# WEB 5th/6th Biology

COURSE SYLLABUS

2015-2016

Instructor: Jennifer Gentry PhD

## INSTRUCTIONAL GOALS

This course is designed to give students a broad overview of the science of Biology. The course will begin with studying life on a very small scale, and slowly zoom out to bigger and more complex forms of life and systems of living things. At the end of the year students should have a general knowledge of the main disciplines within the field of biology. Most importantly my goal is that each student will learn something during the course of the semester that ignites their curiosity and spurs them onto to further scientific studies.

### MATERIALS

### Materials Provided

* Biology folder (to keep handouts)
* Index cards and card box (for vocabulary cards)
* Biology notebook (for taking notes on reading and in class)

### To successfully complete this course, you will need

* Computer and Internet access

##### Online Resources

* www.ck-12.org

### COURSE STRUCTURE

**Labs:**

Periodic labs will be used to demonstrate the material that the students are learning about. Much of the lab work will utilize everyday items to demonstrate fundamental principles of Biology, which allows students to understand that the exploration of biology is not limited to a traditional laboratory. Whenever financially possible, we will incorporate professional laboratory equipment and experiences, so that students also become comfortable in the traditional laboratory environment. Some labs will be completed in a single class while others will require multiple class sessions.

**Course Material:**

The primary reading material for the course is the online textbook “CK-12 Life Science for Middle School”. Other reading material as well as assignments will be posted at the WEB 5th/6th group of CK-12 so all students should be registered as students there and be signed up for the group (see handout with instructions for signing up)

**Homework:**

Weekly homework will be assigned. Homework is expected to take about 3 hours/week. In the 5th/6th classes, we expect that student will need a high degree of parental involvement in completing assignments initially, and we will work toward increasing their independence as they gain confidence through practice. Assignments will include weekly reading, frequent writing assignments, and evaluation of periodic lab activities.

**Vocabulary Cards:**

We will utilize vocabulary cards throughout the year to help the students master the language of Biology. A detailed description of the vocabulary card assignments is in each student’s the CK-12 online group library. Vocabulary cards will be graded based on the Focus Areas of Correction. Graded cards will be handed back to students for revisions until the cards display an accurate definition of each word and demonstrate the ability to use the word appropriately in well-constructed sentence.

**Other Writing Assignments:**

While the vocabulary cards will be the primary writing assignment, other writing assignments will be assigned periodically throughout the year. These writing assignments can be difficult for students and may require more assistance from parents. *According to college admission officers, one area that homeschoolers consistently lag behind their traditionally schooled peers is in their ability to communicate clearly through writing*. Because WEB is designed to be a bridge between homeschooling and traditional high school or college, we feel it’s critical for students to develop their writing skills not just in literature, but in science as well.

**Field Trips:**

2 optional field trips are planned during the school year. The first is a trip to Gray’s Fossil Museum on Saturday, 10/24. In the spring semester, we will take a trip to either to a Vanderbilt biology laboratory, or to Shelby Bottoms Nature Center.

#### POLICIES AND PROCEDURES

**General Rules:**

It is our highest priority to provide a safe environment for kids to explore the science of Biology. To provide physical safely to the students laboratory rules will be discussed at the first class. A copy of these rules will be included in the student’s biology folder. Students will be expected to know and follow all lab rules. To provide an emotionally safe environment for the students, we expect all members of the class to treat one another respectfully, understanding that we are all individuals with different interests and strengths.

**Grading Policies:**

Attendance and grades will be recorded, but we do not want grades to be a primary focus of the class. Parents will be notified if assignments are not completed or if a student’s grades are consistently below average. Parents and students are always welcome to contact the instructor for updates on the progress of a student’s development.

#### CONTACT INFORMATION

Parents and students are encouraged to contact the instructor directly with questions. E-mail is the preferred method of communication outside of class. If we feel the question can be addressed simply, we will respond via phone or e-mail. For more complex topics we will schedule a time to meet with the student individually.

Jennifer Gentry

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#### Tentative Schedule (updated 10/2)

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| **Week** | **Date** | **Primary Topic** |
|   | 8/12 | Parent Meeting |
| 1 | 8/19 | First Day of Class: No required reading |
| 2 | 8/26 | Studying Life |
| 3 | 9/2 | What is a Living Organism |
| 4 | 9/9 | Cells and Their Structures |
| 5 | 9/16 |
| 6 | 9/23 | Cell Function |
| 7 | 9/30 |
|   | 10/7 | FALL BREAK |
| 8 | 10/14 | Cell Division, Reproduction & Protein Synthesis \*\*Field Trip to Gray’s Fossil Museum on 10/24\*\* |
| 9 | 10/21 |
| 10 | 10/28 | Genetics |
| 11 | 11/4 | Evolution |
| 12 | 11/11 | Prokaryotes |
| 13 | 11/18 | Protista & Fungi |
|   | 11/25 | Thanksgiving Break |
| 14 | 12/2 | Plants |
|   | 12/3-1/5 | Winter Break |
| 15 | 1/6 | Intro to Animals; Invertebrates |
| 16 | 1/13 | Fishes, Amphibians, and Reptiles |
| 17 | 1/20 | Birds and Mammals |
| 18 | 1/27 | Animal Behavior |
| 19 | 2/3 | Skin, Bones and Muscles |
| 20 | 2/10 | Food and the Digestive System |
| 21 | 2/17 | Cardiovascular System |
| 22 | 2/24 |
| 23 | 3/2 | Respiratory and Excretory Systems |
| 24 | 3/9 | Controlling the Body |
|  25 | 3/16 | Diseases and the Body’s Defenses, Reproductive System & Life Stages |
|  | 3/23 | Spring Break |
| 26 | 3/30 | Introduction to Ecology |
| 27 | 4/6 |
| 28 | 4/13 | Ecosystem Dynamics |
| 29 | 4/20 | Environmental Problems |
| 30 | 4/27 | Review for End of Year Jeopardy |