Chapter 17: Digestive System Project

Brief Description:
Students will work in cooperative groups to design a theme park based on the anatomy and physiology of the digestive system. Students will prepare a portfolio of the park’s attractions and construct a model of it.

Explanation:

- Each group is a design team for Gastro World, a theme park based on the human digestive system. The proposed park will contain at least eight attractions, such as rides, games, shows, and simulations, each of which will allow participants to experience some aspect of the digestive system and/or the digestive process.

- A theme park is more than just an amusement park, although they have many elements in common. Amusement parks usually contain a collection of diverse attractions, such as games, rides, concessions, and exhibits. A theme park typically has a more elaborate scale than an amusement park does, and attractions revolve around a common theme. Ordinary amusement park attractions are often transformed to fit the theme of a theme park. For example, a common amusement park ride is a roller coaster. Most theme parks also contain roller coasters, but they are altered to fit a new theme. Roller coasters might become sea monsters, arctic polar coasters, or space voyages. Many theme parks also contain large, luxurious constructions in which participants ride through the structures and pass through lavish, often interactive, displays designed to entertain or teach.

Directions:

- Discuss theme parks that members of your group have visited, read about, or seen on television. Talk about the most memorable attractions, what made them memorable, what you learned from them, and how you might incorporate ideas from those parks into the design of Gastro World.

- Select a group leader. The leader’s responsibility is to keep the group on task and to make sure that everyone participates in a fair and equitable manner. The leader should also be aware of what everyone in the group is doing so that when the elements of the project are finally put together, nothing will be missing.

- Brainstorm aspects of the digestive system you might want to include in your attractions. A list of objectives for Chapter 17 is found on page 663 of your textbook. Of the 12 objectives listed at least 10 of them must be covered in your project.

- Talk about how each idea you have chosen could become an interesting and tasteful theme park attraction. Select the best ideas to use in the design of your park. Keep in mind that your attractions should be original, creative, and represent a variety of types.

- Decide how to divide the work. Because conflicting schedules may make it difficult for all the members of the group to get together at the same time, you might want to form subgroups to work on individual attractions outside of class. Some class time will be provided for collaboration and coordination. It is imperative that each member take an active role in this project!

- Design and create!
Components of Project:

There are 2 components of the project that must be completed and turned in.

1. Design Portfolio which must contain the following:
   - A **cover page** that has the name of the theme park, the names of the design team (alphabetical), and a picture or group of pictures of scenes in the park.
   - An **introduction** to the theme park, stating its purposes and providing a general overview of the attractions. You must also include a map of the park.
   - One or more colored drawings that illustrates **each attraction** in a clear, detailed manner.
   - A one to two page description of each attraction which should include:
     - how it is set up, how it operates, its unique features, and so on.
     - whatever aspect of digestive anatomy or physiology is featured in the attraction and how a participant can learn about it from the attraction.
     - Which of the 12 objectives (page 663 of the textbook) and how does the attraction address?

*The portfolio must be submitted in a binder where pages can be flipped easily. No plain pocket folders will be accepted. Pages must be clipped in. **DO NOT use plastic page sleeves!!!**

2. Scale model of the entire theme park. The following specifications are to be followed:
   - **The overall model cannot exceed 2 feet by 4 feet.**
   - The model should be large enough to show all the attractions as well as entrances, landscaping, walkways and lanes, parking areas, and so on.
   - Construct all items to approximately the same scale.
   - Make individual attractions large enough so that their structures can be clearly seen.
   - Include aspects of theme parks besides the attractions – such as trees, benches, pools, fountains, signs, information directories, and ticket and concession booths.
   - If an attraction is inside a structure, the model of the structure should be partially cut away so that the interior can be seen.
   - Use any materials that will make the entire display solid and sturdy enough to be moved around without falling apart. Examples of possible construction materials include Styrofoam, balsa wood, poster board, plastic, metal, glue, popsicle sticks, straws, foil, beads, craft supplies, paint, clay, and plaster of paris.
   - **Commercial products, such as toys, may NOT be used as park attractions.** For example, you may not use a toy roller coaster as a roller coaster in your model. You may use such commercial items as Lego blocks, Tinker Toys, and so on as building materials.
   - The park should be attractive and have interesting and appealing colors, textures, compositions, and shapes.

Assessment:

- A rubric will be used to grade both components of the project. This rubric will be posted on my school web site.
- Periodic checks will be done to determine progress. The dates and expected progress will be announced. I will also post this schedule on my website.
- Projects will be also judged for the one **2012 Best Theme Park** award. This award is based on votes from a panel of judges of various faculty and staff. (Since I assist throughout the project and grade each individual project, I do not vote)