Parts of a cell Day 1

* TEAK
  + (11)  The student defines how an organism grows and how specialized cells, tissues, and organs develop. The student is expected to:
    - (A)  compare cells from different parts of animals, including epithelia, muscles, and bones, to show specialization of structure and function;
* Objectives
  + Identify structures within a cell
  + Define structures within a cell
  + Discuss the purpose of each structure within a cell
* Materials
  + Sugar Cookies
  + Icing
  + Food coloring
  + Any candies that could be used to represent structures in a cell
* Methods
  + Q & A
    - What do the students know about cells?
  + Lecture
    - PPT
  + Activity
    - Construct a cell on a sugar cookie
  + Review Game
    - Hollywood Squares PPT

Epithelia Cells Day 2

* TEAK
  + (11)  The student defines how an organism grows and how specialized cells, tissues, and organs develop. The student is expected to:
    - (A)  compare cells from different parts of animals, including epithelia, muscles, and bones, to show specialization of structure and function;
* Objectives
  + Define epithelia cells
  + Identify the location of epithelia cells
  + Classify each type of epithelia cells
* Materials
  + PPT
  + Crossword Puzzle Handout
* Methods
  + Discussion
    - What do the student know about epithelia cells
  + Lecture
    - PPT
  + Handout
    - Crossword Puzzle
  + Q & A
    - Review Epithelia Cells

**Lesson Plan Day 3**

**Russell Kujawa**

**TEKS:** 11(A)

**Objectives:** Describe the muscular system.

Describe the different types of muscles.

**Bell Work: (Interest Approach)** – Have a transparency with a question that asks the students to describe the functions of the muscular system. (Contraction, Movement, Maintain posture, Stabilization of joints, generation of heat). Then spend a few minutes talking about each one of these functions.

**Method 1: (Research)** – Have the students do research to find information on all three types of muscle. ( Skeletal, Smooth, and Cardiac).

**Method 2: (Groupwork)** – Next, have students form into three different groups. Each group will be assigned either skeletal, smooth, or cardiac. With the information that they have just researched, the students will collaborate together and get the information that they think is the most important and write it down.

**Method 3: (Student Presentations)** – Have each group come up and discuss the information they found. While they are presenting their information, the other students will be writing down the information onto their sheets.

**Closure:** Review the objectives of the day and briefly restate all of the information that the students presented.

**Lesson Plan Day 4**

**Russell Kujawa**

**TEKS:** 11(A)

**Objectives:** Describe how bones form.

Compare different types of bones.

**Interest Approach: (Realia)** – Have different types of bones laid out on a table in the front of the classroom. Have students discuss what types of bones these are and what they are used for.

**Method 1: (Lecture)** – Use the power point to show students how bones are formed and also the different types of bones. While we are going through the power points, have students take notes of the lecture.

**Method 2: (Note Cards)** – Give the students the correct amount of note cards and have the students define all of the terminology off of the power point slides. If students do not finish in the allotted amount of time, have them finish it as homework and bring it in the next day so you can check it.

**Method 3: (Questions All-Write)** – Ask the students question from the power point and have all the students write down the answers. Pick these up and you can use them to check to see if they comprehended the information presented.

**Closure:** Restate the objectives of the day and briefly go through the information that was covered.

**Lesson Plan Day 5**

**Russell Kujawa**

**TEKS:** 11(A)

**Objectives:** Describe the cells of muscles.

Describe the cells of bones.

Describe the cells of epithelia’s.

**Lab Day**

**Interest Approach:** Have students give a brief description of prior lessons involving epithelial, muscles, and bones.

**Method 1:** Have microscopes set up with slides of different types of muscle cells. Have the students look through the microscopes and draw what they see.

**Method 2:** Next, change the microscope slides for slides of bone cells. Have the students look through the microscopes and draw what they see.

**Method 3**: Next, change the microscope slides for slides of epithelial cells. Have the students look through the microscopes and draw what they see.

**Closure:** Restate the objectives of the lesson and briefly describe what each of these different cells look like.

Sex Determination Day 6 & 7

* TEAK
  + (11)  The student defines how an organism grows and how specialized cells, tissues, and organs develop. The student is expected to:
    - (B)  describe and explain cell differentiation in the development of organisms; and
* Objectives
  + Define Sexual Differentiation
  + Identify the process of sexual differentiation
* Materials
  + PPT
* Methods (day 1 of 2)
  + Individual Work
    - KWL Chart
  + Lecture
    - PPT
  + Research
    - Students begin research on Sexual Differentiation Process
  + Q & A
    - Prior to leaving class students discuss and ask each other what they have learned about the sexual differentiation process
* Methods (day 2 of 2)
  + Research (X2)
    - Students continue research on sexual differentiation process
  + Students Present
    - Based upon what the students have found so far within their research
  + Handout
    - Students finish the KWL Cart

**Lesson Plan Day 8**

**Russell Kujawa**

**TEKS:** 11(C)

**Objectives:** Identify the levels of organization in the biosphere including cells, tissues, organs, and organ systems, as well as organisms, populations, communities, and ecosystems.

**Interest Approach:** **(Video)** - Show the students a video dealing with the different levels of organization to get students on the right path to what they will be learning today.

**Method 1: (Lecture)** – Show the power point for the different levels of organization and explain to the students how they relate to each other. While going through the power point, have the students take notes.

**Method 2: (Discussion)** – After the lecture, students will grasp the idea of ecosystems. Have the students discuss the types of animals in our local ecosystem and how they relate to each other. Once the animals have been discussed, let the students discuss the different organ systems of these animals.

**Method 3: (Question All-Write)** – At the end of the power point, have all of the students answer the question on their own piece of paper. You can use this the check and see if the students have mastered the objectives.

**Closure:** Restate the objectives of the day and briefly describe the levels of organization.

**Lesson Plan Day 9**

**Russell Kujawa**

**TEKS:** 11(C)

**Objectives:** Describe the levels of organization for animals in an ecosystem.

**Interest Approach:** Have students discuss prior knowledge from the lesson before about the different levels of organization and how they relate to each other.

**Method 1: (Projects)** – Have students use the information discussed in the previous lesson to build their own ecosystems with animals that would be used in production agriculture. The students will describe the environment, the types of production animals present, and also the organ systems of each animal they have in their ecosystem.

**Method 2: (Presentations)** – Have each student present their ecosystems to the rest of the class and describe in detail the levels of organization they used and why they picked certain items to be in their ecosystem.

**Closure:** Restate the objectives of the lesson and briefly describe the levels of organization of animals used in the students projects.

Lab Day 10

* TEAK
  + (11)  The student defines how an organism grows and how specialized cells, tissues, and organs develop. The student is expected to:
    - (B)  describe and explain cell differentiation in the development of organisms; and
* Objectives
  + Identify the parts
  + Identify sperm and egg cells
* Materials
  + Microscope
  + Lab, and all materials necessary
* Methods
  + Discussion
    - Discussion prior to beginning lab about the procedures that will be taken to complete lab
  + Lab (X2)
    - Students will look at sperm and egg cells under the microscope, students will also attempt to fertilize an egg with a sperm
  + Discussion
    - Discussion about what students learned in lab and review the process and procedure taken during lab

Review Day 11

* TEAK
  + (11)  The student defines how an organism grows and how specialized cells, tissues, and organs develop. The student is expected to:
    - (A)  compare cells from different parts of animals, including epithelia, muscles, and bones, to show specialization of structure and function;
    - (B)  describe and explain cell differentiation in the development of organisms; and
    - (C)  sequence the levels of organization in animals and relate the parts to each other and to the whole.
* Objectives
  + - Identify the structures within a cell
    - Define structures within a cell
    - Discuss the purpose of each structure within a cell
    - Define Epithelia Cells
    - Identify the location of epithelia cells
    - Classify each type of epithelia cells
    - Define sexual differentiation
    - Identify the process of sexual differentiation
    - Describe the muscular system.
    - Describe the different types of muscles.
    - Describe how bones form.
    - Compare different types of bones.
    - Describe the cells of muscles.
    - Describe the cells of bones.
    - Describe the cells of epithelia’s.
    - Identify the levels of organization in the biosphere including cells, tissues, organs, and organ systems, as well as organisms, populations, communities, and ecosystems.
    - Describe the levels of organization for animals in an ecosystem
* Methods
  + Use previous review techniques to review students to prepare them for the test
    - Hollywood squares
    - Q&A
    - Discussion
    - Q – All Write Review

**Lesson Plan Day 12**

**Russell Kujawa**

**TEKS:** 11(A)(B)(C), 15(B)

* **Objectives:**
  + - Identify the structures within a cell
    - Define structures within a cell
    - Discuss the purpose of each structure within a cell
    - Define Epithelia Cells
    - Identify the location of epithelia cells
    - Classify each type of epithelia cells
    - Define sexual differentiation
    - Identify the process of sexual differentiation
    - Describe the muscular system.
    - Describe the different types of muscles.
    - Describe how bones form.
    - Compare different types of bones.
    - Describe the cells of muscles.
    - Describe the cells of bones.
    - Describe the cells of epithelia’s.
    - Identify the levels of organization in the biosphere including cells, tissues, organs, and organ systems, as well as organisms, populations, communities, and ecosystems.
    - Describe the levels of organization for animals in an ecosystem.

**Introduction:** Have a brief review of all the objects for this unit.

**Test:** Students will have the class period to take the test for this unit.

**Recordbooks:** If students finish their test before the class period ends, students can work on their recordbooks and update their activities