Honors Biology
Summer Assignment

All students registering for Honors Biology at any Norwalk Public School are REQUIRED to complete the assignment and take the assessments.

PART I:

You will be expected to complete a TEST within the first week of school which will evaluate the objectives below. As prospective honor students, you should be able to search out primary resources that would help you in your task. Some websites to help get your started are below:

http://www.chem4kids.com/

http://www.biology.arizona.edu/biochemistry/tutorials/chemistry/main.html

http://www.sciencespot.net/Pages/kdzchem.html

Core Scientific Inquiry, Literacy and Numeracy *How is scientific knowledge created and communicated?*	
Content Standards	**Expected Performances**
SCIENTIFIC LITERACY ♦ Scientific literacy includes the ability to read, write, discuss and present coherent ideas about science. ♦ Scientific literacy also includes the ability to search for and assess the relevance and credibility of scientific information found in various print and electronic media. **SCIENTIFIC NUMERACY** ♦ Scientific numeracy includes the ability to use mathematical operations and procedures to calculate, analyze and present scientific data and ideas.	• Identify questions that can be answered through scientific investigation (use of scientific method). • Identify independent and dependent variables, including those that are kept constant and those used as controls. • Use mathematical operations to analyze and interpret data, and present relationships between variables in appropriate forms.

Core Themes, Content Standards and Expected Performances **Strand II: Chemical Structures and Properties**	
Content Standards	**Expected Performances**
Properties of Matter – How does the structure of matter affect the properties and uses of materials? **Atoms react with one another to form new molecules.** ♦ Atoms have a positively charged nucleus surrounded by negatively charged electrons. ♦ The configuration of atoms and molecules determines the properties of the materials.	• Describe the general structure of the atom, and explain how the properties of the first 20 elements in the Periodic Table are related to their atomic structures. • Describe and explain Neils Bohr's model of the atom. • Describe how atoms combine to form new substances by transferring electrons (ionic bonding) or sharing electrons (covalent bonding). • Explain the chemical composition of acids and bases, and explain the change of pH in neutralization reactions.
Properties of Matter – How does the structure of matter affect the properties and uses of materials? **Due to its unique chemical structure, carbon forms many organic and inorganic compounds.** ♦ Carbon atoms can bond to one another in chains, rings and branching networks to form a variety of structures, including fossil fuels, synthetic polymers and the large molecules of life.	• Explain how the structure of the carbon atom affects the type of bonds it forms in organic and inorganic molecules.

Part II:

You must read any one of the following books. You will be expected to write a synopsis at the beginning of the school year in class. Some of you intend to be future scientists, and the book selections will give you an idea of the planning, conflicts, and work involved in some areas of science. Some of the books are recent publications and all should make you think careers in the biological sciences.

- Rodney Barker, And the Waters Turned to Blood
- Richard Preston, The Hot Zone
- Matt Ridley, Genome
- Richard Preston, Cobra Event

You do not have to buy or keep these books. As you read them, take notes about themes, key people, scientific procedures, and any scientific errors made. During the assessment, you will be able to use the notes that you have prepared.

Please sign below indicating you have read and received a copy of the Honors Biology Summer Assignments.

Honors Biology Summer Assignments

Student Name: ______________________________ (please print)

______________________________ ____________________

Parent Signature Date

______________________________ ____________________

Student Signature Date

Please return to Mr. Seuch in Room 2002 or Ms. Ahern in room 2013 before the end of finals.