Illustrated Programs and Demonstration

Tel Broadcast 5/24/05 Noon – 4:00 p.m. (Eastern)

Pre-course Packet

What you MUST Bring to the Broadcast:

- Yourself
- Hard copy of the pre-course packet (Yes! All 19 pages!)
- A large towel (*seriously!*)
- 3 envelopes (1 addressed to Kevin Poe - see address below)
- Scissors

Pre-course Work

"Over Achievers" (in order of priority)

1. Cut out dinosaur pictures at the **very** end of this packet (last 2 pages only)
   Place dino pix in an unsealed envelopes (Not the one addressed to Kevin Poe)
2. Complete Assignment #1: Self Evaluation about what you like and dislike while visiting parks
   Cut score/demographic data tab off. Place it unsealed envelope addressed to Kevin Poe
3. Read Instructions for Demonstration Activity about dinosaurs (2 pages)
4. Help an "Everybody Else" at your site do their step 1
5. Do the optional assignment on the "Intellectual and Emotional Connections" worksheet

"Everybody Else"

1. Cut out dinosaur pictures at the **very** end of this packet (last 2 pages only)
   Place dino pix in an unsealed envelopes (Not the one addressed to Kevin Poe)
2. Practice not being frustrated if you fall behind during Broadcast because you aren't an "Over Achiever"

Instructors:

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Course Outline

Introduction and System Check activity: “Describe your towel and creative use for it.”

Characteristics of a good Illustrated Talk and/or Demonstrations

Assignment #1: Self Evaluation and/or 1st Break
- Appropriate Techniques for Illustrated Talks or Demonstrations

Assignment #2: Geography of Hope Music Video
- Opportunities for Intellectual Connections
- “ “ Emotional Connections

Cohesive Development Of Relevant Ideas
- with themes
- vs. themes

Assignment #3: Convictions of the Heart Music Video
- Identify the CDRI(s)

BREAK

Integrating Media with Narration
- Slides
- M.S. Power Point
- Props
- Acting (your body as a prop)
- Sound effects
- Music without lyrics
- Music with lyrics
- Video

Tel Discussion “What is plan B when the equipment/technology fails?”

BREAK

Biostratigraphy “Reading the Chapters of Time” hands-on demonstration

Final Exam: Team Jeopardy: Question & Answer Games show RE: Module 220

The End

Finally

“Don’t forget your towel!” Work it out with the other participants to ensure that at least one person from your site brings a large beach towel to the course. What for? Towels have lots of different uses! Wait and see, you’ll be surprised!

Assignment #1

Please complete this Self-Assessment Prior to Tel Broadcast on May 24.
Those that do (and remember to bring it to the broadcast will be rewarded…)

What are your likes and dislikes while visiting National Parks?

The Mosts…..

1. Upon arrival, how do you plan an extended visit to a park you've never visited before?
    a) watch the park film or consult a map
    b) ask advice from a park ranger or other park visitors
    c) sample the spectrum of what the park offers by going for a drive

2. At an interpretive demonstration on how to make cider with an apple press what would create the strongest connections for you?
    a) Seeing how the moving parts interact together to squeeze juice from the apple pulp.
    b) Having the steps in the process explained and being encouraged to ask questions of the interpreter
    c) Being able to operate the press along side other members of the audience

3. When purchasing a souvenir from Mount Rushmore what would you most likely buy?
    a) a "coffee table" book about the carving of the sculpture
    b) a CD with patriotic music and quotes from the four presidents
    c) a scaled model of the sculpture

4. If you strongly disagree with a particular interpretive message how might you express your disapproval after the presentation has ended?
    a) Suggest to the interpreter that he/she visit a particular place or read an author that might change their opinion.
    b) Ask challenging questions and/or offer contrary opinions
    c) By not clapping and avoiding contact with the interpreter

5. After being asked NOT to, what kind of rule would you be most tempted to break while attending an American Indian religious ceremony?
    a) Secretly taking pictures of the ceremony
    b) Secretly tape recording the ceremony
    c) Secretly touching a ceremonial artifact

6 When arguing with a companion or family member as to what kind of activity to do next, would you?
    a) make suggestions using a map, or showing a picture of something you want to do or see
    b) carefully pick persuasive words in hopes you can get them to agree
    c) try to appeal to their emotions and/or influence them with your emotions

7. What is the most rewarding aspect of climbing a mountain?
    a) the breath-taking view from the summit
    b) being able talk about your accomplishment later
    c) the outdoor exercise

8. The most compelling stories are told by interpreters who?
    a) use vivid and descriptive words to paint pictures of the characters and their actions
    b) use different voices for different characters and mimic sounds of the action being described
    c) describe the mood and feelings of the characters as they interact

The Mosts (continued)

9. What do you find most relaxing about sitting beside a stream?
    a) watching the swirling and rippling patterns in the flowing water
    b) listening to the melody of the rushing water
    c) dangling your toes or fingers in the water's current

10. When learning about the history surrounding a battlefield what do you find easiest to remember?
    a) the strategy and tactics the opposing sides used
    b) the speeches given by commanders
    c) the emotions and feelings the soldiers were experiencing

11. When sleeping in a tent what makes it most difficult for you to fall asleep?
    a) when it is too bright outside because of a full moon or street light
    b) late night conversations of the other campers in the campground
    c) uncomfortable ground, too cold or too hot sleeping temperatures

12. When waking up in a tent what is the first thing you look forward to?
    a) Watching the sunrise and the other changing colors of early morning light
    b) Sounds of the morning – birds singing, breeze in the trees, babbling of a nearby brook
    c) Stretching your muscles, getting your blood flowing, or the feel of cool morning air on your skin.

13. How would you overcome your fear for a particular wild animal (spider, snake, shark, bear, etc.)?
    a) viewing the animal from a safe location
    b) engaging in conversation with others about your fear and the animal in question
    c) transitioning your feelings of fear into other feelings like awe, curiosity, hate, or respect

14. What do you enjoy most about campfires?
    a) the flickering light of the flames
    b) the crackling and popping of the burning wood
    c) the heat of the fire and smell of the smoke

15. When visiting a park in the wintertime what do you most enjoy doing?
    a) photographing a beautiful winter scene
    b) spending time by yourself to enjoy the peace and quiet
    c) the smells of cold air, pine trees, ski wax, hot chocolate.

16. When asking for directions from an interpreter what do you most like to receive?
    a) a map identifying key landmarks
    b) the opportunity to ask questions and then recite the directions for clarification
    c) directions describing how the road feels at various points (bumps, corners, hills, etc).

Your score: **# of a's _____** **# of b's _____** **# of c's _____**

The Leasts….

1. After enjoying a presentation which form of gratitude would you be least likely to express toward the interpreter?
   x) smiling or nodding in agreement
   y) offering praise and asking questions that show your interest
   z) shaking hands or giving a hug

2. When an interpreter asks for audience participation what kind of participation are you least willing to offer?
   x) Being asked to identify objects, animals or plants in a picture
   y) sharing your opinions on a particular management issue
   z) being asked to participate in a skit or a play

3. What setback would be least likely to ruin your visit to Glacier National Park
   x) mountains socked in by thick dark clouds
   y) noisy and rowdy neighbors in the campground
   z) your favorite trail closed for maintenance

4. What is the least important reason for preserving historic sites?
   x) Historic sites show what clothing, buildings, and tools looked like in historic times
   y) Historic sites are places where the famous words of historic figures can be brought back to life.
   z) Historic sites allow us to stand on or touch the exact places where pivotal events once occurred.

5. Upon returning from a backpacking trip what aspect of civilization do you find you've missed the least?
   x) television
   y) music
   z) "real" food

6. What kind of talent possessed by other interpreters would be hardest for you to incorporate into a presentation you might give?
   x) drawing
   y) telling jokes
   z) playing the guitar

Your score: **# of x's _____** **# of y's _____** **# of z's _____**

---------- cut or tear here and hand in ----------

(Tel 220 5/24)

Your Self-analysis:

The "Mosts"	# of a's =	# of b's =	# of c's =
The "Leasts"	# of x's =	# of y's =	# of z's =
"Mosts" – "Leasts" =			
x 10 = % learning style	Visual =	Auditory =	Kinesthetic =

Please Mail this data:

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OTHER DATA (for stratification purposes):

AGE (circle) 1-10 10-20 20-30 30-45 45-60 60+

Gender: ____ Male _____ Female

Interpretive Expertise: _____ More Natural History _____ More Cultural History ___ Equally Both

Geography of Hope (Assignment #2)

Narration from the Music Video

The State of Utah contains the greatest remaining parcel of untrammeled wilderness left in North America.

Here one can see Earth in the making. Eons of geological history are schematics models of the world's formation.

Evolutionary forces are revealed suspended in great isostatic tension, forces from which life has emerged.

Saving the Earth is a mere concept until we can actually feel that we are part of the landscape, created from its materials and evolved from its forms.

Our primordial connection is still present and requires of us a revelatory state of awareness to find our roots in its recesses.

One brings perception of the Earth to an internal place and finds an intuitive resonance in what John Duffy calls the true pictures of nature.

Time stands still with a haunting silence like barely audible sound waves traveling towards and away from us… a perception of some presence never seen.

A vision of a moment of when life was first created.

A touch stone of dream time.

The body of wilderness is our own. If we refuse our kinship to wilderness we refuse the evolution of all species.

The knowledge that we are empowered to save the Earth begins with a respect which is neither helpless nor arrogant. We draw ideas and inspiration from sky and stone into ourselves and by these we are guided and transformed.

We emerge from this immanence with a visual and acoustical icon of the landscape. While it cannot speak for itself, it inspires in us the geography of hope. In wildness is the preservation of the world.

Opportunities for Intellectual or Emotional Connections

(Tangible / Intangible Links that *invite* you to **think** or feel…. and hopefully CARE!)

Discerning between what's Emotional and what's Intellectual? Try this test!

I experienced _____ with all my heart = Emotional

I experienced so much _____ it made my head spin = Intellectual

Common OEs

Empathy, Sympathy
Appreciation, Gratitude
Joy, Bliss, Elation
Fun, Amusement
Loss, Sadness, Sorrow, Woe
Fright, Dread, Horror
Depression, Demotivation, Lazy
Dismay, Discouragement
Apathy
Anger, Hostility, Resentment
Frustration, Discouragement
Shame, Disgust
Hate, Revulsion, Aversion
Love, Desire, Cherish
Lust, Greed
Comfort, Safety, Relief
Concern, Worry
Hope, Confidence
Admiration, Pride, Respect
Resolve, Determination

Intangibles

Common OIs

Awe, Wonder
Curiosity, Discovery
Surprise, Shock
Understanding, Comprehension
Enlightenment, Revelation
Acknowledge, Consideration
Disbelief, Doubt
Confusion
Value
Loss
Awareness, Perception
Recognition
Hesitation, Pause
Introspection, Identity
Insight, Perspective
Prioritization, Discernment
Organization, Classification
Identification
Appreciation
Responsibility, Ownership

Optional Assignment:
#1 Draw an X thru any that are placed in the wrong column
#2 Circle any that could be in both columns
#3 List 5 intangibles and connect them with lines to thoughts and/or feelings they might generate.

EXAMPLE DEMONSTRATION (Instructions)

Reading the Chapters of Time

By Kevin Poe

From Bryce Canyon's GeoDetectives Website www.nps.gov/brca/geodet/

Background:

Stratigraphy is the study of rock layers and their relative ages. In geology, the Law of Superposition suggests that rocks in the deepest layers are older than the rocks near the surface. Therefore rock layers can be thought of as pages in a history book that was written backwards with the most current events in the front and the most ancient history in the back. However, various geologic forces can disrupt rock sequence chronology.

When erosion removes layers near the surface, and later in time more layers are deposited over the exposed rock, an entire time period ends up missing from the sequence. These "missing pages" are called unconformities.

Tectonic forces like folding and faulting create especially confusing rock stratigraphy. Faults mix up rock sequences. Imagine taking a book, cutting it in half and gluing the right half on top of the left half. Now as you read down through the book you eventually encounter pages in the wrong order (first the right half and then much later the corresponding left half).

Folding occurs when rock layers are bent upwards and downwards like waves. When enough force squishes the folds, they can flop over on to each other in the same manner waves do as they approach a beach. When this happens entire portions of a rock sequence can be turned upside-down. It's like cutting out the middle of your history book, flipping the cut section over and then gluing it back. Now if you were to read this history book you might think that Christopher Columbus sailed to the New World before the Pilgrims arrived in New England but after Neil Armstrong landed on the Moon!

If you think that is confusing, now imagine folding, faulting, and eroding the same history book several times. Only then would you truly have typical geologic stratigraphy!

One of the main reasons geologists study fossils is to help them sort out all the confusion that can occur in studying rock sequences. Long before radioactive dating was used to tell ages, geologists were using fossils to age rock layers. Even today a rock layer with a lot of different fossils can be more precisely aged (and less expensively) by a knowledgeable paleontologist than it can be by uranium dating.

In the last 3 billion years, billions of different species have come and gone - far too many for one person to know them all. This is why some paleontologists specialize on the plants and animals of a particular time period, while others study a single type of plant or animal and how it evolved and/or went extinct over several time periods. What makes fossils so useful to aging rock is that an individual species seldom lasts more than 2 million years; it either evolves into a new species or goes extinct. When paleontologists compare the temporal overlap of several fossils at once, looking for presence, abundance, and absence, they can more precisely pinpoint the exact age of a rock layer.

The best kinds of fossils for stratigraphy are those that are found world wide, are abundant within every location in which they exist, are easily preserved, and are formed from animals which lived in several different environments and evolved into new forms quickly or went extinct suddenly. These kinds of fossils are called index fossils.

In this activity we will use toy examples of real fossils to age imaginary rock layers. You will be provided a list of fossils and their ages to help you with the task.

Instructional Procedures:

1. Present background information.
2. Fill containers with sand. Identify which container is going to represent a specific time period.
3. Consult Fossil Assemblages Sets and Ancient Life Field Guide and bury all appropriate and available toy animals into the sand of corresponding containers - see photos.
4. Pass out a completed container to each student (or group of students).
5. Instruct students to excavate sand for animals, and then use the key to try to figure out what kinds of animals they have and what time period their container represents.
6. Once all students have correctly identified their container, have the entire class try to stack the containers from oldest to youngest.
7. Next demonstrate, while encouraging inquiry from students, how combinations of erosion, faulting, and folding could mix up the sequence, and how by going back to fossil stratigraphy the confusion could be sorted out.

Discussion:

Discuss with the kids which prehistoric animals were the most and least successful and why (based on the time periods they spanned). Discuss how finding a new fossil, never before discovered, is very exciting and helpful because it helps geologists more accurately go back and re-evaluate stratigraphies constructed before the discovery was made. Discuss what kinds of skills and subjects would be good to study in school for somebody interested in a career in geology or paleontology.

Variations:

Instead of searching for and purchasing authentic small plastic dinosaurs, print, laminate, and cut out a complete set of fossils from the download file.

Extention:

- Arrange some containers (based on prehistoric animals you place in them) so that they accurately reflect more than one time period. Arrange some containers so that 2 or more containers are from the same time period. Arrange the overall selection of containers so that some time periods are not represented by any containers. These variations make more realistic and challenging stratigraphy.
- Cut the plastic dinosaurs and prehistoric animals into 2 or 3 pieces and only put 1-2 pieces in the containers. Also try adding toys not on the Key (perhaps an army man or a pokemon) and have the kids treat it as a new fossil discovery. This more accurately shows what little information paleontologists have to work with, and increases the students use of their detective skills.
- Have students research and give an oral presentation on either a particular dinosaur from their container, and/or (better yet) the time period that their container represents.

Ancient Life Field Guide: **Marine Animals**

Time Period	1	2	3	4	5	6	7	8	9	10	11
Geologic Time Period	Permian 280 -248 mya	Triassic 248-206 mya	Early Jurassic 206 -180 mya	Middle Jurassic 180 -154 mya	Late Jurassic 154-144 mya	Early Cretaceous 144 -127 mya	Middle Cretaceous 127 - 89 mya	Late Cretaceous 89 – 70 mya	End of Cretaceous 70 – 65 mya	Tertiary 65 – 1.8 mya	Quaternary 1.8 – 0 mya
Ichthyosaurs 		X	X	X	X	X	X				
Plesiosaurs 			X	X	X	X	X	X	X		
Sharks 	X	X	X	X	X	X	X	X	X	X	X
Crocodiles 		X	X	X	X	X	X	X	X	X	X
Turtles 		X	X	X	X	X	X	X	X	X	X

Ancient Life Field Guide: **Mammals**

Time Period	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Geologic Time Period	Permian 280 -248 mya	Triassic 248-206 mya	Early Jurassic 206 -180 mya	Middle Jurassic 180 -154 mya	Late Jurassic 154-144 mya	Early Cretaceous 144 -127 mya	Middle Cretaceous 127 - 89 mya	Late Cretaceous 89 – 70 mya	End of Cretaceous 70 – 65 mya	Tertiary 65 – 1.8 mya	Quaternary 1.8 – 0 mya
Coelodonta 											X
Horses 										X	X
Mammoth 										X	X
Moropus 										X	
Neanderthal 											X
Smilodon 											X

Ancient Life Field Guide: **Bipedal Carnosaurs** (2-legged, Meat-eaters)

Time Period	1	2	3	4	5	6	7	8	9	10	11
Geologic Time Period	Permian 280 -248 mya	Triassic 248-206 mya	Early Jurassic 206 -180 mya	Middle Jurassic 180 -154 mya	Late Jurassic 154-144 mya	Early Cretaceous 144 -127 mya	Middle Cretaceous 127 - 89 mya	Late Cretaceous 89 – 70 mya	End of Cretaceous 70 – 65 mya	Tertiary 65 – 1.8 mya	Quaternary 1.8 – 0 mya
Allosaurus 				X	X	X					
Dilophosaurus 			X								
Spinosaurus 							X				
Tyrannosaurus 									X		
Utahraptor 							X				

Ancient Life Field Guide: **Sauropods** (long-necked Dinosaurs)

Time Period	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Geologic Time Period	Permian 280 -248 mya	Triassic 248-206 mya	Early Jurassic 206 -180 mya	Middle Jurassic 180 -154 mya	Late Jurassic 154-144 mya	Early Cretaceous 144 -127 mya	Middle Cretaceous 127 - 89 mya	Late Cretaceous 89 – 70 mya	End of Cretaceous 70 – 65 mya	Tertiary 65 – 1.8 mya	Quaternary 1.8 – 0 mya
Massospondylus 		X	X								
Apatosaurus 					X						
Brachiosaurus 					X	X					
Diplodocus 					X						

Ancient Life Field Guide: Miscellaneous non-Dinosaurs

Time Period	1	2	3	4	5	6	7	8	9	10	11
Geologic Time Period	Permian 280 -248 mya	Triassic 248-206 mya	Early Jurassic 206 -180 mya	Middle Jurassic 180 -154 mya	Late Jurassic 154-144 mya	Early Cretaceous 144 -127 mya	Middle Cretaceous 127 - 89 mya	Late Cretaceous 89 – 70 mya	End of Cretaceous 70 – 65 mya	Tertiary 65 – 1.8 mya	Quaternary 1.8 – 0 mya
Archaeopteryx 					X						
Dimatryma 										X	
Pteranodon 								X	X		
Cynognathus 		X									
Dimetrodon 	X										

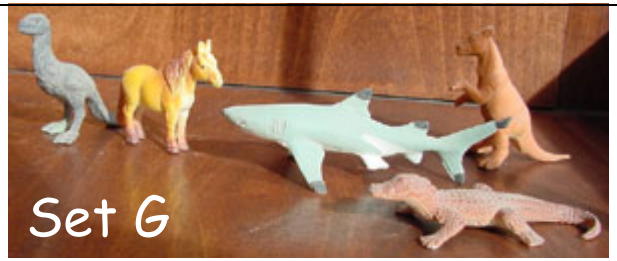
Ancient Life Field Guide: **Armored Dinosaurs**

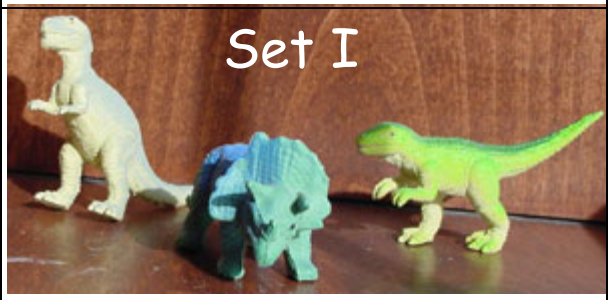
Time Period	1	2	3	4	5	6	7	8	9	10	11
Geologic Time Period	Permian 280 -248 mya	Triassic 248-206 mya	Early Jurassic 206 -180 mya	Middle Jurassic 180 -154 mya	Late Jurassic 154-144 mya	Early Cretaceous 144 -127 mya	Middle Cretaceous 127 - 89 mya	Late Cretaceous 89 – 70 mya	End of Cretaceous 70 – 65 mya	Tertiary 65 – 1.8 mya	Quaternary 1.8 – 0 mya
Styracosaurus 								X			
Protoceratops 							X				
Triceratops 									X		
Stegosaurus 				X	X						
Polacanthus 						X					
Ankylosaurus 								X	X		

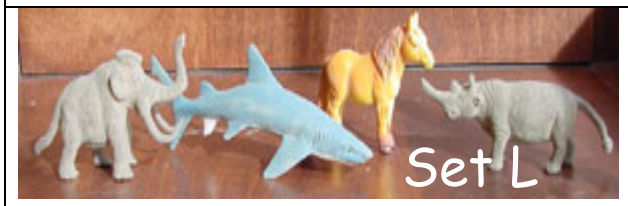
Ancient Life Field Guide: **Bipedal Herbivores** (2 legged, plant-eaters)

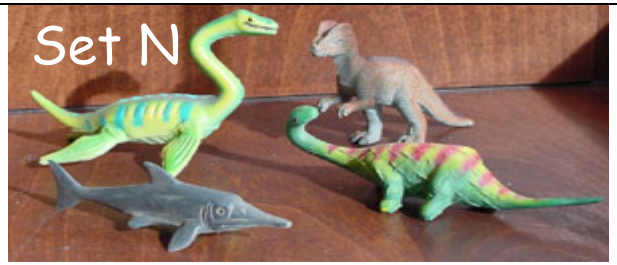
Time Period	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Geologic Time Period	Permian 280 -248 mya	Triassic 248-206 mya	Early Jurassic 206 -180 mya	Middle Jurassic 180 -154 mya	Late Jurassic 154-144 mya	Early Cretaceous 144 -127 mya	Middle Cretaceous 127 - 89 mya	Late Cretaceous 89 – 70 mya	End of Cretaceous 70 – 65 mya	Tertiary 65 – 1.8 mya	Quaternary 1.8 – 0 mya
Edmontosaurus 								X	X		
Nothronycus 							X				
Pachycephalosaurus 								X	X		
Iguanodons 					X	X	X				
Parasaurolophus 								X	X		

Fossil Assemblages Sets









Cut – Out Dinosaurs and Prehistoric Animals