A Model for Field Investigation

Table 1 outlines the differences and similarities between the three types of field investigations and relates these to the essential features of inquiry. See Windschitl, M., Dvornich, K., Ryken, A. E., Tudor, M., & Koehler, G. (2007) *A comparative model of field investigations: Aligning school science inquiry with the practices of contemporary science,* School Science and Mathematics 1 (107), 367-390 for a complete description of the field investigation model.

Three Types of Field Investigations

Essential Questions	What defines my environment? What is a healthy environment? What is humans' relationship to the environment? How can our community sustain our environment? What is my role in the preservation and use of environmental resources?		
	Descriptive	**Comparative**	**Correlative**
Formulate Investigative Question	How many? How frequently? When happened?	Is there a difference between groups, conditions, times, or locations? Make a prediction or hypothesis about differences.	Is there a relationship between two variables? Make a hypothesis about the relationship.
Identify Setting within a System	Identify geographic scale of investigation (e.g., riparian corridor or Cedar River Watershed) Identify time frame of the investigation (e.g., season, hour, day, month, year)		
Identify Variables of Interest	Choose measurable or observable variables	Choose a measured variable in at least two different (manipulated variable) locations, times, organisms, or populations	Choose two variables to be measured together and tested for a relationship
Collect and Organize Data	Multiple measurements over time or location in order to improve system representation (model) Individual measurement is repeated if necessary to improve data accuracy Record and organize data into table(s) or other forms		
		Describe how sampling, measurement, observations were consistent for the two or more locations, times or organisms (controlled variables) and was random and representative of the site.	