NOTE:	This form is included for information purposes only. Evaluators will need to complete the form on the Web.

2004–05 Local Systemic Change Classroom Observation Protocol[1]

BACKGROUND INFORMATION

Project _____

LSC ID[2] _____

Subject Observed[3] _____

Grade Level _____

Date of Observation _____

Time of Observation:

Start _____ End _____

Observer _____

Observer's Role in Project:

___ Lead Evaluator

___ Other Certified Observer

SECTION ONE: CONTEXTUAL BACKGROUND AND ACTIVITIES

In this section, please fill in the circles that best describe the class. ***For each item, be sure to fill in all responses that apply.***

I. Classroom Demographics and Context

A. What is the total number of students in the class at the time of the observation?

- O 15 or fewer
- O 16–20
- O 21–25
- O 26–30
- O 31 or more

B. What is the approximate percentage of white (not Hispanic origin) students in this class?

- O 0–10 percent
- O 11–25 percent
- O 26–50 percent
- O 51–75 percent
- O 76–100 percent

C. Indicate the *teacher's*:

1. Gender
   - O Male O Female
2. Race/Ethnicity
   - O African-American (not Hispanic origin)
   - O American Indian or Alaskan Native
   - O Asian or Pacific Islander
   - O Hispanic
   - O White (not Hispanic origin)
   - O Other

D. If applicable, indicate the *teacher aide's*:

1. Gender
   - O Male O Female
2. Race/Ethnicity
   - O African-American (not Hispanic origin)
   - O American Indian or Alaskan Native
   - O Asian or Pacific Islander
   - O Hispanic
   - O White (not Hispanic origin)
   - O Other

[1] Be sure you have read the "2004–05 Local Systemic Change Classroom Observations: Guidelines for Evaluators" and have completed the "Pre-Classroom Observation Interview" before observing the class.

[2] Use the LSC ID number as indicated in the Classroom Observation Sample provided by HRI.

[3] In mathematics/science projects observe the subject for which the teacher was sampled.

E. Rate the adequacy of the physical environment.

1. Classroom resources:

○	○	○	○	○
1	2	3	4	5
Sparsely equipped				Rich in resources

2. Classroom Space:

○	○	○	○	○
1	2	3	4	5
Crowded				Adequate space

3. Room arrangement:

○	○	○	○	○
1	2	3	4	5
Inhibited interactions among students				Facilitated interactions among students

II. Lesson Description

In a paragraph or two, describe the lesson you observed. Include where this lesson fits in the overall unit of study. Be sure to include enough detail to provide a context for your ratings of this lesson and also to allow you to recall the details of this lesson when needed in future years for longitudinal analysis.

III. Purposes of Lesson

A. Indicate the *major*[4] *content area(s)* of this lesson or activity.

- ○ 1. Numeration and number theory
- ○ 2. Computation
- ○ 3. Estimation
- ○ 4. Measurement
- ○ 5. Patterns and relationships
- ○ 6. Pre-algebra
- ○ 7. Algebra
- ○ 8. Geometry and spatial sense
- ○ 9. Functions (including trigonometric functions) and pre-calculus concept
- ○ 10. Data collection and analysis
- ○ 11. Probability
- ○ 12. Statistics (e.g., hypothesis tests, curve-fitting, and regression)
- ○ 13. Topics from discrete mathematics (e.g., combinatorics, graph theory, recursion)
- ○ 14. Mathematical structures (e.g., vector spaces, groups, rings, fields)
- ○ 15. Calculus
- ○ 16. Life Science (please specify: _____)
- ○ 17. Physical science (please specify: _____)
- ○ 18. Earth/space sciences
  - ○ a. Astronomy
  - ○ b. Oceanography
  - ○ c. Geology
  - ○ d. Meteorology
  - ○ e. Environmental sciences
- ○ 19. Engineering and design principles
- ○ 20. History of mathematics/science

- ○ 21. None of the above (please explain)

[4] "Major" means was used or addressed for a substantial portion of the lesson; if you were describing the lesson to someone, this feature would help characterize it.

B. Indicate the *primary intended purpose(s)* of this lesson or activity based on the pre- and/or post-observation interviews with the teacher.

- ○ 1. Identifying prior student knowledge
- ○ 2. Introducing new concepts
- ○ 3. Developing conceptual understanding
- ○ 4. Reviewing mathematics/science concepts
- ○ 5. Developing problem-solving skills
- ○ 6. Learning mathematics/science processes, algorithms, or procedures
- ○ 7. Learning vocabulary/specific facts
- ○ 8. Practicing computation for mastery
- ○ 9. Developing appreciation for core ideas in mathematics/science
- ○ 10. Developing students' awareness of contributions of scientists/mathematicians of diverse backgrounds
- ○ 11. Assessing student understanding

IV. Instructional Materials

A. Is this lesson based on instructional materials designated for use by this LSC?

○ Yes ○ No, SKIP to Part V below

B. Indicate the *single* set of LSC-designated instructional materials intended to form the basis of this lesson (e.g., FOSS; Insights; STC; Investigations in Number, Data, and Space; Connected Math; IMP; SEPUP), based on the information provided in the pre-observation interview.

Please specify. _____

C. How closely did the lesson adhere to the instructions provided in the teacher's manual?

○ Exactly, SKIP to Part V below
○ Almost totally ○ Mostly ○ Somewhat ○ A little ○ Hardly at all

D. How did the modifications affect the quality of the lesson design?

○ Helped a lot ○ Helped a little ○ Neutral ○ Hurt a little ○ Hurt a lot

V. Classroom Instruction

A. Indicate the *major*[5] *way(s)* in which student activities were structured.

○ As a whole group ○ As small groups ○ As pairs ○ As individuals

B. Indicate the *major*[5] *way(s)* in which students engaged in class activities.

○ Entire class was engaged in the same activities at the same time.
○ Groups of students were engaged in different activities at the same time (e.g., centers).

[5] "Major" means was used or addressed for a substantial portion of the lesson; if you were describing the lesson to someone, this feature would help characterize it.

C. Indicate the *major*[6] *activities* of students in this lesson. When choosing an "umbrella" category, be sure to indicate subcategories that apply as well. (For example, if you mark "listened to a presentation," indicate by whom.)

- ○ 1. Listened to a presentation:
  - ○ a. By teacher (would include: demonstrations, lectures, media presentations, extensive procedural instructions)
  - ○ b. By student (would include informal, as well as formal, presentations of their work)
  - ○ c. By guest speaker/"expert" serving as a resource

- ○ 2. Engaged in discussion/seminar:
  - ○ a. Whole group
  - ○ b. Small groups/pairs

- ○ 3. Engaged in problem solving/investigation:
  - ○ a. Worked with manipulatives
  - ○ b. Played a game to build or review knowledge/skills
  - ○ c. Followed specific instructions in an investigation
  - ○ d. Had some latitude in designing an investigation
  - ○ e. Recorded, represented and/or analyzed data
  - ○ f. Recognized patterns, cycles or trends
  - ○ g. Evaluated the validity of arguments or claims
  - ○ h. Provided an informal justification or formal proof

- ○ 4. Engaged in reading/reflection/written communication about mathematics or science:
  - ○ a. Read about mathematics/science
  - ○ b. Answered textbook/worksheet questions
  - ○ c. Reflected on readings, activities, or problems individually or in groups
  - ○ d. Prepared a written report
  - ○ e. Wrote a description of a plan, procedure, or problem-solving process
  - ○ f. Wrote reflections in a notebook or journal

- ○ 5. Used technology/audio-visual resource:
  - ○ a. To develop conceptual understanding
  - ○ b. To learn or practice a skill
  - ○ c. To collect data (e.g., probeware)
  - ○ d. As an analytic tool (e.g., spreadsheets or data analysis)
  - ○ e. As a presentation tool
  - ○ f. For word processing or as a communications tool (e.g., e-mail, Internet, Web)

- ○ 6. Other activities
  - ○ a. Arts and crafts activity
  - ○ b. Listened to a story
  - ○ c. Wrote a poem or story
  - ○ d. Other (Please specify.) _____

[6] "Major" means was used or addressed for a substantial portion of the lesson; if you were describing the lesson to someone, this feature would help characterize it.

D. Comments

Please provide any additional information you consider necessary to capture the activities or context of this lesson. Include comments on any feature of the class that is so salient that you need to get it "on the table" right away to help explain your ratings; for example, the class was interrupted by a fire drill, the kids were excited about an upcoming school event, or the teacher's tone was so warm (or so hostile) that it was an overwhelmingly important feature of the lesson.

SECTION TWO: RATINGS

In Section One of this form, you documented what occurred in the lesson. In this section, you are asked to rate each of a number of key indicators in four different categories, from 1 (not at all) to 5 (to a great extent). You may list any additional indicators you consider important in capturing the essence of this lesson and rate these as well. Use your "Ratings of Key Indicators" (Part A) to inform your "Synthesis Ratings" (Part B). It is important to indicate in "Supporting Evidence for Synthesis Ratings" (Part C) what factors were most influential in determining your synthesis ratings and to give specific examples or quotes to illustrate those factors.

Note that any one lesson is not likely to provide evidence for every single indicator; use 6, "Don't know" when there is not enough evidence for you to make a judgment. Use 7, "N/A" (Not Applicable) when you consider the indicator inappropriate given the purpose and context of the lesson. Section Two concludes with ratings of the likely impact of instruction, and a capsule description of the lesson.

I. Design

A. Ratings of Key Indicators

	Not at all				To a great extent	Don't know	N/A
1. The design of the lesson incorporated tasks, roles, and interactions consistent with investigative mathematics/science.	1	2	3	4	5	6	7
2. The design of the lesson reflected careful planning and organization.	1	2	3	4	5	6	7
3. The instructional strategies and activities used in this lesson reflected attention to students' experience, preparedness, and/or learning styles.	1	2	3	4	5	6	7
4. The resources available in this lesson contributed to accomplishing the purposes of the instruction.	1	2	3	4	5	6	7
5. The instructional strategies and activities reflected attention to issues of access, equity, and diversity for students (e.g., cooperative learning, language-appropriate strategies/materials).	1	2	3	4	5	6	7
6. The design of the lesson encouraged a collaborative approach to learning.	1	2	3	4	5	6	7
7. Adequate time and structure were provided for "sense-making."	1	2	3	4	5	6	7
8. Adequate time and structure were provided for wrap-up.	1	2	3	4	5	6	7
9. Formal assessments of students were consistent with investigative mathematics/science.	1	2	3	4	5	6	7
10. Design for future instruction takes into account what transpired in the lesson.	1	2	3	4	5	6	7
11. _____	1	2	3	4	5		

B. Synthesis Rating

1	2	3	4	5
Design of the lesson not at all reflective of best practice in mathematics/science education				Design of the lesson extremely reflective of best practice in mathematics/science education

C. Supporting Evidence for Synthesis Rating

II. Implementation

A. Ratings of Key Indicators

	Not at all				To a great extent	Don't know	N/A
1. The instruction was consistent with the underlying approach of the instructional materials designated for use by the LSC.	1	2	3	4	5	6	7
2. The instructional strategies were consistent with investigative mathematics/science.	1	2	3	4	5	6	7
3. The teacher appeared confident in his/her ability to teach mathematics/science.	1	2	3	4	5	6	7
4. The teacher's classroom management style/strategies enhanced the quality of the lesson.	1	2	3	4	5	6	7
5. The pace of the lesson was appropriate for the developmental levels/needs of the students and the purposes of the lesson.	1	2	3	4	5	6	7
6. The teacher was able to "read" the students' level of understanding and adjusted instruction accordingly.	1	2	3	4	5	6	7
7. The teacher's questioning strategies were likely to enhance the development of student conceptual understanding/problem solving (e.g., emphasized higher order questions, appropriately used "wait time," identified prior conceptions and misconceptions).	1	2	3	4	5	6	7
8. The lesson was modified as needed based on teacher questioning or other student assessments.	1	2	3	4	5	6	7
9. _____	1	2	3	4	5		

B. Synthesis Rating

1	2	3	4	5
Implementation of the lesson not at all reflective of best practice in mathematics/science education				Implementation of the lesson extremely reflective of best practice in mathematics/science education

C. Supporting Evidence for Synthesis Rating

III. Mathematics/Science Content

A. Ratings of Key Indicators	Not at all				To a great extent	Don't know	N/A
1. The mathematics/science content was significant and worthwhile.	1	2	3	4	5	6	7
2. The mathematics/science content was appropriate for the developmental levels of the students in this class.	1	2	3	4	5	6	7
3. Students were intellectually engaged with important ideas relevant to the focus of the lesson.	1	2	3	4	5	6	7
4. Teacher-provided content information was accurate.	1	2	3	4	5	6	7
5. The teacher displayed an understanding of mathematics/science concepts (e.g., in his/her dialogue with students).	1	2	3	4	5	6	7
6. Mathematics/science was portrayed as a dynamic body of knowledge continually enriched by conjecture, investigation analysis, and/or proof/justification.	1	2	3	4	5	6	7
7. Elements of mathematical/science abstraction (e.g., symbolic representations, theory building) were included when it was important to do so.	1	2	3	4	5	6	7
8. Appropriate connections were made to other areas of mathematics/ science, to other disciplines, and/or to real-world contexts.	1	2	3	4	5	6	7
9. The degree of "sense-making" of mathematics/science content within this lesson was appropriate for the developmental levels/needs of the students and the purposes of the lesson.	1	2	3	4	5	6	7
10. _____	1	2	3	4	5		

B. Synthesis Rating

1	2	3	4	5
Mathematics/science content of lesson not at all reflective of current standards for mathematics/science education				Mathematics/science content of lesson extremely reflective of current standards for mathematics/science education

C. Supporting Evidence for Synthesis Rating

IV. Classroom Culture

A1. Ratings of Key Indicators

	Not at all				To a great extent	Don't know	N/A
1. Active participation of all was encouraged and valued.	1	2	3	4	5	6	7
2. There was a climate of respect for students' ideas, questions, and contributions.	1	2	3	4	5	6	7
3. Interactions reflected collegial working relationships among students (e.g., students worked together, talked with each other about the lesson).	1	2	3	4	5	6	7
4. Interactions reflected collaborative working relationships between teacher and students.	1	2	3	4	5	6	7
5. The climate of the lesson encouraged students to generate ideas, questions, conjectures, and/or propositions.	1	2	3	4	5	6	7
6. Intellectual rigor, constructive criticism, and the challenging of ideas were evident.	1	2	3	4	5	6	7
7. _____	1	2	3	4	5		

A2. Respect for Diversity

Based on the culture of a classroom, observers are generally able to make inferences about the extent to which there is an appreciation of diversity among students (e.g., their gender, race/ethnicity, and/or cultural background). While direct evidence that reflects particular sensitivity or insensitivity toward diversity is not often observed, we would like you to document any examples you do see. If any examples were observed, please check here ☐ and describe below:

B. Synthesis Rating

1	2	3	4	5
Classroom culture interfered with student learning				Classroom culture facilitated the learning of all students

C. Supporting Evidence for Synthesis Rating

V. Overall Ratings of the Lesson

A. Likely Impact of Instruction on Students' Understanding of Mathematics/Science

While the impact of a single lesson may well be limited in scope, it is important to judge whether the lesson is likely to help move students in the desired direction. For this series of ratings, consider all available information (i.e., your previous ratings of design, implementation, content, and classroom culture, and the pre- and post-observation interviews with the teacher) as you assess the likely impact of this lesson. Feel free to elaborate on ratings with comments in the space provided.

Select the response that best describes your overall assessment of the *likely effect* of this lesson in each of the following areas.

	Negative effect		Mixed or neutral effect		Positive effect	Don't know	N/A
1. Students' understanding of mathematics/science as a dynamic body of knowledge generated and enriched by investigation.	○	○	○	○	○	○	○
2. Students' understanding of important mathematics/science concepts.	○	○	○	○	○	○	○
3. Students' capacity to carry out their own inquiries.	○	○	○	○	○	○	○
4. Students' ability to apply or generalize skills and concepts to other areas of mathematics/science, other disciplines, and/or real-life situations.	○	○	○	○	○	○	○
5. Students' self-confidence in doing mathematics/science.	○	○	○	○	○	○	○
6. Students' interest in and/or appreciation for the discipline.	○	○	○	○	○	○	○

Comments (optional):

B. 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.

- ○ **Level 1: Ineffective Instruction**
  There is little or no evidence of student thinking or engagement with important ideas of mathematics/science. Instruction is *highly unlikely* to enhance students' understanding of the discipline or to develop their capacity to successfully "do" mathematics/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 the discipline or to develop their capacity to successfully "do" mathematics/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 the discipline or to develop their capacity to successfully "do" mathematics/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 the discipline and to develop their capacity to successfully "do" mathematics/science.

- ○ **Level 5: Exemplary Instruction**
  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 the discipline and to develop their capacity to successfully "do" mathematics/science.

Please provide your rationale for the capsule rating: