

III. Detail log/transcript of the classroom observation (indicate time when the activity changes)

	Time	Description of events
0-5	11:54-11:59 B/IND/HE	Students working on warm up while teacher takes attendance. 11:59 – collecting warm-ups
5-10	11:59-12:04 AD/ IND/HE	12:01- teacher handing out worksheet and they will talk about today's lesson. Reading worksheet – relating information to what they have been learning all week. Lab groups – 2-3 people per group – go through 1 st two tests as a class so students know how to do tests.
10-15	12:04-12:09 DIR/SG/HE	Students moving into their groups. Worksheets give directions on extraction, and testing for nitrogen, phosphorus, and potassium. Teacher is passing out materials – cup, graduated cylinder, eye dropper, spoon, and little vile, and tablets. Going over the procedure for extraction. One person per group is now going to the front to fill their cups with 30 ml of water.
15-20	12:09-12:14 DIR/SG/HE	Going over the next step. Dissolving 2 floc-ex tablets. Students doing the next step. Going over next step, add one tsp of soil and stir for a minute. Students doing this step.
20-25	12:14-12:19 DIR/SG/HE	Students need to let cup stand until soil settles out. They need the clear solution above the soil to run the tests. Students extracting 8 ml of water to run first test.
25-30	12:19-12:24 DIR/SG/HE	Need to pour extracted water into one vile. Take nitrate pill and put in vile, shut vile, and shake until it pill dissolves. Student asks if they need to do the same procedure for the other tests and asks if they can move ahead. Teacher said just be careful to read the instructions because measurements differ.

30-35	12:24-12:29 WK/ SG/HE	Students are continuing on their own now.
35-40	12:29-12:34 WK/SG/HE	Students samples are coming up different colors – looking at chart to figure out what color means.
40-45	12:34-12:39 WK/SG/HE	Students samples are coming up different colors – looking at chart to figure out what color means... and are answering the two questions at the end of the worksheet *
45-50	12:39-12:45 WK/SG/HE	Students hurrying to finish what they can finish to turn in their worksheet.. cleaning up..

*1] What can you conclude about the nitrogen, phosphorus, and potassium levels in your sample?

2] In your opinion, is this a suitable type of soil for growing plants?

IV. Evaluation of the class in 5-minute increments.

<i>Time in minutes</i>	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60
Instruction	B	AD	DIR	DIR	DIR	DIR	WK	WK	WK	WK		
Organization	IND	IND	SG	SG	SG	SG	SG	SG	SG	SG		
Student	HE	HE	HE	HE	HE	HE	HE	HE	HE	HE		
Cognitive	1	1	1	1	1	1	1	1	1	1		

<i>Time in minutes</i>	60-65	65-70	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115	115-120
Instruction											
Organization											
Student											
Cognitive											

Key ---Note: Type of Instruction - requires two codes: type of activity and organization (Ind, Group etc.)

<i>Activity codes</i>	LP	process/skills lab/activity
B bellwork	SP	student presentations
Lec lecture w/o discussion	RP	research Project
Dir teacher giving directions	SR	student reading
LWD discussion	TB	students working from textbook
Dem demonstration	WK	students completing worksheet
RT review for test	V	video
RH review of homework/ previous day	FT	out-of-class experience (field trip)
RI review of in-class activity	HA	homework assigned
Sim simulation	HC	homework collected
LI inquiry lab/activity	AD	administrative task
LG guided inquiry lab/activity	Q	quiz
LD directed inquiry lab/activity	I	interruption
LV verification lab/activity		

Organization Codes		Student Attention to Lesson	
WG	whole group	LE	low attention, 80% or more of the students off-task.
SG	small group		Most students are obviously off-task – heads on desks, staring out of the window, chatting with neighbors, etc.
CL	cooperative learning (roles)	ME	medium attention, 50% of students are attending to the lesson.
Ind	students working individually on assignments	HE	high attention, 80% or more of the students are attending to the lesson. Most students are engaged with the activity at hand – taking notes or looking at the teacher during lecture, writing on the worksheet, most students are volunteering ideas during a discussion, all student are engaged in small group discussions even without the presence of the teacher

Cognitive Activity

- 1 Receipt of Knowledge--(i.e., lecture, reading textbook, etc.) Students are getting the information from either a teacher or book. This generally includes listening to a lecture, going over homework or watching the teacher verify a concept through a demonstration or working problems at the board. The critical feature is that students are not doing anything with the information.
- 2 Application of Procedural Knowledge-Students apply their knowledge (from Bloom's taxonomy: Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place.). This typically involves students using what they have learned, doing worksheets, practicing problems, or building skills. The critical feature is simple application of information or practicing a skill.
- 3 Knowledge Representation-organizing, describing, categorizing. Students manipulate information. This is a step beyond application. Students are re-organizing, categorizing, or attempting to represent what they have learned in a different way – for example, generating a chart or graph from their data, drawing diagrams to represent molecular behavior, concept mapping.
- 4 Knowledge Construction-higher order thinking, generating, inventing, solving problems, revising, etc. Students create new meaning. Students might be generating ideas, or solving novel problems. For example generating patterns across three different data sets, drawing their own conclusions, articulating an opinion in a discussion or debate.
- 5 Other-e.g. classroom disruption