Topic: Data Collection in Archeology

http://www.crowcanyon.org/ Crow Canyon

Grade 9-Adult
An integrated lesson plan covering one session of approximately 1.5 - 2 hours.

Lesson-Planning Approach

Some learners perceive their "world" as a whole, where all things are interconnected and dependent upon each other. These "integrated" students face major challenges in coping with our dominant educational, social, and economic systems, which tend to present information in a linear fashion without the necessity of integration into meaningful context. Integrated students are at-risk of failing as they attempt to grasp information in ways that do not match their experience. Among large populations of at-risk students are many from Native American and similar cultures who do not regard their world as a sum of parts but as a blend of all that they experience.

This lesson plan does include some traditional, linear approaches to delivering information (checklists, rules, analysis, problem solving and organization). In addition to the traditional, linear delivery of information, this lesson plan also includes some of the following strategies, designed to appeal to at-risk students as they learn academic/life skills:

- ❖ Integration of technology
- ❖ Story telling/anecdotal information
- ❖ Non-competitive group and team work
- ❖ Performance-based assessment and rubrics
- ❖ Visual presentations and practice through technology and other means
- ❖ Project-based assignments that integrate family and community
- ❖ Activities appealing to multiple intelligences (Gardner)
- ❖ Application of Scientific Method to formulate and solve a problem.

Lesson Overview

This lesson is designed to familiarize students with the fascinating world of Rock Art, and give them practice in creating and using Power Point and Access. For this activity, we will focus on images from SE Utah, because that is where the pictures were taken. Rock Art is everywhere. I encourage you to use the Power Point and Access file as a guide, and then go out and explore the early history of your area. I am blessed to live in the Southwest, where these images tell many stories, but there are always new stories to tell. Students will collect data from the images provided, and place the information into an access data base template to share with other students and research more scientifically.

Lesson Objectives

Project Objectives: When students complete this session, they will be able to…

- ❖ Research different types of rock art and categorize it into basic groups
- ❖ Classify the Power Point Images according to your interpretation.
- ❖ Enter your findings into the Access template.
- ❖ Interpret the results after comparing your information with the rest of the class.

Integration of Other Functional/Academic Skills: (Critical thinking is required throughout the lesson.) Students will be able to…

Math: Classify and quantify the images

Reading: Apply technical vocabulary; find main points and meaning in
                 written passages. Read information about Rock Art from the links
                 provided

Writing: Summarize; define; explain
Listening: Follow the oral directions. Listen to the Rock Art Story
Science   Apply scientific method when recording and interpreting the
                 information

Technology: apply basic features of Microsoft Word, Access and Power Point

State/National Standards (Complete as Appropriate)

http://www.cde.state.co.us/cdeassess/sci.htm#standards 5
http://www.cde.state.co.us/ Mathematics 3,6

Websites

Required:

http://raysweb.net/rockart/pages/similarlinks.html Four Corners Rock Art

Support:
http://www.questorsys.com/rockart/links.htm Rock Art links
http://www.execpc.com/~jcampbel/ Specific images and interpretation

Pre-requisites: Read at sixth grade level or above. Basic Knowledge of Access and Power Point

Suggested Materials
Legacy on Stone: Rock Art of the Colorado Plateau, by Sally Cole Johnson Publishing 1992
Handouts: (Included at the end of this document)

- ❖ Rock Art Glossary (Handout 1)
- ❖ Lesson Checklist (Handout 2)
- ❖ Power Point Presentation (Handout 3)
- ❖ Access Database (Handout 4)
- ❖ Lesson Rubric (Handout 5)

Required Equipment/Technology

❖ 1 computer, with Internet connection and a MS Office 2000 for every group of 2-3 students
❖ Projector

THE LESSON

Note: Students do not learn from what <u>you</u> do but from what you have <u>them</u> do.

PART I

Preparation

Activity	Instructor Notes
Research the topic.	**Look through all the materials and make sure you can set up and enter data into an access file**
Add any links to local rock art	**Even if you live in a city, what kind of artifacts are available in your area?**
Examine handouts.	**Go through each handout and allow questions, clarifications.**

Presentation

http://www.ocbtracker.com/ladypixel/buffston.html	**Tell a story about early explorers viewing paintings on walls ….Iif you can't find one or make one up, there are many on internet. Buffalo Stone is a good tale**

Performance and Practice

Instructions for students	Teacher notes

Create a data base similar to the one shown. Open the Power Point presentation and explore the images	**This activity is to spark curiosity in the students about how archeologists collect and record data. Encourage them to be as descriptive as possible.**
❖ . Arrange them on your desktop so you can view both at once ❖ Enter data from the pictures into the access file Under description, add as much detail as possible	**Handout the Glossary if they insist, but encourage them to make their own interpretations of the figures. Have students come up with a list of 6-10 Standard Categories. They can type as much detail as they want into the Description box. Possible Categories: Animal-like, Plant-like, People-like, Geometric, Water, Land, etc.**
Sort the data according to category	**Have students compare results with each other. Some probably chose different categories for the same image**
Demonstrate understanding by designing a similar Data Base that might be used by Archaeologists.	**Ideas: Pottery, Dwellings, Etc.**

Lesson Assessment Strategy (Formative – As the lesson progresses)

Preparation, Presentation and Overall Implementation (Instructor)

1. Are the instructions and expectations for the class clear from the beginning?
2. Am I spending sufficient time on modeling the skills I want students to acquire?
3. Is there enough variety in the lesson to appeal to most learning preferences?
4. How many learning intelligences am I addressing?
5. Are students "connecting" to lesson objectives? How?
6. How is this lesson "integrated?"

Performance and Practice (Student)

1. Do all students have the skills to follow instructions? If not, what measures am I taking to address the challenge?
2. Are all students participating in the activities either by active observation or by voicing their thoughts?
3. Am I identifying the strengths of each student and pairing/grouping people accordingly? What results am I getting?
4. How are students performing? Are all of them able meeting 80% of the lesson objectives? If not, what am I doing to help them achieve more?

Technology

1. Is the technology working?
2. How are students reacting to the technology, and what do I need to remember when I teach this lesson again?
3. How are students applying or wanting to apply their technical skills in other areas?

Activity Checklist (Handout 2)

Discuss the topic.	
Examine the required and optional web sites.	
Open the Power Point and Access at the same time	
Record Data from the rock art using the glossary	
In a group, compare and interpret possible meanings from the different rock art panels. Explore a specific image that fascinates you.	
Compose a summary paragraph about your impressions of Rock Art and whether or not access would be an effective way to record data	

Procedure

- ❖ Open the data base

- ❖ Open the Power Point presentation

- ❖ Arrange them on your desktop so you can view both at once

- ❖ Enter data from the pictures into the access file

- ❖ Under description, add as much detail as possible

- ❖ Sort the data according to category

- ❖ Modify the Data base if you have a better plan or other ideas

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Course: Computer and Information Science

Rock Art

Entering Data into an Access Database

Expectations:

Criteria:	Level 4 (80% - 100%)	Level 3 (70% - 79%)	Level 2 (60% - 69%)	Level 1 (50% - 59%)
Knowledge				
use Internet services to research global information sources	uses Internet services to research global information sources with exceptional success	uses Internet services to research global information sources with considerable success	uses Internet services to research global information sources with some success	uses Internet services to research global information sources with limited success
Thinking				
select suitable data structures for information	always or almost always selects suitable data structures for information	often selects suitable data structures for information	sometimes selects suitable data structures for information	rarely selects suitable data structures for information
Communication				
use appropriate program structures to conform to a program design	uses appropriate program structure to conform to a program design with excellent success	uses appropriate program structure to conform to a program design with considerable success	uses appropriate program structure to conform to a program design with adequate success	uses appropriate program structure to conform to a program design with limited success
explain how Rock Art has evolved and future possibilities	explains how Rock Art has evolved and many future possibilities	explains how Rock Art has evolved and several future possibilities	explains how Rock Art has evolved and some future possibilities	explains how Rock Art has evolved and at least one future possibility

Created With the Rubric Builder – www.rubricbuilder.on.ca
C:\Documents and Settings\anne\My Documents\am.iti.finalproject\lesson5\Rock Art.rub

Glossary

Stippling

Other dot patterns

Horizontal lines
- single
- parallel
- ticked

Vertical lines
- single
- parallel
- suspended

Rakes

Convoluted rake

Wavy lines
- parallel
- enclosed

Zigzag lines
- single
- parallel

Circles
- single
- with dot
- joined
- concentric
- with tail
- bisected

Spirals
- without tail
- with tail
- double or scroll

Rectilinear chain

Sawtooth or sickle

Maze

Wandering line

Rectilinear meander line

C or U figures

Rainbow

Pole ladder
- single
- double

Scorpion

Crosshatching
- horizontal
- diagonal

Rectangular grid

Rectilinear maze or spiral

Chevron

Abstracts

Blanket or pottery pattern

Shield

Wheel types (sun? or moon?)

Atlatl

Plant (tree or leaf)

Lozenge chain

Triangles
- single
- joined

Hand prints
- positive
- negative

Snake

Deer track

Bird track

Swastika

Cross or asterisk

Candlestick

i

BarrierCanyon

- [ ] Enter New Data
- [ ] View Category Report
- [ ] Quit

Picture	Panel	Quadrant	Category
1	1	C-D2-3	Animallike

Description
This creature looks like something from outer space. It is somewhat shaped like a bird, but it has tentacles everywhere

Picture	Panel	Quadrant	Category
2	1	AB 3	Peoplelike

Description

Picture	Panel	Quadrant	Category
3	1	2,3,C,D	Peoplelike

Description
This creature looks like part man with a head of snakes