

**Knowledge "Standard":**  
MST #4.1-living things are both similar to and different from each other and nonliving things

**Biology/Earth Science Curriculum**  
Observation, variation, skill in classifying, modern classification scheme

**ACADEMIC CHALLENGE**  
**High School**  
Regents Biology / Earth Science

**C-DOS Essential Skill/Disposition "Standard":**  
A. **Managing Resources** – identify, organize plan and allocate material resources to accomplish goals

**Question/Issue:**

**How do scientists classify organisms? What is a species?**

**Challenge:**

During a recent geologic expedition to the North Slope of Alaska, geologists discovered a new geological formation, the Pretembrian. As of yet, the rocks are undated, but are shocking to geologists and biologists alike for the peculiar fossils they contain. We, at the American Museum of Natural History, are enclosing one set of the 27 fossil replicas for budding biologists and paleontologists like you to help us classify each fossil and place it into its proper Kingdom, Phylum, Class, Order, Family, Genus, and Species.

Should you choose to accept this challenge, representatives from the Museum's fossil collection will arrive to see presentations of your classifications.

**Product Criteria:**

Scientific Presentation

Rule Criteria:

- β 5-7 minutes in length
- β each team member is involved in the explanation

Form Criteria:

- β Oral narration
- β Uses visuals, handouts, and demonstrations to convey message

Content Criteria:

- β Explains what the presentation will be about
- β Introduces team members
- β Explains the background information/history of the research
- β Explains the procedure that was used
- β Explains all the findings (results) of the study
- β Shows representative examples of the data
- β Explains any big implications, breakthroughs, or conclusions that come from the research
- β Explains any suggested improvements that could be made in the study
- β Explains what needs further study
- β Makes references to the work of other scientists

Physical Presence

Form Criteria:

- β Remains visible throughout the presentation
- β Speaks loudly and clearly
- β Makes eye contact with the audience (camera)
- β Dresses appropriately
- β Faces audience
- β Uses a pointer when referring to visuals

**Evidence of:**

- β **Knowledge**
- β **Skill**
- β **Disposition**

**Targeted Standard/Indicator(s):**

- Develops a plan for all groups to coordinate, share, and have equal access to the one set of fossil replicas
- Quiz on classification scheme
- Journal entry: "How many species did you have? What criterion(a) did you use to label species as distinct?"