

## Loudon County High School Scholars Prep Guide 2019-2020

Upcoming Course: Physical Science

School : Loudon High School

Curriculum for the upcoming course and information of which students should be aware: and areas that might be a challenge for students:

Curriculum for physical science spans both the basics of Physics and Chemistry. Ideas covered will range from matter, atomic basics, types of bonding, and types of reactions to motion, force, Newton's Laws, energy, electricity and waves.

Areas that might be challenging for students:

Although not as mathematically centered as Chemistry or Physics some students find the mathematical formulas challenging. Physical Science utilizes basic algebraic equations and basic calculations.

Suggestions on how students can prepare for the upcoming course:

Students can prepare for physical science by focusing on the basics of 8<sup>th</sup> grade science and being very secure in basic algebraic equations.

Suggested Activities or Resources (if applicable):

Khan Academy as well as Crash Course introductions on YouTube have proved helpful for many students.

## Loudon County High School Scholars Prep Guide 2019-2020

Upcoming Course Biology 1a & 1b

School Loudon High School

Curriculum for the upcoming course and information of which students should be aware: and areas that might be a challenge for students:

This class is only given to students specified by the school to need a year-long course. It cannot be chosen instead of semester long Biology.

Areas that might be challenging for students:

There is a lot of new vocabulary that will need to be learned.

Students will need to study daily to retain the information.

There is a limited amount of math in biology. Students should be prepared for simple math.

Suggestions on how students can prepare for the upcoming course:

Get a good foundation in Life Sciences at Middle School.

Suggested Activities or Resources (if applicable):

## Loudon County High School Scholars Prep Guide 2019-2020

Upcoming Course \_\_\_\_\_ General Biology \_\_\_\_\_

School \_\_\_\_\_ Loudon High School \_\_\_\_\_

Curriculum for the upcoming course and information of which students should be aware: and areas that might be a challenge for students:

This is a fast paced class and it will be expected that they remember some of the information taught in middle school.

Areas that might be challenging for students:

There is a lot of new vocabulary in this subject. This can be challenging at times.

This information requires studying for tests. If the student doesn't study, then the class will be difficult.

Suggestions on how students can prepare for the upcoming course:

Get a good foundation in Life Sciences at Middle School.

Suggested Activities or Resources (if applicable):

## Loudon County High School Scholars Prep Guide 2019-2020

Upcoming Course Honors Biology

School Loudon High School

Curriculum for the upcoming course and information of which students should be aware: and areas that might be a challenge for students:

This course covers the basics of biology. Since this is an honors course, the pace will be quicker, we will go deeper, and there will be more projects.

Areas that might be challenging for students:

The vocabulary is new and difficult, so more attention will need to be paid to learning it. The labs require an understanding of the scientific method and an understanding of reading and creating graphs and tables. This is a science course required for graduation and many students are a little scared of science.

Suggestions on how students can prepare for the upcoming course:

A good background in the life sciences in middle school helps a lot. A good background in study skills and an awareness that there will be a challenging workload and pace of the course. A love and appreciation for the knowledge of how living things function and survive in their environment will make the course easier and more enjoyable.

Suggested Activities or Resources (if applicable):

## Loudon County High School Scholars Prep Guide 2019-2020

Upcoming Course Dual-Credit Biology

School Loudon High School/Roane State Community College

Curriculum for the upcoming course and information of which students should be aware: and areas that might be a challenge for students:

This is a two semester course. The first semester focuses on basic biology concepts. The second semester is both more challenging and more interesting as it focuses on new material and concepts they have not studied previously.

Areas that might be challenging for students:

The pace is quick and the test usually covers two or more chapters. The course is more like college than high school with more of the responsibility for learning being on the student. There are two days of lab each week with more formal lab reports .

Suggestions on how students can prepare for the upcoming course:

Good study skills and attention to detail are a must. They need to be prepared to work hard and keep up as the new material comes quicker than high school courses. Time management becomes more important.

Suggested Activities or Resources (if applicable):

## Loudon County High School Scholars Prep Guide 2019-2020

Upcoming Course: Chemistry I

School: Loudon High School

Curriculum for the upcoming course and information of which students should be aware: and areas that might be a challenge for students:

The curriculum for Chemistry I includes scientific measurement, matter and change, atomic structure, the periodic table, ionic bonding, covalent bonding, chemical quantities, chemical reactions, stoichiometry, states of matter, gas laws, solutions, acids and bases, thermochemistry, and nuclear reactions.

Areas that might be challenging for students:

The areas that involve dimensional analysis such as chemical quantities and stoichiometry can be challenging for students. Areas that were not addressed in freshman science such as thermochemistry and nuclear reactions can be more difficult for students, also.

Suggestions on how students can prepare for the upcoming course:

The best preparation is to cultivate good study habits in all subjects and practice good attendance as well as securing a solid foundation in Physical Science or Biology I and Algebra I.

Suggested Activities or Resources (if applicable):

Practicing concepts through completion of classwork and homework assignments and attending tutorials will assist students in learning the concepts taught in Chemistry I. Additional help can be found with Khan Academy or similar web based tutorials.

## Loudon County High School Scholars Prep Guide 2019-2020

Upcoming Course \_\_\_\_\_ Honors Chemistry \_\_\_\_\_

School \_\_\_\_\_ LHS \_\_\_\_\_

Curriculum for the upcoming course and information of which students should be aware: and areas that might be a challenge for students:

This is a course in which we study the composition of matter and its reactions in various forms. We cover the following topics: scientific measurement, matter and change, atomic structure, the periodic table, ionic bonding, covalent bonding, chemical quantities, chemical reactions, stoichiometry, states of matter, gas laws, solutions, acids and bases, thermochemistry, and nuclear reactions. To register for this course, students must have completed Physical Science or Honors Biology I with a passing grade. In addition, since there is a heavy emphasis on the mathematics of chemistry, students should have successfully completed at least Algebra I before registering for this course. As an honors course, there is a deeper treatment of topics, in which students explore not merely the facts or general knowledge, but the reasons behind them. Honors Chemistry gives students wider opportunities to engage in problem-solving activities, not just finding answers, but applying their knowledge and providing evidence to justify their conclusions.

Areas that might be challenging for students:

The areas that involve dimensional analysis such as chemical quantities and stoichiometry can be challenging for students. Areas that were not addressed in freshman year such as thermochemistry and nuclear reactions can be more difficult for students.

Suggestions on how students can prepare for the upcoming course:

The best preparation is to cultivate good study habits in all subjects and practice good attendance as well as securing a solid foundation in Physical Science, Biology and Algebra 1.

Suggested Activities or Resources (if applicable):

Practicing concepts through completions fo classwork and homework assignments and attending tutorials will assist students in learning the concepts taught in Honors Chemistry. Additional help can be found with Khan Academy or similar academic web based tutorials.

## Loudon County High School Scholars Prep Guide 2019-2020

Upcoming Course  Honors Physics

School  Loudon High School

Curriculum for the upcoming course and information of which students should be aware: and areas that might be a challenge for students:

Physics is offered every other year here at LHS. Students should have completed or currently be taking Algebra II. The course is primarily for Juniors and Seniors. The course covers the following topics: The Science of Physics, Motion in One Dimension, Two-Dimensional Motion and Vectors, Forces and Laws of Motion, Work and Energy, Momentum and Collisions, Circular Motion, and Gravitation.

Areas that might be challenging for students:

As an honors course, Physics requires a lot of work and is fast paced. The class is a science class but has a lot of math involved. A student can think of Physics as an applied math course.

Suggestions on how students can prepare for the upcoming course:

Be sure you know and are strong in algebra skills and science skills.

Suggested Activities or Resources (if applicable):