Science Module Implementation
2007-2008

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SCIENCE MODULE IMPLEMENTATION REPORT

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Overview

One of the ways in which implementation of science modules were assessed in 2007-2008 was through classroom observations. Observations were conducted at each grade level K-8, as well as 9th and 10th grade, with a stratified random sampling of teachers (156 elementary, 35 middle, and 27 high). Observations were conducted by JCPS science resource teachers using the Elementary, Middle, and High School Science Module Implementation Checklists. The observation checklists included items related to teachers, students, and the overall classroom. Items were rated by observers as Present, Not Present, or Not Applicable. The following report summarizes data by level and grade for each of the observation items.

Major Findings: Elementary Schools

- *Classroom:* Highest rated items were related to the arrangement of desks for cooperative learning (72% present) and the presence of module readers and teacher guides in the room (58% present). Lowest rated items were the posting of the science word wall (50% not present) and the posting of the science content/inquiry charts in the room (39% not present).
- *Students*: Highest rated items were students making observations, measurements and recording data from investigations (51% present) and students sharing ideas, explanation, questions, and conclusions orally during whole class discourse (51% present). Lowest rated items were students' use of science notebooks throughout investigation and discourse (36% not present), students' sharing of ideas orally and in writing (30% not present), and students' awareness of assigned specific role groups during investigations (30% not present).
- *Teachers*: Highest rated items were teachers asking probing questions (55% present) and communicating the purpose of lesson (50% present). Lowest rated items were teachers expecting and holding students accountable (29% not present) and teachers acting as a facilitator to student learning by rotating to each group (26% not present).
- Overall, most observers did not observe the presence of critters- 82% rated this item N/A.
- The highest implementation (defined as % present) for Classroom, Student, and Teachers components was in 4th grade and the lowest implementation (defined as % not present) for Classroom, Student and Teacher components was in 5th grade.

Major Findings: Middle Schools

- *Classroom:* Highest rated items were related to the arrangement of tables for cooperative learning (80% present) and the presence of module readers and teacher guides in the room (97% present). The lowest rated item was student cooperative group and CHAMPS poster posted in the room (34% not present).
- *Students*: Highest rated items were students sharing ideas, explanation, questions, and conclusions orally during whole class discourse (80% present) and using science notebooks throughout investigation (74% present). Lowest rated items were students' following and carrying out cooperative group role responsibilities during investigations (54% not present) and students' sharing of ideas orally and in writing within groups (50% not present).
- *Teachers*: Highest rated items were teachers asking probing questions (80% present) and assessing student learning (83% present). Lowest rated items were teachers expecting and holding students accountable to cooperative group responsibilities, safety requirements, and critter care (49% not present) and teachers acting as a facilitator to student learning by rotating to each group (32% not present).
- Overall, most observers did not observe the presence of critters- 83% rated this item N/A.
- The highest implementation (defined as % present) for Classroom, Student, and Teacher components was in 7th grade. The lowest implementation (defined as % not present) for Classroom components was in 6th grade, while the lowest implementation for Student and Teacher components was in 8th grade.

Major Findings: High Schools

- *Classroom:* Highest rated items were related to the arrangement of the room for cooperative learning (77% present) and the efficient organization of materials/supplies (50% present). The lowest rated item was related to evidence of student investigations in progress or completed (57% not present).
- *Students*: Highest rated items were students making observations, measurements and recording data from investigations (71% present) and students sharing ideas, explanation, questions, and conclusions orally and in writing within student groups (52% present). Lowest rated items were students' use of science notebooks throughout investigation and discourse (50% not present) and students' sharing of ideas orally during whole class discourse (44% not present).
- *Teachers*: Highest rated items were teachers asking probing questions (72% present) and communicating purpose of lesson (56% present). Lowest rated items were teachers facilitating lesson closure (41% not present) and teachers' assessment of student learning (35% not present).

Science Module Implementation Observation DATA

- At the elementary school level, there were 156 observations. The number and percent of observations by grade level is in the table below.

Grade	Number of Observations	% of Observations
K	19	12.2%
1	12	7.7%
2	25	16.0%
3	32	20.5%
4	35	22.4%
5	33	21.2%

- At the middle school level, there were 35 observations. The number and percent of observations by grade level is in the table below.

Grade	Number of Observations	% of Observations
6	12	34.3%
7	12	34.3%
8	11	31.4%

- At the high school level, there were 27 observations. The number and percent of observations by grade level is in the table below.

Grade	Number of Observations	% of Observations
9	22	81.5%
10	3	11.1%
9 or 10	2	7.4%

- The following tables show the observation data overall for each level. Data are also disaggregated by grade for elementary and middle. High school data were not disaggregated by grade due to small cell sizes as indicated in the above table.

Elementary School Summary (All grades)

	% Present	% Not Present	% N/A or Blank
The Classroom			
Student desks arranged in groups for cooperative learning	72.4	14.7	12.8
Materials/supplies are organized to accommodate efficient distribution	56.4	18.6	25.0
Science Word Wall posted in room	33.3	50.0	16.7
Science Content/Inquiry Charts posted in room	46.8	38.5	14.7
Evidence of student investigations in progress	50.0	35.9	14.1
Module student readers and Teacher Guides are in the room	58.3	25.6	16.0
Average across all Classroom components	52.9	30.6	16.6
The Students			
Make observations, measurements, and record data from investigations	51.3	24.4	24.4
Use science notebooks throughout investigation and discourse	40.4	36.5	23.1
Are aware of and carry out assigned specific group roles during investigations	28.2	30.1	41.7
Are aware of and follow safety requirements for investigation	26.3	20.5	53.2
Treat/care for critters (if present) appropriately and respectfully	3.2	15.4	81.4
Share ideas, explanations, questions and conclusions orally and in writing within student groups (grade 3-5)	28.2	30.1	41.7
Share ideas, explanations, questions and conclusions orally during whole class discourse	51.3	20.5	28.2
Average across all Student components	32.7	25.4	42.0
The Teachers			
Communicates purpose of lesson and connects to prior learning	50.0	23.1	26.9
Acts as a facilitator to student learning by rotating to each cooperative learning group	46.8	25.6	27.6
Asks probing questions to focus, clarify, and guide student investigations	55.1	22.4	22.4
Expects and holds students accountable to everyday routines for cooperative learning, safety requirements, getting /returning materials, and critter care	33.3	28.8	37.8
Facilitates lesson closure and summation of big ideas through class discourse: includes sense-making after an investigation	35.3	22.4	42.3
Assesses student learning in a variety of ways	42.9	20.5	36.5
Average across all Teacher components	43.9	23.8	32.3

Middle School Summary (All grades)

	% Present	% Not Present	% N/A
The Classroom			
Tables (not desks) in room/arranged for cooperative learning groups of 4	80.0	17.1	2.9
Materials/supplies are organized to accommodate efficient distribution	48.6	20.0	31.4
Evidence of student investigations in progress	77.1	20.0	2.9
Student cooperative group role poster and CHAMPS science expectations poster posted in room	60.0	34.3	5.7
Module student readers and Teacher Guides are in the room	97.1	0.0	2.9
Average across all Classroom components	72.6	18.3	9.2
The Students			
Follow and carry out cooperative group role responsibilities during investigations	14.3	54.3	31.4
Are aware of and follow safety requirements for investigation	20.0	5.7	74.3
Treat/care for critters (if present) appropriately and respectfully	14.3	2.9	82.9
Make careful observations, measurements, and record data from investigations	63.6	30.3	6.1
Use science notebooks throughout investigation and discourse	73.5	26.5	0.0
Share ideas, explanations, questions and conclusions orally and in writing within student groups	38.2	50.0	11.8
Share ideas, explanations, questions and conclusions orally during whole class discourse	80.0	14.3	5.7
Average across all Student components	43.4	26.3	30.3
The Teachers			
Communicates purpose of lesson and connects to prior learning	57.1	22.9	20.0
Acts as a facilitator to student learning by rotating to each cooperative learning group	47.1	32.4	20.6
Asks probing questions to focus, clarify, and guide student investigations	80.0	20.0	0.0
Expects and holds students accountable to cooperative group role responsibilities, safety requirements, and critter care	17.1	48.6	34.3
Facilitates lesson closure and summation of big ideas through class discourse: includes sense-making after an investigation	62.9	5.7	31.4
Assesses student learning	82.9	11.4	5.7
Average across all Teacher components	57.9	23.5	18.7

High School Summary (Grades 9 and 10 combined)

	% Present	% Not Present	% N/A
The Classroom			
The room/seating is arranged for cooperative learning groups of 4	76.9	19.2	3.8
Materials/supplies are organized to accommodate efficient distribution	50.0	25.0	25.0
Evidence of student investigations in progress or completed	43.5	56.5	0.0
Opening Activity is clearly displayed prior to the beginning of class	36.0	16.0	48.0
Average across all Classroom components	51.6	29.2	19.2
The Students			
Engage in the opening activity without prompting or direction by teacher	47.8	8.7	43.5
Follow safety requirements for investigation	40.0	4.0	56.0
Treat lab materials appropriately	47.8	0.0	52.2
Make careful observations, measurements, and record data from investigations	70.8	8.3	20.8
Use science notebooks throughout investigation and discourse	42.3	50.0	7.7
Share ideas, explanations, questions and conclusions orally and in writing within student groups	52.0	36.0	12.0
Share ideas, explanations, questions and conclusions orally during whole class discourse	47.8	43.5	8.7
Average across all Student components	49.8	21.5	28.7
The Teachers			
Communicates purpose of lesson and connects to prior learning	56.0	20.0	24.0
Acts as facilitator to student learning by rotating to each cooperative learning group	52.0	32.0	16.0
Asks probing questions to focus, clarify, and guide student investigations	72.0	28.0	0.0
Expects and holds students accountable to the cooperative group, safety requirements, and lap preparation and clean-up	46.2	23.1	30.8
Facilitates lesson closure and summation of big ideas through class discourse: includes sense-making after the investigation	40.9	40.9	18.2
Assesses student learning	54.5	36.4	9.1
Average across all Teacher components	53.6	30.1	16.4

Elementary Summary (Kindergarten)

	% Present	% Not Present	% N/A or Blank
The Classroom			
Student desks arranged in groups for cooperative learning	94.7	0.0	5.3
Materials/supplies are organized to accommodate efficient distribution	63.2	10.5	26.3
Science Word Wall posted in room	21.1	73.7	5.3
Science Content/Inquiry Charts posted in room	57.9	42.1	0.0
Evidence of student investigations in progress	63.2	31.6	5.3
Module student readers and Teacher Guides are in the room	78.9	21.1	0.0
Average across all Classroom components	63.2	29.8	7.0
The Students			
Make observations, measurements, and record data from investigations	57.9	26.3	15.8
Use science notebooks throughout investigation and discourse	21.1	47.4	31.6
Are aware of and carry out assigned specific group roles during investigations	15.8	36.8	47.4
Are aware of and follow safety requirements for investigation	26.3	21.1	52.6
Treat/care for critters (if present) appropriately and respectfully	5.3	21.1	73.7
Share ideas, explanations, questions and conclusions orally and in writing within student groups (grade 3-5)	5.3	21.1	73.7
Share ideas, explanations, questions and conclusions orally during whole class discourse	63.2	21.1	15.8
Average across all Student components	27.8	27.8	44.4
The Teachers			
Communicates purpose of lesson and connects to prior learning	52.6	26.3	21.1
Acts as a facilitator to student learning by rotating to each cooperative learning group	47.4	21.1	31.6
Asks probing questions to focus, clarify, and guide student investigations	73.7	21.1	5.3
Expects and holds students accountable to everyday routines for cooperative learning, safety requirements, getting /returning materials, and critter care	36.8	21.1	42.1
Facilitates lesson closure and summation of big ideas through class discourse: includes sense-making after an investigation	47.4	15.8	36.8
Assesses student learning in a variety of ways	47.4	21.1	31.6
Average across all Teacher components	50.9	21.1	28.1

Elementary Summary (1st grade)

	% Present	% Not Present	% N/A or Blank
The Classroom			
Student desks arranged in groups for cooperative learning	66.7	25.0	8.3
Materials/supplies are organized to accommodate efficient distribution	66.7	25.0	8.3
Science Word Wall posted in room	25.0	58.3	16.7
Science Content/Inquiry Charts posted in room	50.0	41.7	8.3
Evidence of student investigations in progress	58.3	33.3	8.3
Module student readers and Teacher Guides are in the room	58.3	33.3	8.3
Average across all Classroom components	54.2	36.1	9.7
The Students			
Make observations, measurements, and record data from investigations	50.0	33.3	16.7
Use science notebooks throughout investigation and discourse	33.3	50.0	16.7
Are aware of and carry out assigned specific group roles during investigations	33.3	33.3	33.3
Are aware of and follow safety requirements for investigation	41.7	33.3	25.0
Treat/care for critters (if present) appropriately and respectfully	0.0	41.7	58.3
Share ideas, explanations, questions and conclusions orally and in writing within student groups (grade 3-5)	8.3	41.7	50.0
Share ideas, explanations, questions and conclusions orally during whole class discourse	50.0	33.3	16.7
Average across all Student components	30.9	38.1	31.0
The Teachers			
Communicates purpose of lesson and connects to prior learning	58.3	33.3	8.3
Acts as a facilitator to student learning by rotating to each cooperative learning group	41.7	33.3	25.0
Asks probing questions to focus, clarify, and guide student investigations	50.0	33.3	16.7
Expects and holds students accountable to everyday routines for cooperative learning, safety requirements, getting /returning materials, and critter care	25.0	33.3	41.7
Facilitates lesson closure and summation of big ideas through class discourse: includes sense-making after an investigation	41.7	33.3	25.0
Assesses student learning in a variety of ways	33.3	33.3	33.3
Average across all Teacher components	41.7	33.3	25.0

Elementary Summary (2nd grade)

	% Present	% Not Present	% N/A or Blank
The Classroom			
Student desks arranged in groups for cooperative learning	80.0	0.0	20.0
Materials/supplies are organized to accommodate efficient distribution	64.0	0.0	36.0
Science Word Wall posted in room	24.0	56.0	20.0
Science Content/Inquiry Charts posted in room	60.0	20.0	20.0
Evidence of student investigations in progress	60.0	20.0	20.0
Module student readers and Teacher Guides are in the room	56.0	20.0	24.0
Average across all Classroom components	57.3	19.3	23.3
The Students			
Make observations, measurements, and record data from investigations	68.0	8.0	24.0
Use science notebooks throughout investigation and discourse	40.0	28.0	32.0
Are aware of and carry out assigned specific group roles during investigations	48.0	12.0	40.0
Are aware of and follow safety requirements for investigation	40.0	16.0	44.0
Treat/care for critters (if present) appropriately and respectfully	0.0	4.0	96.0
Share ideas, explanations, questions and conclusions orally and in writing within student groups (grade 3-5)	32.0	12.0	56.0
Share ideas, explanations, questions and conclusions orally during whole class discourse	60.0	8.0	32.0
Average across all Student components	41.1	12.6	46.3
The Teachers			
Communicates purpose of lesson and connects to prior learning	64.0	8.0	28.0
Acts as a facilitator to student learning by rotating to each cooperative learning group	60.0	12.0	28.0
Asks probing questions to focus, clarify, and guide student investigations	68.0	8.0	24.0
Expects and holds students accountable to everyday routines for cooperative learning, safety requirements, getting /returning materials, and critter care	44.0	16.0	40.0
Facilitates lesson closure and summation of big ideas through class discourse: includes sense-making after an investigation	52.0	8.0	40.0
Assesses student learning in a variety of ways	52.0	8.0	40.0
Average across all Teacher components	56.7	10.0	33.3

Elementary Summary (3rd grade)

	% Present	% Not Present	% N/A or Blank
The Classroom			
Student desks arranged in groups for cooperative learning	71.9	15.6	12.5
Materials/supplies are organized to accommodate efficient distribution	56.3	18.8	25.0
Science Word Wall posted in room	34.4	43.8	21.9
Science Content/Inquiry Charts posted in room	50.0	34.4	15.6
Evidence of student investigations in progress	53.1	31.3	15.6
Module student readers and Teacher Guides are in the room	53.1	25.0	21.9
Average across all Classroom components	53.1	28.2	18.8
The Students			
Make observations, measurements, and record data from investigations	40.6	21.9	37.5
Use science notebooks throughout investigation and discourse	46.9	25.0	28.1
Are aware of and carry out assigned specific group roles during investigations	18.8	40.6	40.6
Are aware of and follow safety requirements for investigation	15.6	18.8	65.6
Treat/care for critters (if present) appropriately and respectfully	6.3	9.4	84.4
Share ideas, explanations, questions and conclusions orally and in writing within student groups (grade 3-5)	34.4	25.0	40.6
Share ideas, explanations, questions and conclusions orally during whole class discourse	43.8	25.0	31.3
Average across all Student components	29.5	23.7	46.9
The Teachers			
Communicates purpose of lesson and connects to prior learning	50.0	15.6	34.4
Acts as a facilitator to student learning by rotating to each cooperative learning group	43.8	21.9	34.4
Asks probing questions to focus, clarify, and guide student investigations	50.0	18.8	31.3
Expects and holds students accountable to everyday routines for cooperative learning, safety requirements, getting /returning materials, and critter care	31.3	25.0	43.8
Facilitates lesson closure and summation of big ideas through class discourse: includes sense-making after an investigation	28.1	18.8	53.1
Assesses student learning in a variety of ways	28.1	25.0	46.9
Average across all Teacher components	38.6	20.9	40.7

Elementary Summary (4th grade)

	% Present	% Not Present	% N/A or Blank
The Classroom			
Student desks arranged in groups for cooperative learning	68.6	17.1	14.3
Materials/supplies are organized to accommodate efficient distribution	71.4	14.3	14.3
Science Word Wall posted in room	62.9	25.7	11.4
Science Content/Inquiry Charts posted in room	57.1	25.7	17.1
Evidence of student investigations in progress	62.9	25.7	11.4
Module student readers and Teacher Guides are in the room	60.0	28.6	11.4
Average across all Classroom components	63.8	22.9	13.3
The Students			
Make observations, measurements, and record data from investigations	62.9	8.6	28.6
Use science notebooks throughout investigation and discourse	57.1	25.7	17.1
Are aware of and carry out assigned specific group roles during investigations	42.9	11.4	45.7
Are aware of and follow safety requirements for investigation	34.3	17.1	48.6
Treat/care for critters (if present) appropriately and respectfully	2.9	5.7	91.4
Share ideas, explanations, questions and conclusions orally and in writing within student groups (grade 3-5)	45.7	17.1	37.1
Share ideas, explanations, questions and conclusions orally during whole class discourse	54.3	5.7	40.0
Average across all Student components	42.9	13.0	44.1
The Teachers			
Communicates purpose of lesson and connects to prior learning	48.6	17.1	34.3
Acts as a facilitator to student learning by rotating to each cooperative learning group	62.9	8.6	28.6
Asks probing questions to focus, clarify, and guide student investigations	51.4	14.3	34.3
Expects and holds students accountable to everyday routines for cooperative learning, safety requirements, getting /returning materials, and critter care	48.6	14.3	37.1
Facilitates lesson closure and summation of big ideas through class discourse: includes sense-making after an investigation	42.9	11.4	45.7
Assesses student learning in a variety of ways	54.3	5.7	40.0
Average across all Teacher components	51.5	11.9	36.7

Elementary Summary (5th grade)

	% Present	% Not Present	% N/A or Blank
The Classroom			
Student desks arranged in groups for cooperative learning	60.6	27.3	12.1
Materials/supplies are organized to accommodate efficient distribution	27.3	39.4	33.3
Science Word Wall posted in room	18.2	60.6	21.2
Science Content/Inquiry Charts posted in room	15.2	66.7	18.2
Evidence of student investigations in progress	15.2	66.7	18.2
Module student readers and Teacher Guides are in the room	51.5	27.3	21.2
Average across all Classroom components	31.3	48.0	20.7
The Students			
Make observations, measurements, and record data from investigations	33.3	51.5	15.2
Use science notebooks throughout investigation and discourse	30.3	54.5	15.2
Are aware of and carry out assigned specific group roles during investigations	12.1	48.5	39.4
Are aware of and follow safety requirements for investigation	12.1	24.2	63.6
Treat/care for critters (if present) appropriately and respectfully	3.0	27.3	69.7
Share ideas, explanations, questions and conclusions orally and in writing within student groups (grade 3-5)	21.2	63.6	15.2
Share ideas, explanations, questions and conclusions orally during whole class discourse	42.4	36.4	21.2
Average across all Student components	22.1	43.7	34.2
The Teachers			
Communicates purpose of lesson and connects to prior learning	36.4	42.4	21.2
Acts as a facilitator to student learning by rotating to each cooperative learning group	24.2	57.6	18.2
Asks probing questions to focus, clarify, and guide student investigations	45.5	42.4	12.1
Expects and holds students accountable to everyday routines for cooperative learning, safety requirements, getting /returning materials, and critter care	12.1	60.6	27.3
Facilitates lesson closure and summation of big ideas through class discourse: includes sense-making after an investigation	12.1	48.5	39.4
Assesses student learning in a variety of ways	39.4	36.4	24.2
Average across all Teacher components	36.4	42.4	21.2

Middle School Summary (6th grade)

	% Present	% Not Present	% N/A
The Classroom			
Tables (not desks) in room/arranged for cooperative learning groups of 4	66.7	33.3	0.0
Materials/supplies are organized to accommodate efficient distribution	41.7	16.7	41.7
Evidence of student investigations in progress	66.7	33.3	0.0
Student cooperative group role poster and CHAMPS science expectations poster posted in room	41.7	58.3	0.0
Module student readers and Teacher Guides are in the room	100.0	0.0	0.0
Average across all Classroom components	63.4	28.3	8.3
The Students			
Follow and carry out cooperative group role responsibilities during investigations	25.0	50.0	25.0
Are aware of and follow safety requirements for investigation	8.3	0.0	91.7
Treat/care for critters (if present) appropriately and respectfully	8.3	0.0	91.7
Make careful observations, measurements, and record data from investigations	50.0	41.7	8.3
Use science notebooks throughout investigation and discourse	58.3	33.3	8.3
Share ideas, explanations, questions and conclusions orally and in writing within student groups	33.3	58.3	8.3
Share ideas, explanations, questions and conclusions orally during whole class discourse	75.0	16.7	8.3
Average across all Student components	36.9	28.6	34.5
The Teachers			
Communicates purpose of lesson and connects to prior learning	58.3	25.0	16.7
Acts as a facilitator to student learning by rotating to each cooperative learning group	50.0	33.3	16.7
Asks probing questions to focus, clarify, and guide student investigations	75.0	25.0	0.0
Expects and holds students accountable to cooperative group role responsibilities, safety requirements, and critter care	25.0	41.7	33.3
Facilitates lesson closure and summation of big ideas through class discourse: includes sense-making after an investigation	58.3	0.0	41.7
Assesses student learning	75.0	8.3	16.7
Average across all Teacher components	56.9	22.2	20.9

Middle School Summary (7th grade)

	% Present	% Not Present	% N/A
The Classroom			
Tables (not desks) in room/arranged for cooperative learning groups of 4	83.3	16.7	0.0
Materials/supplies are organized to accommodate efficient distribution	58.3	16.7	25.0
Evidence of student investigations in progress	83.3	16.7	0.0
Student cooperative group role poster and CHAMPS science expectations poster posted in room	83.3	16.7	0.0
Module student readers and Teacher Guides are in the room	100.0	0.0	0.0
Average across all Classroom components	81.6	13.4	5.0
The Students			
Follow and carry out cooperative group role responsibilities during investigations	16.7	41.7	41.7
Are aware of and follow safety requirements for investigation	25.0	8.3	66.7
Treat/care for critters (if present) appropriately and respectfully	0.0	0.0	100.0
Make careful observations, measurements, and record data from investigations	75.0	8.3	16.7
Use science notebooks throughout investigation and discourse	91.7	8.3	0.0
Share ideas, explanations, questions and conclusions orally and in writing within student groups	25.0	41.7	33.3
Share ideas, explanations, questions and conclusions orally during whole class discourse	91.7	8.3	0.0
Average across all Student components	46.4	16.7	36.9
The Teachers			
Communicates purpose of lesson and connects to prior learning	50.0	25.0	25.0
Acts as a facilitator to student learning by rotating to each cooperative learning group	58.3	8.3	33.3
Asks probing questions to focus, clarify, and guide student investigations	91.7	8.3	0.0
Expects and holds students accountable to cooperative group role responsibilities, safety requirements, and critter care	16.7	41.7	41.7
Facilitates lesson closure and summation of big ideas through class discourse: includes sense-making after an investigation	91.7	0.0	8.3
Assesses student learning	100.0	0.0	0.0
Average across all Teacher components	68.1	13.9	18.1

Middle School Summary (8th grade)

	% Present	% Not Present	% N/A
The Classroom			
Tables (not desks) in room/arranged for cooperative learning groups of 4	90.9	0.0	9.1
Materials/supplies are organized to accommodate efficient distribution	45.5	27.3	27.3
Evidence of student investigations in progress	81.8	9.1	9.1
Student cooperative group role poster and CHAMPS science expectations poster posted in room	54.5	27.3	18.2
Module student readers and Teacher Guides are in the room	90.9	0.0	9.1
Average across all Classroom components	72.7	12.7	14.6
The Students			
Follow and carry out cooperative group role responsibilities during investigations	0.0	72.7	27.3
Are aware of and follow safety requirements for investigation	27.3	9.1	63.6
Treat/care for critters (if present) appropriately and respectfully	36.4	9.1	54.5
Make careful observations, measurements, and record data from investigations	54.5	36.4	9.1
Use science notebooks throughout investigation and discourse	63.6	36.4	0.0
Share ideas, explanations, questions and conclusions orally and in writing within student groups	54.5	45.5	0.0
Share ideas, explanations, questions and conclusions orally during whole class discourse	72.7	18.2	9.1
Average across all Student components	44.1	32.5	23.4
The Teachers			
Communicates purpose of lesson and connects to prior learning	63.6	18.2	18.2
Acts as a facilitator to student learning by rotating to each cooperative learning group	27.3	54.5	18.2
Asks probing questions to focus, clarify, and guide student investigations	72.7	27.3	0.0
Expects and holds students accountable to cooperative group role responsibilities, safety requirements, and critter care	9.1	63.6	27.3
Facilitates lesson closure and summation of big ideas through class discourse: includes sense-making after an investigation	36.4	18.2	45.5
Assesses student learning	72.7	27.3	0.0
Average across all Teacher components	47.0	34.9	18.2