**Course Syllabus**

**Course Title:** HonorsBiology I

**Teacher:** Mr. Evancho, Room 444

**Book:**  Pearson Prentice Hall, “Biology”

 Authors: Miller and Levine

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**Grading:**

-Tests and exams: 25%

-Quizzes, Labs, Projects: 25%

-Homework and Class work: 25%

-Participation and Attendance: 25%

**Course Overview:**

In freshman biology we will cover the basic ideas and theories that allow for a further investigation into the living world during Biology B. Science, math and literary skills will be strengthened through activities such as guided readings, virtual labs, writing exercises, PowerPoint presentations, and content specific videos. Since Biology A is the first high school science course in sequence, basic scientific skills such as measurement, lab / safety procedures, and organizational skills will be practiced. Our goal in biology is to allow the student to understand the natural world around us.

 Being part of Honors Biology A requires a stronger work ethic and a higher understanding of the topics to be covered. Homework, activities, and tests will be more thorough and there will be a focus on understanding and solving real world science problems in both individual and group settings. Lab activities will be more in depth and completion of a formal laboratory report is required. Honors biology is a challenge, however completion of these activities will be a rewarding experience for both the students and their teacher.

**Big Ideas**

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| **Topics** | **Anchors** |
| The nature of science- creating hypothesis, experiments, and analyzing data. Students will either carry out laboratory exercises or use scenarios to develop scientific skills for promotion of critical thinking processes.  | S11.A.1.1.1S11.A.1.1.2S11.A.1.1.3S11.A.1.1.4S11.A.1.1.5 |
| The nature of matter- basic chemistry topics | S11.C.1.1.1S11.C.1.1.2S11.C.1.1.3S11.C.1.1.4S11.C.1.1.5S11.C.1.1.6 |
| Human impact on our world- to include analyzing societal issues. | S11.A.1.2.1S11.A.1.2.2 |
| Technology- knowledge of current technology used in science. | S11.A.2.1.1S11.A.2.1.2S11.A.2.1.3S11.A.2.1.4S11.A.2.1.5S11.A.2.2.1S11.A.2.2.2 |
| Careers in science  | S11.A.1.1 |
| Cell structures related to function. | S11.B.1.1.1S11.B.1.1.2S11.B.1.1.3 |
| Photosynthesis and cellular respiration | S11.B.1.1.3 |
| Cell growth, division, and regulation (mitosis and mitosis regulation) | S11.B.1.1.1S11.B.1.1.3S11.B.2.2.2 |
| Topics in genetics- classic Mendelian genetics, probability and Punnett Squares, Meiosis, Linkage/gene maps, genetic engineering, and the human genome. | S11.B.2.2.1S11.B.2.2.2S11.B.2.2.3S11.A.1.1.4S11.A.1.2.1S11.A.1.2.2 |
| DNA, RNA replication and protein synthesis.  | S11.B.2.2.1 |
| Darwin’s theory of evolution. | S11.B.2.1.1S.11.B.2.1.2S11.B.2.1.3S11.B.2.1.4 |
| Evolution of populations. | S11.B.2.1.1S.11.B.2.1.2S11.B.2.1.3S11.B.2.1.4 |
| Energy Transfer and conservation | S11.C.2.1.1S11.C.2.1.2S11.C.2.1.3S11.C.2.1.4 |
| Motion and force | S11.C.3.1.1S11.C.3.1.2S11.C.3.1.3S11.C.3.1.4S.11.C.3.1.5S11.C.3.1.6 |
| Motion and force principles solve real world problems | S11.C.3.1.1S11.C.3.1.2S11.C.3.1.3S11.C.3.1.4S11.C.3.1.5S11.C.3.1.6 |
| PSSA study sessions will be held weekly throughout the course. Physical science topics will be reviewed to prepare the student for the PSSA test in 11th grade. |  |

**All biology courses will follow the Hazleton Area School District’s Science Curriculum for Biology A. The curriculum has been aligned with the state standards and assessment anchors.**