



## BIOLOGY SCIENCE SYLLABUS

Mrs. Bradshaw

2017-2018

[mbradshaw@tcjackets.net](mailto:mbradshaw@tcjackets.net)

229.225.5050 ext. 150

**Course Description:** The objective of this course is to develop an understanding of biological concepts using the scientific process. All major concepts of biology including cells, growth, reproduction, heredity, evolution, genetics, genetic engineering, bioenergetics, classification, ecology, and current topics in life sciences are studied as they apply to organisms such as plants and animals. Explorations and application of key concepts will be conducted through lab experiments and various learning strategies including self-questioning and visual learning approaches. A rigorous curriculum includes application of higher level thinking skills and writing proficiency related to Molecular Genetics, Cellular Energetics, and Biodiversity in addition to content prescribed by the GPS.

**Text:** Holt Biology (replacement cost \$33)

*Immortal life of Henrietta Lacks* by Rebecca Skloot(replacement cost \$18)

**(Students are responsible for books that they check out. They will be given an Indebtedness notice if not returned by the end of the year which will need to be cleared to be able to march in graduation ceremony.)**

**Supplies:** pen/pencil; (2) 1 subject spiral notebook with front pocket; calculator; composition notebook for science fair projects; personal glue stick and markers

**I will be using a variety of media to present the information—textbooks, videos, speakers, demonstrations, labs, and anything else that I might discover that might increase your learning and enjoyment level. I am a firm believer that if you are having a good time in class, you will learn far more than if you were...say...asleep or absent.**

### **Biology Standards**

- SB1. Obtain, evaluate, and communicate information to analyze the nature of the relationships between structures and functions in living cells
- SB2. Obtain, evaluate, and communicate information to analyze how genetic information is expressed in cells.
- SB3. Obtain, evaluate, and communicate information to analyze how biological traits are passed on to successive generations.
- SB4. Obtain, evaluate, and communicate information to illustrate the organization of interacting systems within single-celled and multi-celled organisms.
- SB5. Obtain, evaluate, and communicate information to assess the interdependence of all organisms on one another and their environment
- SB6. Obtain, evaluate, and communicate information to assess the theory of evolution.

**Evaluation:** Each student will be graded according to his or her ability to execute the objectives of course components. The components of this course will be weighted in the following manner as determined by TCCHS science department

**Tests** 35%

**Labs and Activities** 30%

**Daily Work and Quizzes** 25%

**Benchmarks** 10%

### **Standardized Testing:**

Milestone-this is a comprehensive exam that measures student achievement in the area of Biology. It is based on the Georgia Standards of Excellence (GSE). The Milestone will comprise 20 % of the student's' final grade.

## Course Outline

Nine Weeks	Standards	Unit Topics
First Nine Weeks	<b>Intro to Biology:</b> Living organisms and virus (SB4c) and Evolution of virus (SB4c) <b>Cells:</b> Macromolecules (SB1c) and Enzymes (SB1c); ProKaryotes and Eukaryotes and Cell structures and organelles (SB1a); -Cell Membrane and Cell Transport (SB1a,SB1d)	
Second Nine Weeks	<b>Cells:</b> Cellular Energy (SB1e); Cancer/Cellular Reproduction (SB1b) {mitosis,binary fission} <b>Genetic information in cells:</b> DNA/RNA structure (SB2a); DNA replication (SB2a); Synthesising of proteins (SB2a); Gene Mutations (SB2b); Karyotypes/Biotechnology (SB2c) <i>embedded in 2nd and 3rd nine weeks</i>	
Third Nine Weeks	<b>Genetics:</b> Sexual Reproduction variability (SB3a), (SB3c) {mitosis vs meiosis}; Mendel's Laws (SB3 a,b); Dihybrid Crosses (SB3b); Non-mendelian genetics (SBb); Karyotypes/Biotechnology (SB2c); Chromosomal Mutations (SB2b)  <b>Evolution;</b> Genetic Drift (SB6d), Speciation (SB6b); Natural Selection and adaptations (SB5e); Evolution (SB6d, SB6a); Evidence (SB6c); Biological Resistance (SB6e)	
Fourth Nine Weeks	<b>Organization:</b> -classification (SB4a); speciation (SB4b)  <b>Ecology:</b> patterns populations biodiversity (SB5a); energy flow (SB5b); {photosynthesis and respirations (SB1e)}; ecosystem stability (SB5c); human impact (SB5d); adaptations (SB5e)	

### Grading Policy-

Each nine weeks will have a final grade that will be averaged at the end of the year for the final grade. Biology has an Milestone test at the end of the year and will count 20% of the final grade.

The due date for assignments will be the deadline for turning in the assignment. If you are absent on the due date, the assignment will be due the first day you return to class. 10 points will be deducted for each day the assignment is late.

### Reading in the Content Area-

As part of our content standards, all students will be required to read content related material to enhance the curriculum. Reading requirements include current science article and *Immortal life of Henrietta Lacks* by Rebecca Skloot. This will be assigned during the 3<sup>rd</sup> nine weeks grading period. An outside project and reading assignment will be required.

**Class Expectations:** They are pretty simple. All school policies apply as well.

- Respect Everyone.** When someone is talking, don't talk. If you have something to say, please raise your hand. No cursing or profanity. You must respect everyone's right to learn and CAN NOT interfere with that process. Respect other's things (if it is not yours don't touch it). #BENICE
- Do your best work and be responsible.** Turn it in on time! If you ever feel that something is not your best see me and we can find an alternative assignment. #QUITCHEATING #WORK HARD
- Bring all materials to class.** Be prepared to learn when the bell rings. The warm up will begin with the bell. Tardies are a big deal! I will dismiss you at the end of the period. Use the restroom before class. #NOTARDIES #NOFREEDAYS
- Listen to rules and follow them.** This is important on lab days. #LABDAYSRULE #BESAFE
- Keep in touch.** If you don't understand something, ask. #IDONTBITE
- Food and cell phones are not permitted.** Please do not bring food into the classroom – safety reasons and insects. #NOTYOURMOM #ONLYWITHPERMISSION #NOTEXTING #NOPICS

#### If you choose to break a rule:

1<sup>st</sup> time is a warning (Student/Teacher conference)  
 2<sup>nd</sup> time is Parent Contact and detention  
 3<sup>rd</sup> time is referral

#### Rewards for good behavior

Praise!  
 Positive Notes or emails Home  
 Candy or Sweet treats!

**Make up work**-It is important that you are here as much as possible. Make up work is a pain to make up. It can be done by appointment BEFORE OR AFTER SCHOOL

**Teacher Web site:** Information about test dates, projects, PowerPoints, etc. will be available for you to check throughout the year. To access web site – [www.thomas.k12.ga.us](http://www.thomas.k12.ga.us) -> schools -> TCCHS -> TCCHS web page -> click teacher.

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Please sign below indicate you and your parents have read the above information. Please keep this in your folder.

**Teacher:** I will be fair and consistent in administering the discipline plan and grades for my students.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Student:** I have read the classroom discipline plan and syllabus, and I understand it fully. I will honor it and will support it while in the classroom.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Parent:** My child has discussed the classroom discipline plan and syllabus with me. I understand and support it. **I also understand that a long term project (science fair or exploravision) is required and have received the outline.**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_