Comparative Anatomy through Dissection

Objectives: To research an organism, dissect the organism, present findings to classmates, and complete a comparative study of different organisms.

Students will prepare a “Showcase” that contains a collection of items that will be completed by a group of students. Students are given class work time, in addition students will need to spend time working outside of class in order to complete the project. The student “Showcases” are scheduled for __________________________. By rotating through the “Showcases” students will be conducting comparative studies of the different animals.

Groups may choose the grade to work towards. All of the items in the ‘C’ category are required for each project. This is the minimum amount of work that your group will do. If you wish to attempt a ‘B’ or ‘A’ grade, additional requirements must be met for consideration of that grade. ‘C’ work will be considered average and will meet requirements; ‘B’ work is above average, while ‘A’ work should be outstanding. Use these Pointers & Reminders for suggestions, and the rubric for expectations and requirements for ‘A’, ‘B’, and ‘C’ grades.

230 points possible. Project Assessment. This is a TEST grade.

Pointers & Reminders

- This is a GROUP project. Your GROUP will receive a grade. Each team member should contribute to the overall grade. Team members will be asked to rate the overall effort of each team member. PULL YOUR WEIGHT! Use your class time to work.
- Be prepared to follow the directions and dissect your organism slowly and carefully in order to preserve the body parts and features of your organism.
- Remember that your group will be the experts on your particular organism. Educate your classmates!
  - Your classmates will only have 10 minutes to learn about your station/animal.
  - Nobody wants to read paragraphs. Get the information across in a simple manner.
- Put all information in your own words – this means do not copy and paste or type information word-for-word from a resource. And be sure to give credit for all the information you use by citing your sources!
- BYOD policy for technology will require that if your slideshow or video or tech presentation is not compatible with the school computers or software, you are responsible to provide the device on which to view it on the scheduled “Showcase” dates. The size of the device needs to be a mini-tablet or larger (device cannot be a phone).
- On the scheduled “Showcase” days
  - Groups will be given approximately 5min to set up their “Showcase” at the start of class, so have all items prepared and ready to go!
  - Students will rotate through “Showcase” stations and spend approximately 10 min. at each station to:
    - Observe all other displays and organisms
    - Identify structures in the specimens based on the items at the stations
    - Answer prepared questions
  - Groups will be given approximately 5min at the end of class to clean up their “Showcase” and put materials away.
Animal Name: ______________________________________________

Group Members:  ______________________________________________

Showcase Items:

120pts - Slide Show Presentation / Video / Tri-Fold Poster Display

- Appropriate length
  - Video and slide shows follow the length guidelines on the rubric.
  - Neatness and use of space is considered

- Complete taxonomic classification of organism (KPCOFGS)

- Natural history of organism—Choose from the following list. Write choices on grading rubric.
  - Location in world or USA where organism is found (geographic range)
  - What organism eats
  - Habitat in which organism lives
  - Interactions with other organisms
  - Physical description or characteristics
  - Cladogram showing closely related organisms—E.C.

- Organ systems
  - Describe the parts and functions of the following systems. Focus on features that are unique to your organisms. (Ex. Bird)
    - Respiratory AND Circulatory
  - Choose from these additional systems to describe parts and functions. Write choice(s) on grading rubric.
    - Digestive, Nervous, Muscular, Skeletal, Reproductive

- Graphics, pictures, or video clips that are applicable
  - Contribute to your project and better viewer understanding; add value to your project.
  - Are NOT just to meet number requirements.

- Questions to be answered by classmates
  - Classmates can answer questions using materials provided.

- Organization of project is such that others gain knowledge and understanding.

- Project has few to no errors, is neat, creative, and well organized (pleasing to the eye)

- Citations for info and pictures
  - Use source worksheet
  - Minimum of 3 sources (does not include dissection instructions)
  - Do not use Wikipedia and Google as sources
    - Google is a search engine
    - You may start at Wikipedia, and then go to the reliable site they provide a link to
35pts - Specimen picture
- Diagram from internet (C column)
  - Useful for identification of parts on dissected specimen
- Photo or hand drawing of your own (B column)
  - If using your specimen in a photograph, the ‘teacher token’ must be included in the photo. This verifies that the specimen in the picture is yours and not a picture you found. My teacher token is:
- Labeled internal and external structures on photo/drawing
  - Minimum of 10 parts
  - If using a photo of your specimen, it must be labeled using technology (structure names, leader lines, etc.)
  - Neat and professional

60pts - Dissection of specimen
- Locate directions for an educational dissection before getting your specimen. Any and all dissection instructions must be approved prior to dissection.
  - Either a video, a tutorial, or a printed dissection guide
  - Get signed and approved by teacher __________
- Perform dissection of specimen
  - Organism handled in a humane manner appropriate for dissection
  - Follow directions to complete the dissection of the specimen
  - Do not remove parts unless instructed to do so in the dissection
  - Do not discard any parts from your specimen
- Specimen properly prepared for “Showcase” days
  - Others can observe the specimen and identify specific structures
  - Three parts pinned (A,B,C) on specimen for your classmates to identify.
    - Must be from parts identified on diagram/photo
    - Answers to three pinned parts (give to teacher)

15pts - Answer Sheet & Rubric (provide to teacher)
- Group rubric has names of all team members included AND organism name.
- Rubric highlighted showing which requirements your group completed.
- Answers to questions
- Answers to 3 pinned structures (A,B,C)

Figure 1. Example of dissected specimen with labels and leader lines made using technology. Teacher token is not visible.
Figure 2. Example of dissected specimen with three pinned parts identified with the letters A, B, and C. Whale is the teacher token.
Figure 3. Example of tech manipulation. Student added letters and lines to identify different parts of their organism. Picture includes the teacher token.

Figure 4. Picture with tech manipulation from a project. External parts are labeled and functions are given. Teacher token is visible.
Figure 5. Picture with tech manipulation from a project. Internal parts are labeled and functions are given. Teacher token is visible.

Figure 6. Example of the respiratory system in a bird. You would need to explain the diagram in your presentation.
Animals

1) Common Squid – *Loligo vulgaris*
2) Common creeper clam – *Strophitus undulatus*
3) Northern leopard frog – *Rana pipiens*
4) White or yellow perch – *Perca flavescens*
5) Eastern lubber grasshopper – *Romalea microptera*
6) Louisiana crayfish – *Procambarus clarkii*
7) Ruben’s sea star – *Asterias rubens*
8) Common earthworm – *Lumbricus terrestris*
9) Pig – *Sus scrofa*

Final Questions

- Which group did the best job with their display? Why (What did you like?)
- Which group needed to spend more time on their display? Why? (What needed improvement?)
- In your group, rank the overall effort of each team member. (1-most work, 3-least work) Explain your reasoning.
- What improvement(s) needs to be made to this activity? (Now’s your chance to influence an assignment!)