

# Curriculum Design at the PLC

**Background:** When you and your students visit the plc, the field experience will be based upon state standards (Grade Level Expectations or GLEs) for your specific grade level. In addition to GLEs, PLC field experiences incorporate inquiry and 21<sup>st</sup> century skills.

The field experience has 3 components: Pre-Field Experience Planning, Field Experience Day, and Post-Field Experience Follow-up Evaluation.

## **Pre-Field Experience Planning:**

In preparation for the PLC field experience you will: 1.create interest and generate curiosity tied directly to GLE(s) that you are teaching; 2.raise questions and elicit responses from students to access prior knowledge; 3.identify misconceptions in students' understanding. During pre-planning, teacher and students are generating questions such as Why did this happen, How can I find out? You will guide your students in developing an inquiry question(s), a claim(s), and desired evidence that will be collected at the PLC to address the question(s).

### Steps:

1. Select grade appropriate GLE as the field experience Big Idea (refer to template).
2. Define student learning objectives. The objectives can be any part of the 5 Es of inquiry. For example, the field experience may begin a unit as an exploration **or** it may be an elaboration or evaluation as the culmination of a unit.

*For Example:* 4th gr. life science GLE is there is an interaction and interdependence between and among living and non-living components of ecosystems. Question: How are the non-living components in the Poudre River and the Learning Lake affecting the living components? Students generate a claim(s) related to this question. Possible evidence to be collected during the field experience could be macroinvertebrate types.



## **Pre-Field Experience Classroom Lesson(s):**

Classroom lessons are centered on the 5 Es of inquiry and the field experience is a natural component of this process.

### Steps:

1. Develop inquiry question(s) with students. This process can follow the inquiry continuum from teacher-directed to student-directed. Classroom lessons contain content necessary for creating appropriate inquiry questions and claims.
2. Once an inquiry question(s) has been identified students develop a claim(s) that addresses the inquiry question. The inquiry continuum can be followed here as well. The claim is used to select evidence that will be gathered during the PLC field experience.

*For Example:* Using 4<sup>th</sup> gr. question above classroom content might include living/non-living factors, and ecosystems/habitats. A claim could be, "Temperature affects what lives in the river and the lake." Possible evidence to collect would be a data set of macroinvertebrate types from the river and the lake.



### **Field Experience at PLC:**

At the PLC, students participate in collection and organization of data at different scientific sites. Students will be guided to connect their collected data back to the claim(s).

#### **Steps:**

1. Select evidence to be gathered on site. Collect and record data.
2. Brief analysis of data before end of field experience.

*For Example:* at the river – collect caddis flies, stone flies, plants, etc. Students record/analyze/compare data with their claim. Do the same for the lake. Briefly analyze data for trends, patterns, ahas, etc.



### **Post-Field Experience Follow Up in Classroom:**

Students tie evidence collected to the claim using reasoning and current scientific concepts to justify the claim. Using evidence outcomes from state standards, have students “publish” their work in some format.

*Example:* students create a poster; create a video; write an essay; start/maintain a blog, etc.

**Middle School or High School:** Justification includes two vital parts: a. why the evidence supports/refutes the claim and b. an explanation using underlying science concepts. If the field experience is used as an exploration, further explanation in class may be necessary before evidence can be used to reason/justify.

**Elementary School:** Follow-up to the field experience will include a summary of what evidence was collected and why. Justification/reasoning might be beyond the cognitive scope of students at this age. Teacher discretion is recommended as you know your students best!