

**CALIFORNIA STATE UNIVERSITY SAN MARCOS
COLLEGE OF EDUCATION
EDMS 545 – Science Education
Fall 2004 W 8:00-2:15 UH460**

Instructor: Dr. Kathy I. Norman, 311 Univ.Hall **email:** knorman@csusm.edu
Phone: 760-750-4314 **Office Hours:** W 2:15-3:15 and by apt.

Required Textbooks: Friedl, A.E. & Koontz, T.Y. (2005) *Teaching Science to Children, An Inquiry Approach*. NY: McGraw-Hill.

Norman, K. (2004). *Elementary Science Education Course Handouts*.

Choate, J. S. (2003). *Successful Inclusive Teaching (4th ed.)* Needham, MA: Allyn & Bacon.

Chancer, J. & Rester-Zodrow, G. (1997). *Moon Journals; Writing, Art and Inquiry through Focused Nature Study*. Portsmouth, NH: Heinemann.

COE MISSION STATEMENT

The mission of the College of Education Community is to collaboratively transform public education by preparing thoughtful educators and advancing professional practices. We are committed to diversity, educational equity, and social justice, exemplified through reflective teaching, life-long learning, innovative research, and on-going service. Our practices demonstrate a commitment to student-centered education, diversity, collaboration, professionalism and shared governance.
(adopted by COE Governance Community, October 1997)

INFUSED COMPETENCIES

Authorization to Teach English Learners

This credential program has been specifically designed to prepare teachers for the diversity of languages often encountered in California public school classrooms. The authorization to teach English learners is met through the infusion of content and experiences within the credential program, as well as additional coursework. Students successfully completing this program receive a credential with authorization to teach English learners. (approved by CCTC in SB 2042 Program Standards, August 02)

Special Education

Consistent with the intent to offer a seamless teaching credential in the College of Education, this course will demonstrate the collaborative infusion of special education competencies that reflect inclusive educational practices.

Technology

This course infuses technology competencies to prepare our candidates to use technologies, emphasizing their use in both teaching practice and student learning.

Visual and Performing Arts

This course infuses the visual and performing arts in order to prepare our candidates with the skills to integrate the arts in their teaching. The Visual and Performing Arts Content Standards for California Public Schools (<http://www.cde.ca.gov/cdepress/standards-pdfs/visual-performing-arts.pdf>) describe what every student should know and be able to do in the visual and performing arts, pre-kindergarten through grade 12 in five strands: artistic perception; creative expression; historical and cultural context; aesthetic valuing; and connections, relationships and applications.

COURSE REQUIREMENTS

Professionalism/Dispositions

Because this course is part of an accredited program that leads to professional certification, students are expected to demonstrate behavior consistent with a professional career. Lack of professionalism in any of the following areas will alter the final grade.

1. Attend all class meetings. Attendance Policy: Due to the dynamic and interactive nature of courses in the College of Education, all students are expected to attend all classes and participate actively. Absences and late arrivals/early departures will affect the final grade. At a minimum, students must attend more than 80% of class time, or s/he may not receive a passing grade for the course at the discretion of the instructor. Individual instructors may adopt more stringent attendance requirements. Should the student have extenuating circumstances, s/he should contact the instructor as soon as possible.

For this class, if you are absent 1 day, your highest possible grade is a B. If you are absent more than 1 day, your highest possible grade is a C, which means that you will not pass the course. Late arrivals and early departures will effect your final grade. Absences do not change assignment due dates. Late assignments will receive a reduction in points for each day late.

2. Interact professionally and collaborate responsibly with your colleagues and professor. Teacher education is a professional preparation program and students will be expected to adhere to standards of dependability, and academic honesty. Prepare carefully for class, be ready to discuss readings and assignments thoughtfully.

3. Each written assignment is expected to have a clear organizational presentation and be free of grammar, punctuation and spelling errors. There will be a reduction in points for the above mentioned errors.

4. Complete all assignments on time. Late assignments will receive a 20% reduction in points for each day late. Occasionally a student may be asked to revise an assignment.

Person-First Language

Use “person-first” language in all written and oral assignments and discussions (e.g., “student with autism” rather than “autistic student”).

Writing

In keeping with the All-University Writing Requirement, all courses must have a writing component of at least 2,500 words (approximately 10 pages) which can be administered in a variety of ways.

Students with Disabilities Requiring Reasonable Accommodations

Students are approved for services through the Disabled Student Services Office (DSS). This office is located in Craven Hall 5205, and can be contacted by phone at (760) 750-4905, or TTY (760) 750-4909. Students authorized by DSS to receive reasonable accommodations should meet with their instructor during office hours or, in order to ensure confidentiality, in a more private setting.

Plagiarism: All work submitted for this course should reflect students’ efforts. When relying on supporting documents authored by others, cite them clearly and completely using American Psychological Association (APA) manual, 5th edition. Failure to do so may result in failure of the course.

Multidisciplinary Magic

Students who wish to “go the extra mile” and integrate assignments within their methods courses this semester are encouraged to do so. For example, in social studies you are creating a unit. If an assignment in science or math can be completed meeting objectives for both disciplines, and be effective for your unit, it will be received with a welcome acceptance! Please note that you would be wise to consult with instructors with your idea to ensure that the integration of subjects is complete and meets the criteria for both assignments.

COURSE DESCRIPTION

This course is designed to provide a comprehensive overview of the objectives, skills, concepts, experiments, materials, and methods necessary to teach science to elementary school children. A series of team activities will provide you with first-hand experiences in these areas. This course focuses on instructional methods, techniques, materials, lesson planning, curriculum development, organization and assessment in science. The integration of curricular areas is addressed. Methods of cross-cultural language and academic development will be integrated into the course.

IMPORTANT NOTE: This is NOT a typical college course in which the instructor lectures and you follow along learning the material; the instructor will NOT lecture. We will spend the majority of time doing elementary science laboratory investigations which will be lead by students, in order to help you gain confidence and competence in doing hands-on science. In addition, you will gain additional experience and knowledge in science teaching by observing and teaching elementary science at local schools. The instructor will NOT teach in the traditional sense, but will be a facilitator in helping students to achieve course objectives. If you are not comfortable with this, this is not a course you should take.

COURSE OBJECTIVES

By the end of this course, students should be able to

1. Demonstrate proficiency with inquiry skills of observing, measuring, inferring, classifying, predicting, verifying predictions, hypothesizing, isolating variables, interpreting data, and experimenting.
2. Identify exemplary materials (curriculum kits, science programs, textbooks, equipment, technology, ancillary materials) appropriate for elementary school children.
3. Demonstrate knowledge and understanding of the California Science Framework, the California Science Content Standards, and the National Science Education Standards.
4. Demonstrate an understanding of the physical, earth and life science concepts included in the K-8 California Science Content Standards, and how to design lessons to teach the concepts.
5. Use the Learning Cycle model of instruction to teach science in a contemporary manner.
6. Use technology in elementary science teaching.
7. Demonstrate confidence in leading and performing investigations designed to teach science concepts, science process skills, and scientific attitudes.
8. Use authentic methods of assessment to evaluate learning of science concepts and processes.
9. Design an elementary science teaching mini-unit.
10. Practice strategies to include all students in science (linguistically and culturally diverse, students with disabilities and other students with special needs).

ASSESSMENT OF COURSE OBJECTIVES

1. Participation, Collaboration, and Professionalism (in class, individual)	10 %
2. Reading Accountability (completed outside of class, individual)	15 %
3. Leadership of Hands-on Science Lesson (performed in class, teams)	10 %
4. Science Exploratorium Lesson Plan/Presentation (completed during class time, pairs)	10 %
5. Moon Journals Assignment (completed in class, individual)	5 %
6. Science Action Research Project (completed outside class, discussed in class, pairs)	20 %
7. Science Teaching Unit and Presentation (completed outside class, presented in class, pairs)	20 %
8. Mock Interview (completed in class)	10 %

COURSE GRADES

Course Grades will be determined by points earned:

A = 93-100	B = 83-86	C = 73-76
A- = 90-92	B- = 80-82	C- = 70-72
B+ = 87-89	C+ = 77-79	F = 0-69

It is expected that students will proofread and edit their assignments prior to submission. Students will ensure that the text is error-free (grammar, spelling), and ideas are logically and concisely presented. The assignment's grade will be negatively affected as a result of this oversight. Each assignment will be graded approximately 80% on content and context (detail, logic, synthesis of information, depth of analysis, etc.), and 20% on mechanics.

All citations, where appropriate, will use American Psychological Association (APA) format. Consult American Psychological Association (APA) Manual, 5th edition for citation guidance.

Grading will also include a component of "professional demeanor." Students will conduct themselves in ways that are generally expected of those who are entering the education profession. This includes but is not limited to:

- On-time arrival to all class sessions;
- Advance preparation of readings and timely submission of assignments;
- Respectful participation in all settings (e.g., whole group, small group, in/outside of class);
- Carefully considered, culturally aware approaches to solution-finding.

TEACHING PERFORMANCE EXPECTATIONS Standards of Quality and Effectiveness for Professional Teacher Preparation Programs California Commission on Teacher Credentialing

This course is designed to help those seeking a Multiple Subjects Credential develop the skills, knowledge and attitudes necessary to assist schools and districts in implementing effective programs for all students. The successful candidate will be able to merge theory and practice in order to realize a comprehensive and extensive educational program for all students. Students will document their knowledge and understanding of TPE 1A and TPE5 through assignments completed in EDMS 545

A. MAKING SUBJECT MATTER COMPREHENSIBLE TO STUDENTS

TPE 1A: Subject-Specific Pedagogical Skills for Multiple Subject Teaching Assignments - Teaching Science in a Multiple Subject Assignment

Candidates for a Multiple Subject Teaching Credential demonstrate the ability to teach the state-adopted academic content standards for students in science (K-8). They balance the focus of instruction between science information, concepts, and investigations. Their explanations, demonstrations, and class activities serve to illustrate science concepts and principles, scientific investigation, and experimentation.

Candidates emphasize the importance of accuracy, precision,

C. ENGAGING AND SUPPORTING STUDENTS IN LEARNING

TPE 5: Student Engagement

Candidates for Teaching Credentials clearly communicate instructional objectives to students. They ensure the active and equitable participation of all students. They ensure that students understand what they are to do during instruction and monitor student progress toward academic goals. If students are struggling and off-task, candidates examine why and use strategies to re-engage them. Candidates encourage students to share and examine points of view during lessons. They use community resources, student experiences, and applied learning activities to make instruction relevant. They extend the intellectual quality of student thinking by asking stimulating questions and challenging student ideas. Candidates teach students to respond to and frame meaningful questions.

PARTICIPATION, COLLABORATION AND PROFESSIONALISM

Students are expected to actively participate, collaborate, and demonstrate professionalism at all times.

ASSESSMENT 1

Rubric for PCP: Participation, Collaboration and Professionalism

	Excellent	Acceptable	Unacceptable	Comments
<p><u>Attitude</u></p> <p>Do you show a positive attitude toward class, "the work" and learning?</p>	Always displays a positive attitude. May offer constructive criticism and include alternatives that show initiative.	Sometimes displays a positive attitude. May offer constructive criticism and include alternatives that show initiative.	Seldom has a positive attitude. Often is critical. Does not offer alternative solutions to criticism.	
<p><u>Participation</u></p> <p>Do you participate in class discussions productively, sharing your knowledge and understandings?</p>	Attends every class, always on time and well prepared, and never leaves early. Gives closest attention to class activities and speakers.	Attends every class, on time and prepared, and never leaves early. Gives most attention to class activities and speakers.	Is not always ready when class time begins. Doesn't give full attention in class; sometimes talks when others are speaking.	
<p><u>Professionalism</u></p> <p>Do you exhibit professional behavior at all times?</p>	Consistently behaves, talks and works in a professional manner, regardless of task/topic.	Most of the time, behaves, talks and works in a professional manner, regardless of task/topic.	Seldom behaves, talks, and works in a professional manner, regardless of task/topic.	
<p><u>Collaboration</u></p> <p>Can you monitor and adjust your participation to allow for others' ideas to be heard? Are you supportive of others' ideas and work?</p>	Consistently listens to, shares with, and supports the efforts of others. Tries to keep people working well together.	Most of the time listens to, shares with, and supports the efforts of others, but sometimes is not a good team member.	Rarely listens to, shares with, and supports the efforts of others. Is not always a good team player.	
<p><u>Contributions</u></p> <p>Do you contribute to whole class and group work? Do you "do your share"?</p>	Consistently provides useful ideas; always stays focused on the task. Exhibits a lot of effort and valuable contributions.	Most of the time provides useful ideas and stays focused. A satisfactory group member who does what is required.	Rarely provides useful ideas; not always focused. Reluctant to participate. Lets others take charge.	
<p><u>Disposition toward teaching</u></p> <p>Do you exhibit a positive disposition towards teaching all students?</p>	Consistently demonstrates concern in learning to teach all children. Always demonstrates strong commitment toward developing (a) an understanding of children, (b) teaching strategies, and (c) knowledge of the CA Standards for the Teaching Profession (CSTP), Teacher Performance Expectations (TPE), and CA Content Standards.	Most of the time demonstrates concern in learning to teach all children. Often demonstrates commitment toward developing (a) an understanding of children, (b) teaching strategies, and (c) knowledge of the CSTP's, TPE's, and CA Content Standards.	Rarely shows concern in learning to teach all children. Rarely demonstrates commitment toward developing (a) an understanding of children, (b) teaching strategies, and (c) knowledge of the CSTP's, TPE's, and CA Content Standards.	
<p><u>Leadership</u></p> <p>Do you interact productively with your peers and show leadership initiative?</p>	Shows strength through leadership in class activities; other students respect you as a leader.	Effectively participates and contributes, but rarely shows leadership qualities.	Does not show leadership in any area of class.	

You will do a self assessment, using this rubric, and write a 1-2 page rationale.

ASSESSMENT 2

READING ACCOUNTABILITY

For each of chapters 2-21, select two science concepts that interest you.

For each concept:

1. Provide evidence you understand the concept.
2. Explain how you will teach this concept in your classroom.
3. Develop a higher level thinking question about the concept.

Grading: Maximum of 5 pts. for each chapter's concepts. 20 CHAPTERS X 5 PTS=100 PTS

Format:

Chapter X (worth 5 points)

Concept 1

- Evidence you understand the concept.
- Explanation of how you will teach this concept in your classroom.
- Higher level thinking question about the concept.

Concept 1

- Evidence you understand the concept.
- Explanation of how you will teach this concept in your classroom.
- Higher level thinking question about the concept.

Chapter Y (worth 5 points)

Concept 1

- Evidence you understand the concept.
- Explanation of how you will teach this concept in your classroom.
- Higher level thinking question about the concept.

Concept 1

- Evidence you understand the concept.
- Explanation of how you will teach this concept in your classroom.
- Higher level thinking question about the concept.

PRIMARY TEACHING PERFORMANCE EXPECTATIONS

TPE 1A: Subject-Specific Pedagogical Skills for Multiple Subject Teaching Assignments

TPE 4: Making Content Accessible

TPE 5: Student Engagement

TPE 6: Developmentally Appropriate Teaching Practices

TPE 6A: Developmentally Appropriate Practices in Grades K-3

TPE 6B: Developmentally Appropriate Practices in Grades 4-8

ASSESSMENT 3

LEADERSHIP OF HANDS-ON SCIENCE LESSON (teams of 3)

Critical Assessment Task (CATs)

Students will lead hands-on science lessons during class. The lessons should model inquiry instruction, good questioning skills, and be content-understandable and non-judgmental. The lessons should be based on the California content standards. SDAIE strategies, technology integration, and methods for teaching students with disabilities should all be included and pointed out during the lesson.

You will work in teams of two-three to lead science lessons based on the Learning Cycle Model of Instruction. You will teach these to your classmates. Each lesson will be allocated a maximum of 45 minutes of class time to teach. Your classmates will not role-play elementary students, but will learn the science content and how to teach it. Treat your classmates as teachers, not elementary students.

The lessons should include hands-on lessons, and should emphasize particular science concepts. The Exploration and Application phases of the Learning Cycle must require different hands-on science activities using manipulatives. Hands-on activities are NOT reading or completing worksheets (though they may require students to read something or complete lab observation sheets). You should take the activities "off of paper" and require students to use the science process skills with science manipulatives.

Be sure you understand the concepts you are emphasizing, and that you can explain them. The lessons should be developmentally appropriate for K-6, and should follow the NSTA Safety Guidelines. Begin the lesson by writing essential questions about the lesson on the board, for students to consider during the lesson. Make sure that you include the 3 stages of the Learning Cycle. Make sure that science content background and applications to everyday life are addressed. You need to explain SDAIE strategies and adaptations for students with disabilities.

Prepare a Powerpoint Computer Presentation to use in your lesson. The presentation should include a detailed explanation of the science content, as well as a list and definitions of science concepts important to the lesson. Additionally, include a list of at least 5 web sites (with short descriptions) that address the science topic and concepts through simulations, graphics and movies. You should have links to these web sites and show examples during the lesson.

Science Lesson Handout

- Prepare a handout which includes the information under Lesson Plan Format
- Bring copies of the activity for each person with
 - team members' names at the top
 - reference at the bottom.

*** Also do a self-assessment, using the rubric for this assignment. Turn in your completed rubric stapled on top of the assignment.

Lesson Plan Format

Lesson Title: What is the title of your lesson?

Grade Level: What is the grade level?

Student Groupings: How will you group students for instruction?

Materials/Resources/Technology: What does the teacher need? What do the students need?

California Science Content Standard(s): What standards are addressed? Include at least one science area (life science, physical science, or earth science) standard and one investigation standard.

Lesson Objective(s): What do you want students to be able to do?

Write in complete sentences. Use an action verb and explain how students will demonstrate their new knowledge and understanding. "The students will _____."

Science Concept(s): What are you trying to teach? Which essential questions will be answered through the lesson? Do not say "The students will ____." (That is an objective, not a concept.)

Assessment: How will your students demonstrate that they have met the objective? What evidence demonstrates that they have achieved the objective?

Lesson Procedures: Explain the procedures for each. Include what the teacher will do and what the students will do.

The Learning Cycle

- a. Exploration
(minutes?)
- b. Concept Invention
(minutes?)
- c. Concept Application
(minutes?)

Accommodations/Adaptations/Applications:

- SDAIE strategies and explanations (5)
- Adaptations for students with disabilities and explanations (5)
- Applications to everyday life and explanations (5)

Science Content Background: 1-2 page summary of the content background

Web Sites: 5 interactive relevant web sites with descriptions

Children's Literature Books: Title, author, publisher, year of 5 children's books on the topic

Arts Standards Integration: Explain how you will integrate learning in the Arts.

References: Title, author, publisher, year of resources

PRIMARY TEACHING PERFORMANCE EXPECTATIONS

TPE 1A: Subject-Specific Pedagogical Skills for Multiple Subject Teaching Assignments

TPE 2: Monitoring Student Learning During Instruction

TPE 4: Making Content Accessible

TPE 5: Student Engagement

TPE 6: Developmentally Appropriate Teaching Practices

TPE 6A: Developmentally Appropriate Practices in Grades K-3

TPE 6B: Developmentally Appropriate Practices in Grades 4-8

TPE 9: Instructional Planning

TPE 10: Instructional Time

TPE 13: Professional Growth

SECONDARY TEACHING PERFORMANCE EXPECTATION

TPE 7: Teaching English Learners

RUBRIC FOR LEADERSHIP OF HANDS-ON SCIENCE LESSON

For Grading and Self-Assessment. Complete, staple on top of lesson plan and turn in to Dr. Norman

Score Criteria

Quality of Work

		8-10 pts	4-7 pts	1-3 pts	0 pts
	<u>Info. about lesson</u> 10 point max	You included title (1 pt), grade level (1 pt), student groupings (1), materials/ resources/ tech (1 pt), content standards (1 pt), objectives (3 pts), references (2 pts).	4-7 components included.	1-3 components included.	These components not included.
	<u>Science Concepts/ Essential Questions</u> 10 point max	You included 1-2 statements of the science concept, as well as essential questions answered through the lesson.	Science concepts and essential questions are poorly described.	Science concepts and essential questions are brief and unclear.	Science concepts and/or essential questions not included.
	<u>Assessment</u> 10 point max	You included a performance assessment during which students show evidence that they achieved the objective(s) and learned the science concept.	Performance assessment poorly described; link with objective unclear.	Assessment included, but not a performance objective or the assessment does not match the objective.	Performance assessment not included.
	<u>Concept Exploration</u> 10 point max	Predictions were made at beginning. All students participated in a developmentally appropriate hands-on science activity, made observations, and collected data.	Some students participated in a developmentally appropriate hands-on science activity, made observations, and collected data.	You provided a demonstration of a hands-on science activity.	None of the students participated in a hands-on science activity. No demonstration occurred.
	<u>Concept Invention</u> 10 point max	Students shared their observations, data and explanations. Teacher provided further explanations and terminology, and tied it all together.	A minimum of student sharing and explaining occurred. Teacher provided some explanation.	No student sharing occurred. Teacher provided all explanations.	No student sharing occurred. Little teacher sharing occurred.
	<u>Concept Application</u> 10 point max	All students participated in a developmentally appropriate hands-on science activity, made observations, and collected data.	Some students participated in a developmentally appropriate hands-on science activity, made observations, and collected data.	You provided a demonstration of a hands-on science activity.	None of the students participated in a hands-on science activity. No demonstration occurred.

Score Criteria**Quality of Work**

		5 pts	3-4 pts	1-2 pts	0 pts
_____	<u>Science Content Background</u> 5 point max	Your team provided a thorough explanation of the science content background.	Your team provided a short explanation of the science content background.	Your team provided an incomplete explanation of the science background.	Your team provided a poor explanation of the science background.
_____	<u>SDAIE Strategies</u> 5 point max	Five SDAIE strategies are explained.	3-4 SDAIE strategies are explained.	1-2 SDAIE strategies are explained.	No SDAIE strategies are explained.
_____	<u>Adaptations for Students with Disabilities</u> 5 point max	Five adaptations to meet the needs of students with disabilities are included.	3-4 adaptations to meet the needs of students with disabilities are included.	1-2 adaptations to meet the needs of students with disabilities are included.	No adaptations to meet the needs of students with disabilities are included.
_____	<u>Applications to real life</u> 5 point max	Five applications to everyday life are described.	3-4 applications to everyday life are described.	1-2 applications to everyday life are described.	No applications to everyday life are described.
_____	<u>Interactive Relevant Web Sites</u> 5 point max	You included 5 web sites with descriptions and links to the sites.	You included 3-4 websites with descriptions and links to the sites.	You included 1-2 websites with descriptions and links to the sites.	You included no web sites with descriptions and links to the sites.
_____	<u>Literature Books</u> 5 point max	You showed 5 children's books.	You showed 3-4 children's books.	You showed 1-2 children's books.	Children's books not included.
_____	<u>Handout & Presentation</u> 5 point max	Included all parts of the Lesson Plan.	Included more than half of the parts.	Included less than half of the parts.	Handout not passed out to each student or didn't do presentation.
_____	<u>Arts</u> 5 point max	You integrated one or more arts standards, integrated in a meaningful way.	Arts included in some way, but did not integrate standards.	Little relation to arts included.	Arts not included.

Total Points _____

EDMS 545 Science Education - Tentative Schedule
Wednesdays 8:00-2:15, UH460

Reading
For Next Class
Ch. 1-5

W Sept. 1 – Morning

Orientation to Class; index card IDs
Private Universe: What causes the seasons? Understanding science concepts.

The Learning Cycle Model of Instruction

Writing Objectives for Student Learning

Learning Cycle Lesson

Collaboration Skills and Cooperative Learning: Toys in Space

Course Handouts Book overview

Writing Science Concept Definitions and Essential Questions

Video: Understanding by Design 1

Learning Cycle Lesson 2

Library Resources and Web Sites for Science Teaching

Team time for Learning Cycle Lessons

Assignment: Bring CA Science Content Standards to next class

<http://www.cde.ca.gov/be/st/ss/>

Assignment: Talk to Cooperating Teacher – science unit topics; teach when student teaching

W Sept. 8 - Morning

Ch.6-7

Turn in Reading Accountabilities Ch. 2-5

Team 1 – Leadership of Hands-on Science Lesson - Matter

Science Process Skills and Scientific Attitudes

Bring Science Content Standards to class: California Science Content Standards Activity

Video: Understanding by Design 2

Discuss Action Research Project

Team 2 – Leadership of Hands-on Science Lesson – Heat

Teaching English Language Learners in Science

Team time for Learning Cycle Lessons

Assignment: Talk to Cooperating Teacher – science unit topics; teach when student teaching

W Sept.15 - Morning

Ch.8-10

Turn in Reading Accountabilities Ch. 7-8

Team 3 – Leadership of Hands-on Science Lesson – Magnetism

Performance Assessments

Video: Understanding by Design 3

Action Research Project time

Discuss Moon Journals Assignment

Moon Journals Assignment time

Team 4 – Leadership of Hands-on Science Lesson – Electricity

Developing Criteria for Assessing Learning and Using Rubrics to Show Criteria

For next class: Bring Resources for Moon Journals Writing and Art Activities

Unit Planning time and Action Research Project time

- W Sept.22 - Morning Ch.11-13
 Turn in Reading Accountabilities Ch.8-10
 Team 5 – Leadership of Hands-on Science Lesson – Sound
Concept Mapping
 Bring Resources for Moon Journals Writing and Art Activities
 Moon Journals Writing and Art Activities
 Bring Topic for Science Unit, as assigned by Cooperating Teacher
 Bring books and resources for Science Units
 Discuss Units/Unit Planning time
- Team 6 – Leadership of Hands-on Science Lesson – Light
Integrating Writing into Science Activities
 Discuss Science Exploratorium
 Science Exploratorium Planning time and Action Research Project time
-
- W Sept. 29 - Morning Ch.14-16
Choate sci.ch.
 Turn in Reading Accountabilities Ch. 11-13
 Team 7 – Leadership of Hands-on Science Lesson – Weather
Science Curriculum Kits and State Approved Texts
 Complete PCP Rubrics in class
 Turn in Science Action Research Project and Discuss
- Team 8 – Leadership of Hands-on Science Lesson – Space Science
Science Projects, Student Research, Science Fairs
 Science Exploratorium Planning time and Unit Planning time
-
- W Oct. 6 - Morning Ch.17-18
 Turn in Reading Accountabilities Ch. 14-16
 Turn in **1 page** Lesson for Science Exploratorium and **1/2-1 page** “Data Sheet”
 Team 9 – Leadership of Hands-on Science Lesson – Geology
Inclusion and Teaching Science to Students with Special Needs
 Unit Planning time
- Team 10 – Leadership of Hands-on Science Lesson – Oceans
Inclusion continued.
-
- W Oct. 13 - Morning Ch.19-21
Science Exploratorium at Elementary School
 Turn in Reading Accountabilities Ch. 17-18
 Team 11 – Leadership of Hands-on Science Lesson – Plants
California Science Frameworks
National Science Education Standards
 Unit Planning time
-
- W Oct. 20 - Morning
 Turn in Reading Accountabilities Ch. 19-21
 Team 12 – Leadership of Hands-on Science Lesson – Animals
Safety in the Science Class
 Turn in Exploratorium Reflection/Complete PCP Rubrics with Rationales
 Turn in Units/ Unit Presentations
 Team 13 – Leadership of Hands-on Science Lesson – Nutrition/Fitness

SCIENCE EDUCATION GRADESHEET

KEEP YOUR OWN COPY OF THIS IN YOUR SCIENCE NOTEBOOK. ANOTHER COPY WILL BE IN YOUR CLASS FILE.

Attendance

(present, late or absent—sign your name and indicate if late. For previous classes, indicate if present for whole class or left early)

9/1 _____
 9/8 _____
 9/15 _____
 9/22 _____
 9/29 _____
 10/6 _____
 10/13 _____
 10/20 _____

Reading Accountabilities (5 points each)

Ch. 2 _____ point	Ch. 9 _____ point	Ch. 16 _____ point
Ch. 3 _____ point	Ch. 10 _____ point	Ch. 17 _____ point
Ch. 4 _____ point	Ch. 11 _____ point	Ch. 18 _____ point
Ch. 5 _____ point	Ch. 12 _____ point	Ch. 19 _____ point
Ch. 6 _____ point	Ch. 13 _____ point	Ch. 20 _____ point
Ch. 7 _____ point	Ch. 14 _____ point	Ch. 21 _____ point
Ch. 8 _____ point	Ch. 15 _____ point	

<u>Assessment of Course Objectives</u>	<u>Percent of Grade</u>	<u>Your Grade</u>
1. Participation, Collaboration and Professionalism	10%	
2. Reading Accountability	15%	
3. Leadership of Hands-on Science Lesson	10%	
4. Science Exploratorium	10%	
5. Moon Journals Assignment	5%	
6. Science Action Research Project	20%	
7. Science Teaching Unit and Presentation	20%	
8. Mock Interview	10%	
		Course Grade _____