

Welcome to STEM@ KCHS
Summer Preparatory Work

Congratulations! You are ready to move to the next level in your education, STEM at Kent County High School. I have prepared a challenging, fast paced course of study and I am looking forward to guiding you through some rigorous experiences. We will need to keep your brain in gear over the summer months so that we can hit the ground running when school is formally back in session. Therefore, there are several assignments for you to do over your hot, hazy days.

Assignment Number 1- The digital scavenger hunt.

For this assignment, you need to do some “fieldwork”. Many biologists spend a great deal of time out of the lab and in the great outdoors collecting and experimenting. You will collect photographs of the specimens and objects listed below and share them with me electronically. Regardless of where you live, all of these are easily found.

The rules are simple. You must take the photo of the organism in its natural habitat; please do not move or displace living organisms. Do not hunt for photos on the internet and copy/paste. So how do you prove *you* took the photo? Perhaps you can include a personal possession in the photo such as your phone, keys, or other object. Perhaps you can explain what’s in the background. Science is a collaborative activity, but DO NOT submit the exact same photograph as a friend. Make an effort to include the scientific name (genus, species) of each organism. For example, if you photograph a red maple tree, the scientific name is *Ácer rubrum*. Note- a scientific name is written in italics; the genus is capitalized and the species name is lowercase. Here’s the list:

1. 7 arthropods
2. 5 seed producing plants
3. 5 fungi, lichen, or nonvascular, seedless plants
4. 5 animal artifacts- spider webs, footprints, egg casings, shells, nests, etc. Try to identify the organism that generated the artifact.
5. 5 reptiles and/or amphibians
6. A product from a genetically modified organism (or an actual genetically modified organism)
7. An invasive (a non-native or introduced) species
8. A chemical reaction

Save your photos and create a Google Presentation. You must use your school account and not a personal email/Google Account.

Those who do not follow those directions will lose points on the assignment.

Assignment number 2 is to choose a book from the STEM reading list and complete the writing assignment described.

Attached you will find an extensive list of books, both nonfiction and fiction, that are STEM oriented. Most are available at the Kent County Public Library or can be ordered through Amazon.com. Students from last year may have some of the titles as well. I also have most and can lend you a copy.

Please choose a book for the summer and read it. Prepare a brief paper to turn in that includes the following:

- One to two paragraph introduction that includes the title, author, why the book was written, and a short summary.
 - Three paragraphs, each supported by one quote from the book that discusses a particular biological concept. Be sure to cite the page of text from which the quote came.
 - One paragraph conclusion on whether you would recommend the book and why.
 - Your writing is important; use correct grammar, punctuation, and spelling. All writing is double spaced, size 12, Times New Roman font.
- All papers should be shared with Mr. Evans @jevans@kent.k12.md.us.

Assignment #3- join Remind for STEM Biology 2021-22. Text @2akgb8a to the number 81010

DUE DATE FOR SUMMER WORK IS Tuesday, September 7, 2021.

Note- While all books listed are considered noteworthy, some books listed may include language or scenes that some individuals may find objectionable. Neither Kent County Public Schools nor STEM teachers can endorse the content of any of these books. If you are reading and come to a scene you find objectionable, put the book down and choose another.

KEEP YOUR BRAIN WORKING!

Your mind is like a muscle; use it or lose it. You want to increase your vocabulary to score well on your SAT's and improve your knowledge base in general. Plus, many of these are just plain enjoyable.

BOOK LIST:

A Dog in the Cave: The Wolves Who Made Us Human- Kay Frydenborg

Surviving the Extremes: A Doctor's Journey to the Limits of Human Endurance- Kenneth Hamler

Handle With Care-Jodi Picoult

Into the Jungle- Sean Carroll

The Hot Zone-Richard Preston

The Wild Trees-Richard Preston

Survival of the Sickest-Moalem and Prince

Your Inner Fish-Neil Shubin

Moonwalking With Einstein- Joshua Foer

Black Apollo of Science: The Life of Ernest Everett Just- Kenneth Manning

Dead Men Do Tell Tales, William Maples

Letters to a Young Scientist- E. O. Wilson

The Emperor of All Maladies: a history of cancer - Siddhartha Mukherjee

Last Chance to See – Douglas Adams

Life As We Knew It by Beth Pfeffer

The Disappearing Spoon- Sam Kean

The Sports Gene- David Epstein

The Autistic Brain- Temple Grandin

**If you have questions regarding summer work, please send an email to Mr. Evans
at jevans@kent.k12.md.us**