Classroom Observation Protocol for Project Inquiry

District _____ Teacher_____ Kit:_____

School _____ Observer_____ Date:_____

# of Students: _____ Start Time: _____ End Time: _____ Observation # _____

Introduction Emphasis	Rating	Evidence
a. Provides overview		
b. Relates lesson to previous lessons/activities		
c. Assesses prior knowledge		

Scale: *3 - Clearly communicates all ideas and required information*
         2 - Communicates most ideas and required information (some ideas or information may be missing or not clear)
         1 - Communicates only some ideas and required information (most ideas or information is missing, unclear, incomplete)
         0 - Does not exhibit behavior

Modes of instruction	Rating	Evidence
a. Whole class instruction		
b. Hands-on activities		
c. Lecture or recitation		
d. Drill and practice		
e. Reading textbook		
f. Teacher demonstration		
g. Small group discussion		
h. Cooperative group work		
i. Individual seat work		
j. Open ended inquiry		
k. Data collection and/or manipulation		
l. Note-taking		
m. Homework/class work review/correction		
n. Group presentation		
o. Notebook entry or log		

Scale: *3 - Evident - Very effective*
         2 - Evident - Somewhat effective
         1 - Evident - Not effective or inappropriate
         0 - Not evident

Questions	Rating	Evidence (Tally as necessary.)
a. Knowledge, Comprehension (procedural, rhetorical, recall, recognition, factual)		
b. Application, Synthesis, Analysis, Evaluation (compare, contrast, associate, evaluate, apply, expand, consider - what if)		
c. Feeling (affective)		

Scale: *3 - Many questions*
         2 - Some questions
         1 - Few questions
         0 - No questions

Teacher Behavior	Rating	Evidence
a. Explains activity-Gives concise, sequential directions to guide activity		
b. Circulates among students/ student groups asking quest.		
c. Emphasizes relations to real life		
d. Uses ongoing embedded assessment		
e. Uses appropriate classroom management techniques		

Scale: *3 - Does well*
           2 - Does somewhat
           1 - Does not do well
           0 - Does not do at all

Materials Used	Present?	Evidence
a. Printed reading materials (books, articles, stories, etc.)		
b. Computer or computer technology		
c. Overhead projector, LCD projector		
d. Chalkboard, white board, chart tablet		
e. Videos, films, music		
f. Demonstration models		
g. Manipulatives (hands-on materials or equipment)		
h. Worksheets		
i. Science notebooks		

Overall Rating of Lesson (Circle one.)

5   **Exemplary instruction** - purposeful and students highly engaged in meaningful work; lesson highly likely to enhance students' understanding and to develop the capacity to "do science."

4   **Accomplished, effective instruction** - purposeful instruction, engaging to students but adaptation to individual student's needs and interests is limited; lesson quite likely to enhance students' understanding and to develop the capacity to "do science."

3   **Beginning stages of effective instruction** - students engaged in meaningful work but there are some weaknesses in design, implementation, content and/or appropriateness for students; lesson somewhat limited in ability to enhance students' understanding and to develop the capacity to "do science."

2   **Elements of effective practice** - some elements of effective practice but there are substantial problems in the design, implementation, content, and/or appropriateness for students; lesson quite limited in ability to enhance students' understanding and to develop the capacity to "do science."

1   **Passive learning** - students are passive recipients of information from the teacher or textbook; activity for activity's sake in that students are involved in hands-on activities but lesson lacks a clear sense of purpose and/or clear link to conceptual development.

Classroom Observation Protocol
Project Inquiry

Definitions and Explanations for Observers

Introduction Emphasis – How a teacher introduces the lesson (could be 5-20 min)

a. **Provides overview** - Gives students an appropriate overview of what they need to get started with the lesson/activity

b. **Relates lesson to previous lesson/activity** - Relates to what students learned previously

c. **Assesses prior knowledge** - Asks students what they already know and understand about the lesson or activity's topic; also adjust lesson if needed

Modes of Instruction – What teacher directs students to do

a. **Whole class instruction** - Discusses topic/concept/principle; not introduction to an activity unless a discussion about what they already know and their experiences

b. **Hands-on activities** - Using manipulatives (including laboratory equipment) to explore, observe, collect data about a concept

c. **Lecture or recitation** - Teacher talks, students listen and may take notes and students answer specific questions teacher asks that usually have one right answer

d. **Drill and practice** - Similar to recitation but could be seat work where students answer questions on paper; is still drill and practice if students work in groups

e. **Reading textbook** - Printed material is used to teach science concepts.

f. **Teacher demonstration –** Teacher uses manipulative and/or laboratory equipment to demonstrate a concept/principle.

g. **Small group discussion** - Students interact around some topic; may fill in worksheet or data sheet.

h. **Cooperative group work** - Students have specific tasks they do to collaborate with one another in completing an activity/project, etc. ; may involve solving a problem and recording results on a data sheet.

i. **Individual seat work** - Students working alone on worksheets, kit templates, teacher provided questions, etc. The teacher may or may not circulate around the room interacting with students.

j. **Open-ended inquiry** - Students are engaged in designing and implementing their own investigation rather than just "doing."

k. **Data collection and/or manipulation** - Data can include numbers and/or collecting and compiling information in order to answer a question/address a problem. Can be written or oral.

l. **Note-taking** - Students are recording what they hear from their teacher; could be part of recitation also; if they just listen without taking notes, identify that as "Lecture or recitation."

m. **Homework/Class work review/correction** - Anything to do with going over homework or class work in class

n. **Group presentation** - Students provide new information to others based on project/activity/research or use evidence from the project/activity (data) to support what they say.

o. **Notebook entry or log** - Students write reflections, record data, etc. or even draw pictures as a form of recording data in Project Inquiry model notebooks they keep for science.

Questions

a. **Knowledge, Comprehension** - Low level questions in Bloom's taxonomy; includes *non-instructional procedural and rhetorical* (e.g., "Does everyone understand what they are supposed to do?") and *input* (recall, recognition, factual, e.g., "What type of rocks results from cooled magma?")

b. **Application, Synthesis, Analysis, Evaluation** - High level questions in Bloom's taxonomy; includes *process* questions (compare contrast, associate, e.g., "What kind of beak might a carnivorous bird have? Why?") and *output* (evaluate, apply, expand, consider - what if, e.g., "If you build a house on a barrier beach, what biological and physical factors should you consider in order for it to be of minimal environmental impact?")

c. **Feeling (affective)** - E.g., "How do you feel about keeping public lands for natural habitats given the need for housing?"

Teacher Behavior – what teachers do to help students learn

a. **Explains activity** - Explains how to do activity in such a way that students understand exactly what to do

b, **Circulates among students/student groups asking questions** - Teacher goes from group to group facilitating learning by asking questions, moving their thinking; does not include merely go around the room to "check progress"

c. **Emphasizes relations to real life** - Teacher relates instruction to something relevant to students or something that exists in the real world of science

d. **Uses ongoing embedded assessment** - Teacher uses methods that provide information to make decisions about next steps in helping students understand; could be assessing student understanding through discussion

e. **Uses appropriate classroom management techniques** - Teacher uses methods to maximize time on task and addresses inappropriate behavior effectively.