**Tina M. Hutcheson –** **tmhutcheson@henrico.k12.va.us**

**MYP Biology – Intro to Year 4 (and High School)**

Welcome to MYP Biology! This will be your first introduction to high school science, and it may be a challenging year. The goal of our class is to not only cover the content of the Biology curriculum but to also lay the groundwork to prepare you for your final year of MYP and the transition to DP. With that being said, I have some suggestions to help you be successful from the first day of class:

* My first piece of advice is to *stay organized!* With the introduction to high school, your schedule may become busier than ever, and due dates will seem to come at you faster than ever. Staying organized will definitely help you lower your stress level and hopefully keep you from having to stay up all night before that big paper or project is due.
* *Don’t be afraid to ask for help!* Yes, it is true that high school is VERY different from middle school in many ways. Every student is different, and you know yourself better than anyone else does. If you don’t understand something or if you are feeling overwhelmed, *please* ask your teachers for help! Asking for help is not a sign of weakness. It is a sign of strength, and it tells your teachers that you care enough about what you are learning to self-advocate when you need to.
* *Take good notes and don’t lose them!* This goes with my first piece of advice, but it is important enough to get its own bullet. If you are used to having all of your notes and Study Guides given to you, this may be a shock, but that won’t happen much (if at all) any more. When you take notes, make sure you can read them – I cannot tell you how many times students have had to come back to me before a quiz or test because they couldn’t read their own hand-writing OR because they had no idea what they did with their notes.
* My last piece of advice is to *learn/develop good study skills!* Many students come to high school thinking that they know how to study. Unfortunately, as you transition through the IB program, you will see that your assessments will have less to do with memorizing content and more to do with critical thinking and the *application* of content. This takes a different mind-set and will require different methods of learning and studying than you may have used in middle school. If you need help working on study skills, ask your teachers or other IB students for tips. Believe me, it makes a big difference.

In terms of curriculum, we will be building on many of the topics and themes that you should have covered in Life Science. Below you will see a general list of the Units we will be covering this year and some of the topics included in them. \*\*You WILL see these Units again in DP Biology, so KEEP your notebook!!!

Unit 1: Science Process Skills

* Themes of Biology
* Lab Safety and Equipment
* The Scientific Method and Experimentation
* Characteristics of Living Things

Unit 2: Biochemistry

* Intro to Chemistry
* The Periodic Table (this will help to also get you ready for MYP Chemistry)
* Atoms, Molecules and Compounds
* The Macromolecules Essential for Life (\*\*\*SUPER Important!!)

Unit 3: Cellular Structure and Processes

* The Cell Theory
* Prokaryotes vs. Eukaryotes
* Cellular Organelles
* Mitosis and the Cell Cycle

Unit 4: Metabolic Processes

* Autotrophs vs. Heterotrophs
* Photosynthesis
* Cell Respiration

Unit 5: Molecular Genetics

* DNA Structure and Function
* Replication, Transcription and Translation

Unit 6: Theoretical Genetics

* Heredity (Gregor Mendel)
* Meiosis
* Punnett Squares
* Pedigrees

Unit 7: Evolution

* Natural Selection
* Charles Darwin
* Evidence of Evolution
* Mechanisms of Evolution

Unit 8: Diversity of Life

* Classification of Living Things
* Taxonomic Hierarchy
* Dichotomous Keys

Unit 9: Ecology

* Populations, Communities and Ecosystems
* Human Impacts on the Environment