Title: Classes of Vertebrates

Subject Matter Emphasis and Level: 4th Grade Science

Author: Pat Klumb

School District: Ethan 17-1

Email: pat.klumb@k12.sd.us

Brief Description of the Lesson/Unit:
The students are making a powerpoint presentation about the classes of vertebrates. Each group of students is given a class of vertebrates to research.

SD Content Standards:
4.L.1.1. Students are able to differentiate between vertebrates and invertebrates, and classify the five groups of vertebrates (mammal, reptile, amphibian, bird, and fish) based on characteristics.
Stage 1: Identify Desired Results

1. What enduring understandings are desired?
   
   I want the students to understand what key features characterize each class of vertebrates. I want them to find examples of each class and be able to identify habitats that they are comfortable living in. I want them to search for facts about animals in each class that are unusual and interesting.

2. What essential questions will guide this unit and focus teaching/learning?

3. What key knowledge and skills will students acquire as a result of this unit?
   
   The students will understand what the key features of the five classes of vertebrates are.

4. What prior learning, interests, misconceptions, and conceptual difficulties might be brought to this unit?
   
   Animals have always been and will always be an interest to children. I don’t think fourth graders realize that there are certain characteristics that place animals into certain classes. These same features or characteristics have a bearing on where they live and their habitat.

Stage 2: Determine Acceptable Evidence

1. What evidence will show that students understand?

   Performance Tasks:
   
   The students will be assigned a class of vertebrates. They will view web quests, videos, and books to collect their research. They are required to make a powerpoint presentation to teach other children about their class of vertebrates.
Other Evidence:

*Quizzes, Tests, Prompts, Work Samples (summarized):* Their major assessment will be their powerpoint presentation. I will also construct a test based on their powerpoint presentation. (Students are required to take basic notes during presentation.)

*Unprompted Evidence: (observations, dialogues, etc.)* I will observe their research, dialogue within each other, and their work as they put together their powerpoint presentation.

As the students are researching their class of vertebrates, I will work with them to make sure they have included the major characteristics of each class, examples, and unusual and interesting facts. I will redirect them to research deeper if need be. It will be highly important that the viewers of their presentations will understand the major characteristics that places an animal in a particular class.

*Student Self-Assessment* The students will be asked to write out several questions that assess their particular class and the information that they have illustrated in their powerpoint. They will ask the viewers and be ready to acknowledge if they were correct. (The questions will be in their last powerpoint.)

You will need to research the class that you have. I will provide several videos. You are required to find 2 sources from the Internet and 2 books. They may be from the school library and from other personal sources. Be prepared to include them on a slide. You will be responsible for six slides. They are as follows: (1) Title page; (2) Characteristics page; (3) Examples/Pictures; (4) Interesting and Unusual Facts page; (5) Assessment/Questions page; (6) Bibliography page.

**Stage 3: Plan Learning Experiences and Instruction**
2. **What sequence of teaching and learning experiences will equip students to develop and demonstrate the desired understandings?**

**Major Learning Activities:** Researching vertebrate classes to learn their major characteristics and examples of that particular class. Constructing a powerpoint that will clearly define the characteristics and show relevant examples. Taking notes they learned from each presentation to prepare for an assessment.

**Materials & Resources (technology & print):**
- Computers/Internet
  - [www.kidport.com](http://www.kidport.com), [www.bibliography4kids.com](http://www.bibliography4kids.com), [www.enchantedlearning.com](http://www.enchantedlearning.com)
- paper, pencils, Wonderful World of Animals; Mammals, Birds, Amphibians, Reptiles, Birds, Fish.(Beatrice MacLeod, Gar Steverns Publishing), videos, other books, websites, and any other credible types of information

**Management:**
I will monitor the productivity of students in their small groups. Students not participation will be graded accordingly on the final; project grade. Students will also be graded on outlines that they write on their reviews of the other presentations. If they are not following along their efforts will be visible in their grade. I will be giving a test constructed from information on their power points.

**Support Services and Special Teacher Notes:**
I picked the groups to encompass several ability levels. This allows me to place children who may need encouragement, help, and praise, with children who can give that to them.

**Extensions and Adaptation:**
Stage 4: Plan Differentiation

3. **What differentiated instruction strategies are being used in this lesson/unit?**

**Differentiated Process:**

The students will be in charge of the content based on their initial rubric. I hope that they will be driven to find unusual and interesting facts about animals in their particular class. Each group has a different class, so that will eliminate the chance of repetition.

**Differentiated Content:**

Students will use the Internet to access different research material. Different reading materials at different levels will be used to learn about body systems. Different videos will be presented throughout the research process. Some of the requirements are teacher led, other ideas will be original to each group of students.

**Differentiated Product:**

All of the power points will be very different. The students are allowed to design the material they want to teach. I hope to see a deep interest and a wide variety of information when they find their material for unusual and interesting facts.