

Classroom Checklist

Please fill in the types of instruction, student engagement, and cognitive activity used in the last minute of each five minute portion of this class in the boxes below (e.g., minute 4-5, 9-10, 14-15). There may be one or more strategies used in each category during each interval. Please indicate the Type of Instruction that best characterizes what was happening during each minute-long interval.

Type of Instruction

L	lecture/presentation	CL	cooperative learning (roles)
T	Transition time	LC	learning center/station
SP	student presentation (formal)	TIS	teacher/faculty member interacting w/ student
LWD	lecture with discussion	UT	utilizing digital educational media and/or technology
D	Demonstration	A	assessment: Please describe.
CD	class discussion	AD	administrative tasks
WW	writing work (if in groups, add SGD)	OOO	out-of-class experience
RSW	reading seat work (if in groups, add SGD)	I	Interruption
HOA	hands-on activity/materials	OTH	other: Please describe.
SGD	small group discussion (pairs count)		

Student Engagement

LE	low engagement, 50% or more of the students off-task
HE	Mixed or high engagement, 51% or more of the students engaged

Cognitive Activity (Bloom's Taxonomy)

K	Knowledge (e.g., observation and recall of information, knowledge of dates, events, places)
C	Comprehension (e.g., understanding information, translate knowledge into new context)
AP	Application (e.g., use information, use methods, concepts, theories in new situations)
AN	Analysis (e.g., seeing patterns, organization of parts, identification of components)
S	Synthesis (e.g., generalize from given facts, predict, draw conclusions)
E	Evaluation (e.g., make choices based on reasoned argument, verify value of evidence)

Time in minutes

	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												
Student												
Cognitive												

	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115	115-120
I												
S												
C												

III. Lesson Design and Implementation

	Never Occurred			Very Descriptive	
1. The instructional strategies and activities respected students' prior knowledge and the preconceptions inherent therein.	1	2	3	4	5
2. The lesson was designed to engage students as members of a learning community.	1	2	3	4	5
3. In this lesson, student exploration preceded formal presentation.	1	2	3	4	5
4. This lesson encouraged students to seek and value alternative modes of investigation or of problem solving.	1	2	3	4	5
5. The focus and direction of the lesson was often determined by ideas originating with students.	1	2	3	4	5

IV. Content

Propositional Knowledge	Never Occurred			Very Descriptive	
6. The lesson involved fundamental concepts of the subject.	1	2	3	4	5
7. The lesson promoted strongly coherent conceptual understanding.	1	2	3	4	5
8. The teacher had a solid grasp of the subject matter content inherent in the lesson.	1	2	3	4	5
9. Elements of abstraction (i.e., symbolic representations, theory building) were used when appropriate.	1	2	3	4	5
10. Connections with other content disciplines and/or real world phenomena were explored and valued.	1	2	3	4	5
Procedural Knowledge					
11. Students used a variety of means (models, drawings, graphs, concrete materials, manipulatives, etc.) to represent phenomena.	1	2	3	4	5
12. Students made predictions, estimations and/or hypotheses and devised means for testing them.	1	2	3	4	5
13. Students were actively engaged in thought-provoking activity that often involved the critical assessment of procedures.	1	2	3	4	5
14. Students were reflective about their learning.	1	2	3	4	5
15. Intellectual rigor, constructive criticism, and the challenging of ideas were valued.	1	2	3	4	5

(Adapted by FRONTIER 21 Education Solutions for GeoKids program from Reformed Teacher Observation Protocol by the ACEPT Program, Arizona State University, and from the CETP Core Evaluation Protocol)

V. Classroom Culture

Communicative Interactions					
16. Students were involved in the communication of their ideas to others using a variety of means and media.	1	2	3	4	5
17. The teacher's questions triggered divergent modes of thinking.	1	2	3	4	5
18. There was a high proportion of student talk and a significant amount of it occurred between and among students.	1	2	3	4	5
19. Student questions and comments often determined the focus and direction of classroom discourse.	1	2	3	4	5
20. There was a climate of respect for what others had to say.	1	2	3	4	5
Student/Teacher Relationship					
21. Active participation of students was encouraged and valued.	1	2	3	4	5
22. Students were encouraged to generate conjectures, alternative solution strategies, and ways of interpreting evidence.	1	2	3	4	5
23. In general the teacher was patient with students.	1	2	3	4	5
24. The teacher acted as a resource person, working to support and enhance student investigations.	1	2	3	4	5
25. The metaphor "teacher as listener" was very characteristic of this classroom.	1	2	3	4	5

Role of the Fellow/ GeoKids Support Staff

of Fellows/GeoKids Support Staff _____

Activities of Fellows during this lesson:

Teaching the Lesson
 Guiding Small Student Groups
 Distributing GeoKids Materials
 Preparing the Room
 One-to-one tutoring
 Disciplining students

Estimate Number of minutes Fellow was engaged directly with students in 1 to 1 or group teaching: _____

Capsule Description of the Quality of the Lesson

In this final rating of the lesson, consider all available information about the lesson, its context and purpose, and your own judgment of the relative importance of the ratings you have made. Select the capsule description that best characterizes the lesson you observed. Keep in mind that this rating is *not* intended to be an average of all the previous ratings, but should encapsulate your overall assessment of the quality and likely impact of the lesson. Please provide a brief rationale for your final capsule description of the lesson in the space provided. Indicate the level by circling the most accurate description.

Level 1: Ineffective Instruction

There is little or no evidence of student thinking or engagement with important ideas of science. Instruction is *highly unlikely* to enhance students' understanding of the discipline or to develop their capacity to successfully "do" science. Lesson was characterized by either (select one below):

Passive "Learning"

Instruction is pedantic and uninspiring. Students are passive recipients of information from the teacher or textbook; material is presented in a way that is inaccessible to many of the students.

Activity for Activity's Sake

Students are involved in hands-on activities or other individual or group work, but it appears to be activity for activity's sake. Lesson lacks a clear sense of purpose and/or a clear link to conceptual development.

Level 2: Elements of Effective Instruction

Instruction contains some elements of effective practice, but there are *serious problems* in the design, implementation, content, and/or appropriateness for many students in the class. For example, the content may lack importance and/or appropriateness; instruction may not successfully address the difficulties that many students are experiencing, etc. Overall, the lesson is *very limited* in its likelihood to enhance students' understanding of science or to develop their capacity to successfully "do" science.

Level 3: Beginning Stages of Effective Instruction (Select one below.)

Low 3 Solid 3 High 3

Instruction is purposeful and characterized by quite a few elements of effective practice. Students are, at times, engaged in meaningful work, but there are *weaknesses*, ranging from substantial to fairly minor, in the design, implementation, or content of instruction. For example, the teacher may short-circuit a planned exploration by telling students what they "should have found"; instruction may not adequately address the needs of a number of students; or the classroom culture may limit the accessibility or effectiveness of the lesson. Overall, the lesson is *somewhat limited* in its likelihood to enhance students' understanding of science or to develop their capacity to successfully "do" science.

Level 4: Accomplished, Effective Instruction

Instruction is purposeful and engaging for most students. Students actively participate in meaningful work (e.g., investigations, teacher presentations, discussions with each other or the teacher, reading). The lesson is well-designed and the teacher implements it well, but adaptation of content or pedagogy in response to student needs and interests is limited. Instruction is *quite likely* to enhance most students' understanding of science and to develop their capacity to successfully "do" science.

Level 5: Exemplary Instruction

(Adapted by FRONTIER 21 Education Solutions for GeoKids program from Reformed Teacher Observation Protocol by the ACEPT Program, Arizona State University, and from the CETP Core Evaluation Protocol)

Instruction is purposeful and all students are highly engaged most or all of the time in meaningful work (e.g., investigation, teacher presentations, discussions with each other or the teacher, reading). The lesson is well-designed and artfully implemented, with flexibility and responsiveness to students' needs and interests.

Instruction is *highly likely* to enhance most students' understanding of science and to develop their capacity to successfully “do” science.

Additional comments you may wish to make about this lesson.