**ACTIVITIES FOR THIS WEEK #1**

**Overview**

The living organisms are with complex organization. The levels of organization of living organisms include the chemical level, the cellular level, the tissue level, the organ system level, and the organism. The concepts are similar to the chain of command of Grassy Farmlands Nuclear Bunkers Rice Complexes and Universities. The chain of command starts at the Brigade Level, the Regiment Level, the Battalion Level, the Company Level, the Platoon Level, the Squad Level, and the Binary Level. In Evolutionary Medicine, it states that not all organisms are the same. Let me explain, because life is so diverse, it cannot be defined in only one way. There are modifications that allowed the organisms to survive their environment (Professor Deauna).

Biology – study of life

Zoology – study of animals

Botany – study of plants

Ana/tomy: Ana—up / tome—cutting = study of structures   
 (historically, anatomists had to cut open organisms to study them and their structures)

Physio/logy: Physio—function / logy—study of = study of functions

Pathology: Patho—disease / logy—study of = study of diseases

**These are the following activities for this week.**

**I. Discussion Forum Activities**

**Discussion Forum Activity –** Answer the Discussion Forum questions for the week by posting to your binary. Introduce yourself by stating your name, and why you chose to take this course. The next question is Military Checkpoint (MC) #1: What are the levels of Evolutionary Medicine Organization for organisms. These two questions are for Part 1 of your Discussion Forum. Post your answers accordingly. For Part 2, the question is Military Checkpoint #2: “What is emergent property?” Discuss with your binary.

**II. CONNECTING THE CONCEPTS and Binary Project Paper**

**CONNECTING THE CONCEPTS**

The CONNECTING THE CONCEPTS exercises identify the need to integrate the concepts through the course. You will recognize that learning the concepts is not based upon memorization. Instead, learning the concepts is based on connecting and linking the concepts even if it seems to be of different topics. Let me explain, the CONNECTING THE CONCEPTS exercises act as the threads that unite the concepts throughout the course. You will be using the CONNECTING THE CONCEPTS exercises when you build your Binary Project Paper.

Example: **Evolution**, according to many, is the core concept of biology. It explains how different organisms, like the ants and the birds, develop adaptations to the changing environments.

Your answer can be “Evolution is a concept in Evolutionary Medicine.” This is a correct sentence.

The other concepts for this week are the following. Use each concept in a sentence. Together with Evolution (1), Natural Selection (2), Cell (3), Atom (4), and Scientific Method (5).

**1. Evolution**

**2. Natural Selection**

**3. Cell**

**4. Atom**

**5. Scientific Method**

Post your responses by sending your sentences to your binary.

**Binary Project Paper –** Plan your work and create your paper with regards to describing the evolutionary process of photosynthesis, describing how electron flows evolved in the light reactions, describing how plant evolved to fix carbon dioxide, explaining the importance of the evolutionary process that evolved in the Calvin cycle, and explaining Photosynthesis and Food Production for all. The binaries are assigned according to the colors of the rainbow. The colors of the rainbow are Red, Orange, Yellow, Green, Blue, Indigo, and Violet. (ROY-G-BIV). Because a Squad is composed of 10 Global Farmer-Engineers, the colors are Red, Orange, Yellow, Green, and Blue.

**III. Sample Laboratory Exercises and Evolutionary Video Exercises**

For this week, a sample of a laboratory exercise is shown below. The Laboratory Exercise is on Laboratory Safety. However, I have designed a summary of these Hazards and Controls. Hazards are dangers, with the four types of hazards being: physical, chemical, biological, and ergonomics. The hazards will be discussed on the Week of 9/5.

For controls, there are three types. They are engineering control (Control “at” the Source), administrative control (Control by “Rules”), and the use of Personal Protective Equipment (PPE – use of masks and respirators). The controls will be discussed in detail on the Week of 9/12.

Examples of Hazards

Physical – fire, broken glass

Chemical – acid, base

Biological – bacteria, viruses, including the Monkeypox virus

Ergonomics – falling, wrong position such as positioning that will lead to carpal tunnel syndrome

For controls, I will just use physical hazard (for fire).

Engineering Control – you can control fire by a fire blanket or by the shower.

Administrative Control – Do not use the elevator in case of fire. Use the stairs instead.

PPE (Personal Protective Equipment) – Firemen will come with their masks, with their helmets, and with their boots.

For this week, a sample of the Laboratory Exercise format is shown below.

**Your Laboratory report should have this format.**

Sample Laboratory Exercise

Objective

I will be able to identify a biological hazard and I will list the possible controls needed.

Materials

Professor Deauna’s lectures, Open Educational Resources, Online materials, and your choice of textbook

Procedures

1. I will identify a particular biological hazard— Monkeypox virus

2. I will do my research.

3. I will record the virus in my results.

4. I will record the different controls.

5. I will write my conclusion.

Results:

**Biological Hazard**

Monkeypox virus

Controls (**These controls are my Original**)

Use my “DOUBLE” Engineering Control.The Evolutionary Medicine CONCEPT is **“**Compartmentalization**”.** I will explain the Concept of Compartmentalization on the Week of 10/17.

Engineering control – Staying at home, building “Special Room”, and maintaining ventilation.

Administrative control – You have to wash your hands for 26 seconds (soap time), you have to avoid touching your face, avoid scratching lesions if there are some, and avoid rubbing your eyes.

PPE – Wear a mask properly that is **fit tested**, use face shield, gloves, wear long sleeves, and long pants.

Discuss your result and conclusion with your binary.

**Evolutionary Medicine A&B Video Exercise**

Watch Evolutionary Medicine A Video Exercise on Endosymbiosis and Evolutionary Medicine B Video Exercise on Biodiversity. Summarize each video in five sentences**,** work with your binary.

**Open Questions:** E-mail your questions at [numbers115@aol.com](mailto:numbers115@aol.com).

Do your best!