated? 2) Do the soils hold enough water to support a drinking-water well? 3) Is there evidence for landslide risk in any of the observed soils? 4) The bedrock at Northview is ~460 million years old. Tennessee was located right at the equator during this time. What type of rock is the BEDROCK SAMPLE, Limestone or Sandstone? 5) Draw what you think Northview looked like ~460 million years ago.

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