



Leadership for Diverse Communities

Science Instruction and Applied Technology

CI 175, Fall 2010

Vision:

The Kremen School of Education and Human Development is a center for academic excellence and collaboration in the fields of education and counseling. Graduates will become community leaders who advocate for high standards and democratic values with attention to professional ethics and diversity.

The faculty of the Kremen School of Education and Human Development fosters the development of the following candidate dispositions: Reflection, Critical Thinking, Professional Ethics, Valuing Diversity, Collaboration, and Life-long Learning. Candidates will increasingly reflect these dispositions in their work with students, families, and communities.

Course Description:

This course is designed to prepare teacher candidates to effectively and equitably teach elementary school science and to use contemporary instructional technologies in culturally and linguistically diverse classrooms.

Multiple Subject Program Requirements:

This course is a required course in Phase 2 of the Multiple Subject Program. Taken concurrently, Field Study B is designed to provide the necessary classroom access essential for completing the assignments in this course. Teacher candidates not enrolled in Field Study B, will need to make special arrangements with the instructor.

Course Information: \$5 lab fee	Instructor Name:
Units: 3	Office Number:
Time: 3 hours per week, plus 1 hour arranged	Email:
Location:	Telephone:
Website:	Office Hours:

Prerequisites: Successful completion of Phase 1 of the Multiple Subject Credential Program: CI 171, LEE 172, LEE 173, EHD 174. Students not concurrently enrolled in EHD 178 need to make special arrangements with the instructor.

Required Texts and Instructional Materials:

Required Text:

Sherman, S. & Sherman, R. (2004). *Science and science teaching: Methods for integrating technology* (2nd ed.). Boston: Houghton Mifflin. ISBN 0-618-31807-0

Recommended Texts:

Roger, K, Howell, L, Smith, A, Clarke, P, & Henderson, C. (2000). *The Usborne internet-linked science encyclopedia*. London: Usborne. ISBN 0-794-50331-4

Project Wild K-12 Curriculum and Activity Guide

Required Technology:

Flash Drive (2 G minimum)

Microsoft Office (most recent version) available at Kennel Bookstore (program requirement)

Primary Learning Outcomes:

The learning outcomes are aligned with the Standards of Quality and Effectiveness for Professional Teacher Preparation Programs adopted by the California Commission on Teacher Credentialing (CCTC), the Teaching Performance Expectations (TPE), and the National Council for Accreditation of Teacher Education (NCATE) Standards and Dispositions (Reflection, Critical Thinking, Professional Ethics, Valuing Diversity, Collaboration, Life-Long Learning).

Science Expectations:

- Candidates for a Multiple Subject Teaching Credential demonstrate the ability to teach the state-adopted academic content standards for students in science. (CCTC 6, 8Ab; TPE 1; NCATE 1.1, 1.3)
- Candidates for a Teaching Credential understand and use a variety of informal and formal, as well as formative and summative assessments, to determine students' progress and plan instruction. (CCTC 5, 6, 8Ab; TPE 3; NCATE 1.7)
- Candidates for Teaching Credentials incorporate specific strategies, teaching/instructional activities, procedures and experiences that address state-adopted academic content standards for students in order to provide a balanced and comprehensive curriculum. (CCTC 3, 4, 6, 9, 8Ab, 12, 13; TPE 4; NCATE 1.1, 1.3)
- Candidates for Teaching Credentials clearly communicate instructional objectives to students. They ensure the active and equitable participation of all students. (CCTC 6, 8Ab; TPE 5; NCATE 1.3)
- Candidates for a Teaching Credential know and can apply pedagogical theories, principles, and instructional practices for comprehensive instruction of English learners. (CCTC 3, 4, 6, 9, 8Ab, 12, 13; TPE 7; NCATE 4.1)
- Candidates for a Teaching Credential evaluate their own teaching practices and subject matter knowledge in light of information about the state-adopted academic content standards for students and student learning. (CCTC 6, 8Ab; TPE 13; NCATE 1.6-Reflection)

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Technology Expectations:

- Each candidate considers the content to be taught and selects appropriate technological resources to support, manage, and enhance student learning in relation to prior experiences and level of academic accomplishment. (CCTC 5, 6, 9, 11, 13; NCATE 1.1, 1.3)
- Each candidate analyzes best practices and research findings on the use of technology and designs lessons accordingly. (CCTC 4, 6, 11; NCATE 1.3)
- Each candidate is familiar with basic principles of operation of computer hardware and software, and implements basic troubleshooting techniques for computer systems and related peripheral devices before accessing the appropriate avenue of technical support. (CCTC 11)
- Each candidate uses computer applications to manage records and to communicate through printed media. (CCTC 11)
- Each candidate interacts with others using e-mail and is familiar with a variety of computer-based collaborative tools. (CCTC 11)
- Each candidate examines a variety of current educational technologies and uses established selection criteria to evaluate materials, for example, multimedia, Internet resources, telecommunications, computer-assisted instruction, and productivity and presentation tools. (CCTC 6, 11)

- Each candidate chooses software for its relevance, effectiveness, alignment with content standards, and value added to student learning. (CCTC 6, 11; NCATE 1.3)
- Each candidate demonstrates competence in the use of electronic research tools and the ability to assess the authenticity, reliability, and bias of the data gathered. (CCTC 6, 11)
- Each candidate demonstrates knowledge of copyright issues and of privacy, security, safety issues and Acceptable Use Policies. (CCTC 11; NCATE 1.6-Professional Ethics)

Examinations and Major Assignments:

Multimedia Portfolio

(Total: 150 points)

(FORMATIVE ASSESSMENT: TPE 1, 4) (CCTC 11) (NCATE 1.1, 1.3)

(Dispositions: Professional Ethics, Collaboration)

Teacher candidates will develop a multimedia portfolio, which includes:

1. Web Resources/Spreadsheet (50 points)

Students will review a total of eight web sites and two web quests.

Internet Site Review: Students will select one California Science Content Standard for grades K-4 and one for grades 5-8. Three web site reviews will be completed for each standard. An assignment sheet will be provided to indicate the protocol for the reviews.

Web Quest Review: Students will also review two web quest sites (one at the K-4 level and one at the 4-8 level). The reviews will be formatted in a spreadsheet.

2. Multimedia Presentation (100 points)

The student will create a multimedia presentation (ex. PowerPoint, KeyNote, Google Presentation, SMARTBoard). The presentation will contain a **minimum of ten slides** focusing on one of the California Science Content Standards. The purpose of the presentation is to provide an introduction to a new unit of study.

The following elements need to be included in the content of the presentation: title page, science standard, and minimum of five science concepts. A hard copy of the presentation and resource list (**minimum of ten resources**) will be submitted. Content resources may include: books, magazines/journals, videos, educational CD-ROMs, and Internet sites. The following format elements are required within the presentation: Inspiration content concept map, animation, sound, integration of digital images (with citations), and an Internet hyperlink.

Blackboard Quizzes

(100 points) (CCTC 11) (NCATE 1.1, 4.1)

(Dispositions: Reflection, Critical Thinking, Professional Ethics, Valuing Diversity)

Quizzes will include content from class meetings, notes, discussions, and readings.

Model Lesson Project

(150 points) (TPE 1, 3, 4, 5, 7, 13) (NCATE 1.1, 1.3, 1.4, 4.1)

(FORMATIVE ASSESSMENT: TPE 1, 4, 5, 13)

(TEACHER PROJECT COMPONENT 2: Content Analysis and Learning Goals)

(Dispositions: Reflection, Critical Thinking, Professional Ethics, Valuing Diversity, Collaboration, Life-Long Learning)

Students will complete the following components:

Part One: Lesson Planning

Working in groups, students will develop a conceptual framework for a standards-based science unit. The framework will include an analysis of content with a set of learning goals/outcomes. Students will, also, design and analyze one lesson for the unit.

Part Two: Lesson Presentation

You and members of your group will present the lesson modeling effective instructional strategies. The thirty-minute lesson presentation will include the following components: constructivist teaching, inquiry, English Learner strategies, special needs strategies, and instructional technology.

Part Three: Lesson Reflection

Students will provide an individual, written reflection on the model lesson planning and presentation process and learning outcomes. Components of the reflection will include: an explanation of pedagogical strategies, core academic content standards, choice of instructional materials, use of English Learner strategies, and plan for improvement for future teaching.

Environmental Education

(50 points) (TPE 1, 4, 5, 7)

You have 3 options to fulfill this course requirement:

- 1) Attend the Environmental Education Workshop at Woodward Park provided by the science methods instructors. See specific date in the schedule below.
- 2) Attend an alternative Environmental Education workshop or conference during the semester. The alternative workshop must be at least 6 hours long and must be pre-approved by the instructor.
- 3) Read five articles related to utilizing environmental education as part of science instruction in your future classroom. Write one page reflections for each article that address: (a) Activities, ideas, or pieces of information from the reading that you found most provocative, interesting, or (potentially) useful? Briefly explain your choices. (b) How you can apply the ideas from the article into your own teaching. (10 points each)

Final Exam

(100 possible points) (TPE 1, 3, 4, 5) (NCATE 1.1, 4.1)

(Dispositions: Reflection, Critical Thinking, Valuing Diversity, Collaboration)

The examination will include content from class meetings, notes, discussions, and readings.

Field Study (Lab) Components Connected to Assignments (minimum 15 hours):

Technology (CTC 11; NCATE 1.3)

(Dispositions: Reflection, Critical Thinking, Professional Ethics):

1. a. The teacher candidate will request a copy of the School/District Technology Acceptable Use Policy Document from their Field Study B School Site.
- b. Given this policy the students will write a reflection to describe the implications for the use of technology to deliver instruction and promote learning in the classroom. (This document is submitted to your EHD 178 supervisor.)

Science (TPE 1, 4, 5, 7; NCATE 1.1, 1.3, 1.4, 4.1)

(Dispositions: Reflection, Critical Thinking, Valuing Diversity)

2. a. The students will observe a science lesson taught by a credentialed teacher. The observation will focus on standards alignment, materials management, instructional and EL strategies, and assessment. Students will write a brief description of the lesson highlighting the specified areas of focus. (This document will be submitted to your EHD 178 supervisor.)
- b. The students will plan and teach an inquiry-based science lesson. The lesson must align with the California Science and Language Arts Content Standards. The lesson will incorporate the use of expository text as well as include a demonstration of the appropriate use of English Learner strategies. (This lesson must be signed off by your CI 175 instructor and then submitted to and verified by your EHD 178 supervisor.)

Grading Scale

- A = 495 - 550 points
- B = 440 - 494 points
- C = 385 - 439 points
- D = 330 - 384 points
- F = below 330 points

Tentative Course Outline*

Week	Topic	Assignment
1	Introduction California Science Content Standards Technology Program Standards Nature of Science and Technology	Sherman and Sherman, Chapters 1-2 Rogers, p. 1-7
2	Constructivist Theory	Sherman and Sherman, Chapters 3-4
3	Instructional Technology Resources: Internet/Web Quests / Podcasts Blackboard	Blackboard Quiz 1 Sherman and Sherman, Chapter 5-6
4	Instructional Technology Applications: Inspiration/Video Presentation Software (ex. PowerPoint)	Blackboard Quiz 2 Sherman and Sherman, Chapters 7-8
5	Instructional Technology Applications: Multimedia Development	Web Resources Due Sherman and Sherman, Chapters 9-10
6	Instructional Technology Applications: Spreadsheet/SmartBoard	Multimedia Presentation Due
7	Science as Inquiry	Blackboard Quiz 3 Sherman and Sherman, Chapters 11-13
8	Instructional Resources: Print/Film Lesson Design / Group Work	Blackboard Quiz 4
9	Environmental Education	Model Lesson Planning Due
10	Project-Based Learning Constructing the Curricula	
11	Model Lesson Presentations Multi-media Presentations	
12	Model Lesson Presentations Multi-media Presentations	
13	Issues of Equity and Access Classroom Management	
14	Reflective Teaching Assessment Strategies	
15	Interdisciplinary Teaching California Standards for the Teaching Profession Final Review	Model Lesson Reflection Due
16	Final Exam	

***Subject to Change:** This syllabus and schedule are subject to change in the event of extenuating circumstances. If you are absent from class, it is your responsibility to check on announcements made while you were absent.

Session Topic Descriptions:

Note: Multiple instructors teach sections of this course. Listed below are the session topic descriptions covered during the course.

Introduction

California Science Content Standards

Technology Program Standards

Nature of Science and Technology

Teacher candidates are introduced to the science and technology standards and the instructor demonstrates how the standards will be integrated into course assignments. We then investigate the nature of science through hands on learning experiences.

Constructivist Theory

Teacher candidates are introduced to the components of the constructivist theory and how to incorporate constructivism into their teaching practices. Teacher candidates learn how to translate theory into practice and incorporate the principles into their lesson design.

Instructional Technology Resources:

Internet/Web Quests / Podcasts

Blackboard

Teacher candidates learn how to find standards-based resources on the Internet, how to evaluate those resources, and how to apply those resources in the classroom. Teacher candidates learn how to organize information and incorporate it into reports using spreadsheets and word processing programs. Teacher candidates are introduced to the web-based components of the course BlackBoard utilized for readings, resources, quizzes, communication, and collaboration.

Instructional Technology Applications:

Inspiration/Video

Presentation Software (ex. PowerPoint)

Teacher candidates learn how to develop electronic concept maps and use the organizer to develop a plan for their multimedia project. Teacher candidates learn how to access and assess educational videos. Teacher candidates are taught how to build an introductory science unit that uses presentation software (ex. PowerPoint/SMARTBoard) based on the California Science Content Standards.

Science as Inquiry

Instructor models the inquiry process with hands on lessons. Teacher candidates are taught the model lesson presentation inquiry lesson plan protocol for different levels of inquiry from teacher-directed to student-directed instruction. Teacher candidates learn how to develop levels of questioning using Bloom's Taxonomy as a guide.

Instructional Resources: Print/Digital

Teacher candidates learn about print (books, magazines, etc.) and digital (web sites, streaming video, DVD, podcasts, etc.) resources that support instruction of the science content standards. Teacher candidates review resources to find standards-based web sites to begin developing their model lesson plan. Teacher candidates are also expected to utilize Internet and multi-media resources introduced earlier in the semester.

Environmental Education

Teacher candidates experience environmental education activities aligned to the California Science Content Standards. Teacher candidates participate in lessons focused on plant life (ex. how a tree makes food), wild life (ex. predator/prey), plant/animal interactions, science data collection skills, and simulations (ex. life cycle of a salmon).

Issues of Equity and Access

Classroom Management

Instructor models effective pedagogical strategies to reach students with special needs and English learners. Teacher candidates are expected to incorporate the strategies when developing their model lesson. Teacher candidates are introduced to a variety of effective classroom management strategies to maximize student engagement during hands on science environment.

Reflective Teaching

Teacher candidate learns how to reflect on their teaching. The instructors model reflection practices and teacher candidates are required to reflect on their model lesson presentation. See Model Lesson Reflection Assignment Sheet.

Assessment Strategies

Teacher candidates learn how to make content accessible to all students and then develop formal and informal assessments to analyze student work through multiple measures.

Interdisciplinary Teaching/Project-Based Instruction

Teacher candidate learns how projects may be utilized as the focus of study for interdisciplinary units.

University Policies

Students with Disabilities: Upon identifying themselves to the instructor and the university, students with disabilities will receive reasonable accommodation for learning and evaluation. For more information, contact Services to Students with Disabilities in Madden Library 1049 (278-2811).

Cheating and Plagiarism: "Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term 'cheating' not be limited to examination situations only, but that it include any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means. Plagiarism is a specific form of cheating which consists of the misuse of the published and/or unpublished works of others by misrepresenting the material (i.e., their intellectual property) so used as one's own work." Penalties for cheating and plagiarism range from a 0 or F on a particular assignment, through an F for the course, to expulsion from the university. For more information on the University's policy regarding cheating and plagiarism, refer to the [Class Schedule \(Policy/Legal Statements\)](#) or the [University Catalog \(University policies\)](#)

Make Up Policy for Planned and Unplanned Absences: In the case of an unplanned student absence, papers, tests, and/or homework assignments due during the time the student is absent may be made up only if the student contacts the instructor as soon as practicable after the absence occurs and works out a plan. In the case of authorized absences due to university-sponsored activities, students should expect to submit their work to the instructor on or before the due date, or as arranged with the instructor. This includes papers, tests, and/or homework assignments. See grading policy in syllabus for additional information.

When a student is absent for an extended time period, a viable make-up plan may not be feasible. In these circumstances, other options such as dropping the class for a serious and compelling reason or withdrawal from the university may be appropriate.

Computers: "At California State University, Fresno, computers and communications links to remote resources are recognized as being integral to the education and research experience. Every student is required to have his/her own computer or have other personal access to a workstation (including a modem and a printer) with all the recommended software. The minimum and recommended standards for the workstations and software, which may vary by academic major, are updated periodically and are available from [Information Technology Services](#) or the University Bookstore. In the curriculum and class assignments, students are presumed to have 24-hour access to a computer workstation and the necessary communication links to the University's information resources."

Disruptive Classroom Behavior: "The classroom is a special environment in which students and faculty come together to promote learning and growth. It is essential to this learning environment that respect for the rights of others seeking to learn, respect for the professionalism of the instructor, and the general goals of academic freedom are maintained. ... Differences of viewpoint or concerns should be expressed in terms which are supportive of the learning process, creating an environment in which students and faculty may learn to reason with clarity and compassion, to share of themselves without losing their identities, and to develop and understanding of the community in which they live . . .

Student conduct which disrupts the learning process shall not be tolerated and may lead to disciplinary action and/or removal from class."

Copyright policy: Copyright laws and fair use policies protect the rights of those who have produced the material. The copy in this course has been provided for private study, scholarship, or research. Other uses may require permission from the copyright holder. The user of this work is responsible for adhering to copyright law of the U.S. (Title 17, U.S. Code). To help you familiarize yourself with copyright and fair use policies, the University encourages you to visit its [copyright web page](#).

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Bibliography

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Multimedia Portfolio: Web Resources (50 points)

Part One - Web Site Review:

1. Select one specific California Science Content Standard (i.e. 3c) for grades K-4.
[<http://www.cde.ca.gov/be/st/ss/scmain.asp>]
2. Select one specific California Science Content Standard (i.e. 2b) for grades 5-8.
3. Find three different web sites for the topic of each grade range (total of 6 web reviews). Focus on finding good quality websites that you would want to use and could recommend to your classmates and colleagues.
4. Identify the key science concepts covered by the site.
5. Evaluate each of the web sites using the following guidelines:

Accessibility

- > Is the site laid out clearly and logically with well organized subsections?
- > Is the site easy to navigate, including clearly labeled Back, Home, Go To Top icons/links?
- > Are there internal indexing links on lengthy pages?
- > Do all the links to remote sites work?
- > Does the site take a long time to load?

Accuracy

- > Is the author/producer identifiable?
- > Does the author/producer have expertise on the subject as indicated on a credentials page? You may need to trace back in the URL (Internet address) to view a page in a higher directory with background information.
- > Look for a) point of view and b) evidence of bias
- > What are the sources of the information? The sources should be clearly stated, whether original or borrowed from elsewhere.
- > Is the information on the website correct and accurate? How do you know? Don't take the information presented at face value. Keep in mind that web sites are rarely refereed or reviewed like scholarly journals and books.

Appeal

- > Is the site visually appealing? Does the design suit the overall purpose?
- > Are multimedia elements used sparingly and for a specific purpose? Or are they distracting?
- > Are the graphics and colors attractive?
- > Does the site have any advertisements or banners that might distract students?

Appropriate

- > Who is the intended audience of the page?
- > Based on its content, tone and style, is it appropriate for the grade level?
- > Is the reading level appropriate for the grade level?
- > Does the content engage the learner?
- > Does it challenge learners to think, reflect, discuss, hypothesize, compare, classify, etc.?

6. Give each web site a personal evaluation with a grade (A, B, C, D, F)

Part Two - Web Quest review:

1. Select one web quest for grades K-4.
[Search www.google.com for “science web quests”]
2. Select one web quest for grades 5-8.
3. State the California Science Content Standard(s) covered for each web quest.
4. Determine the key science concepts covered.
5. Evaluate the web quests with the criteria listed above.

Example of a web site or web quest review (You will have eight boxes; six with web site reviews and two with web quest reviews):

Science Content Standard: Grade 5: Earth Science

5b. Students know the solar system includes the planet Earth, the Moon, the sun, eight other planets and their satellites, and smaller objects, such as asteroids and comets.

A Virtual Journey Into the Universe

<http://library.thinkquest.org/28327/>

Key science concepts: planet physical characteristics (actual and speculation), location, and special planetary features (such as satellites)

Accessibility: The site was easy to navigate. All buttons loaded quickly.

Accuracy: The site was developed by students (not an organization like NASA) so the correctness of content would need to be checked.

Appropriate: The reading level of some of the sections would be too high for some fifth graders.

Appeal: Students would be attracted to the color and graphics and high tech feel.

Grade: B+

Part Three – Excel Spreadsheet

Summarize all reviews in the class Excel spreadsheet on Google Docs (docs.google.com). You will need to set up a Google account to get access to this shared class document. You may decide it is beneficial to create your own spreadsheet in Excel so you can just copy and paste your information.

Example of the information that is required on the Excel spreadsheet:

Grade Level	Standard	Science Type	Web Title	Web Address	Key Concepts	Letter Grade	Reviewed by:
5	5b	Earth	A Virtual Journey Into the Universe	http://library.thinkquest.org/2837/	planet physical characteristics, location, special features	B	Ian Example
5	5b	Earth	Windows to the Universe	http://www.windows.ucar.edu	planet physical characteristics, fact sheets	A	Ian Example

Grading for Web Resources Assignment

Part one: 30 points (6 reviews x 5 points each)
Part two: 10 points (2 reviews x 5 points each)
Part three: 10 points (for adding all of your data for the 8 reviews in the class spreadsheet)
Total: 50 points

Your completed assignment will include all 8 reviews in one Microsoft Office Word document and the 8 summarized reviews in the class Excel spreadsheet on Google Docs. You will submit the Word document **electronically via email** to the instructor.

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Multimedia Portfolio: PowerPoint (100 points)

Students will create a multimedia presentation (ex. PowerPoint). The purpose of the presentation is to provide an introduction or overview to a new unit of study. These presentations will be shared with your classmates so you will have a “library” of presentations when you leave this semester.

The presentation will include a:

- minimum of 10 slides focusing on one of the California Science Content Standards,
- title page (title of presentation, your name),
- science standard page (if only addressing part of the standard, use **bold** font or underline or change **text color** to highlight part of the standard you are addressing),
- minimum of five content slides that address important concepts related to the standard,
- photo credits that clearly identify where each picture in the presentation came from,
- list of six or more resources/references, which includes resources for both photos and science content.

The following format elements are required within the presentation:

- concept map (possible programs include *Inspiration* www.inspiration.com and *Freemind* http://freemind.sourceforge.net/wiki/index.php/Main_Page)
- animation (transitions from slide to slide, or animation of text and pictures coming on/off a slide or both; animation should be on **some** slides, but not necessary for all slides),
- sound (a minimum of two sounds integrated in the presentation),
- digital images (clear, quality images related to the content standard; all digital images must be cited either on the specific slide with the pictures or in a photo credits section at the end of the presentation),
- one or more Internet hyperlinks.

Optional elements include:

- movies
- background music (only for opening or closing)

Possible problems to avoid:

- A mismatch between your presentation content and the California Science Content standard that you selected.
- Backgrounds that are make it hard to read the text or that breaks up the PowerPoint presentation. Choose one background or use related backgrounds to use on all of your slides.
- Font that is difficult to read because of the lack of contrast with the background, the type of font, or the size of the font. Choose fonts that are easy to read.
- Too many different fonts. Choose a one to three fonts and use them consistently throughout your PowerPoint.
- Filling up the slides with too many words. Use key words and phrases to highlight the main ideas. If you have a lot to write, consider putting the information on several slides.
- Digital images that are fuzzy, too busy, or cutesie. Choose clear, crisp pictures and only change the size if the picture continues to look clear. Incorporate pictures of realia instead of cartoon or clip art pictures as much as possible.
- Sound that is distracting or annoying because it occurs over and over again or it interrupts the flow of the presentation. Use sound to introduce a new idea or to highlight something especially interesting.
- Animation that is slow to come up on the screen or that is too busy that it looks like words and pictures are flying in all over the place. Use animation to highlight important ideas or relationships that you want to emphasize. When you want everything on the screen at once, set it up so the animation occurs with one click. If you want to highlight or talk about specific bullet points one at a time, set the animation to come up with separate clicks.

On presentation day: Bring your 1) PowerPoint to class on your flash drive, 2) 6 copies of the standard addressed on paper, and 3) one printed copy of the slides (3 slides to a page). You will present your presentation to a portion of the class to get feedback and suggestions for improvement. You can make changes to your presentation before submitting the final version for a grade.

Submitting final version: You will post your final PowerPoint presentation to be graded on Blackboard in a specific folder on the discussion boards. You will also submit 1) the grading rubric with your self-assessment of your PowerPoint Presentation and 2) a paper copy (3 slides to a page is ideal) of your presentation to the instructor by the due date.

Multimedia Portfolio: PowerPoint Presentation

Name: _____

Required Elements: (85 points possible)

Content:

Title Page (5)

Title, Name, Picture

Science Standard (5)

*Grade level, science type, and number,
complete standard written out*

Concept Map (10)

*Key concepts/ideas included, logical connections
between ideas/concepts, easy to understand*

Science Content/Concepts (20)

*Important concepts connected to science standard,
accurate information, explained clearly*

Photo Credits (10)

*Included for all photos, easy to connect
specific pictures with credits*

Bibliography/Resources/References (10)

*10 or more sources, citations include information
so original source could easily be located*

Format:

Animation/Sound (10)

Integrated into presentation

Integration of Digital Images (10)

Clear images, connected to standard

Hyperlink (5)

*Included, works properly, connected to
standard/concepts*

Presentation Style Elements: (15 points possible)

Animation, sound, digital images, backgrounds, color choices, font, etc. add to the quality of the presentation. Order of the slides and how the information is presented makes sense and helps the learner understand content and make connections. Developmentally appropriate for grade level standard selected. Students will be engaged in learning about the standard through this presentation.

TOTAL POINTS: _____

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Inquiry Lesson Plan Format

1. **California Science Content Standard:** List the standard **or portion** of the science content standard that will be taught in the lesson. Include the grade level and the type of science (ex. life, physical, etc.).

Example:

Grade Two: Life Sciences:

Plants and **animals have predictable life cycles. As a basis for understanding this concept:**

2b. Students know the sequential stages of life cycles are different for different animals such as butterflies, frogs, and mice.

2. **Learning Goal:**

“The goal of the lesson states what you plan to accomplish and what you intend your students to learn.” (Sherman and Sherman, p. 165)

Example:

The students will learn about the life cycle of the butterfly.

3. **Objective:**

“Objectives are specific statements that establish carefully thought out learning outcomes. They also specify conditions for learning and set expected standards for student performance.” (Sherman and Sherman, p. 165)

Example:

By drawing a correctly sequenced concept map, students will demonstrate the physical characteristics of the stages of the life cycle of a butterfly (stages and sequence: egg, caterpillar, chrysalis, and adult butterfly)

4. **Inquiry Prompt:**

What is the question you will use to guide the investigation/inquiry?

Example:

How does a butterfly change as it grows?

5. **Materials:**

List **all** of the needed teacher and student materials.

6. **Key Vocabulary:**

List all **science terminology** and **academic language** that will be introduced. **Specify the method you will use to contextualize the vocabulary.**

7. **Procedure:**

In a step-by-step format provide a detailed sequence of the components of the lesson. All definitions, background information, and resources need to be included.

Required elements: constructivist teaching design, inquiry design, English Learner strategy, special needs strategy, and instructional technology application.

Inquiry methodology needs to be evident in the steps of the procedure.

Possible evidence of inquiry:

Teacher-Directed Inquiry Option:

Questioning Strategy: Using Bloom's taxonomy provide teacher prompt questions: List the questions you will ask and indicate the level of Bloom's taxonomy. Make sure your questions include all levels of Bloom's Taxonomy.

Guided Inquiry Option: Exploration: Students are given materials to investigate. Specific inquiry questions are provided to focus the investigation.

Ex. "How does the toy make the sound?"

Student-Directed Inquiry Option: Student Investigation: Students investigate a question on their own. Example: Students create their own sound toy and explain how it makes sound.

8. **Assessment:**

Assessments may include: "homework, quizzes, systematic observations of students, formal interviews, oral reports, essays, performance appraisals, performance tasks, journals, learning logs, laboratory notebooks, self-assessments, and portfolios of work." (Sherman and Sherman, p. 171)

Detail the **specific performance criteria** that will be used for evaluation.

Example:

Students will create a concept map that will include:

1. All of the stages of the life cycle of the butterfly are included (stages: egg, caterpillar, chrysalis, and adult butterfly).
2. The stages are drawn in the correct sequence.
3. The correct physical characteristics of each stage of the life cycle are illustrated. (egg: small, round ball; caterpillar: multi-segmented larva with legs and eyes; chrysalis: oval form, hanging from a twig; adult butterfly: head, thorax, abdomen, six legs coming from the thorax, two eyes, and two antennae).