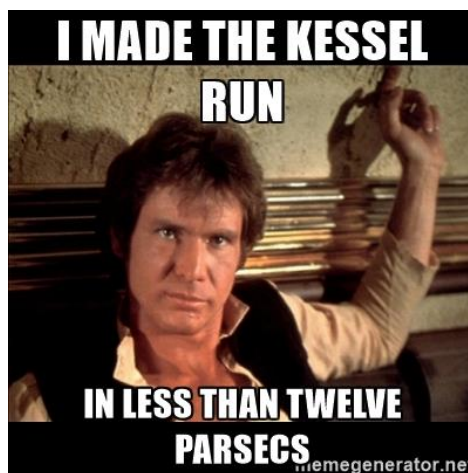
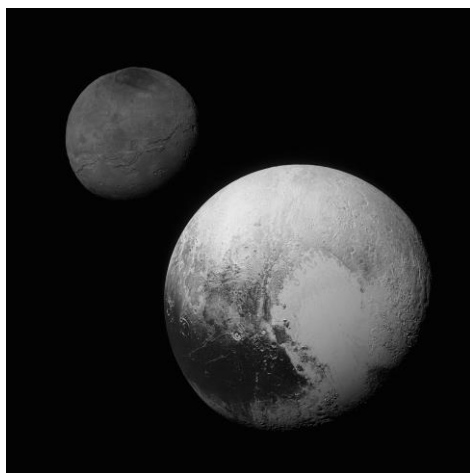


ASTRONOMY SPRING 2017 SYLLABUS

“If you want to make an apple pie from scratch, you must first create the universe.” – Carl Sagan



Instructor: Mr. Proctor Block 2: Room 1702; Block 3: Room 3706

Class website: proctorscience.weebly.com School website: wcpss.net/hollyspringshs

Email: cproctor@wcpss.net Voicemail: TBA Office Hours: HOT lunch: Mon (B), Wed (A)

COURSE OVERVIEW

Unit	Topic	Main Themes
1	HISTORICAL TO CONTEMPORARY ASTRONOMY	<ul style="list-style-type: none"> • Introduction to the field of Astronomy • Tools and Terminology • Early concepts of our universe & scientific leaders in the field • Human space exploration: the race to the moon and where we are now • Current missions: Space Station, probes, rovers
2	SOLAR SYSTEM	<ul style="list-style-type: none"> • Properties of Earth: plate tectonics, earthquakes, erosion, internal structure, atmosphere • Moon: origins, tides, orbit • Relationship between Earth, Sun and Moon: seasons, phases, eclipses, night & day • Kepler's Laws • Planets, asteroid belt, Kuiper Belt
3	STARS	<ul style="list-style-type: none"> • Types of stars, their evolutionary stages, and their influences on other bodies • Properties of light: structure and behavior, speed, time, relativity • Electromagnetic radiation: spectrum, frequencies, energy levels • Constellations • Black holes, dark matter, Quasars
4	GALAXIES	<ul style="list-style-type: none"> • Milky Way: physical structure • Types of galaxies, the center of galaxies, spiral arms • Orbits
5	THE BEYOND (COSMOLOGY)	<ul style="list-style-type: none"> • Expanding Universe theory • Cosmic evolution, age of the universe • Our search for extraterrestrial life: what constitutes "life"? • Keeping an eye on our probes • Camps, internships, continued studies, careers

Keep in mind that all of these units overlap to some extent, but the general flow of the class can be thought of as working our way from the Earth outwards. A consistent theme throughout will be using NASA and other space exploration initiatives to connect the material with the most current and “tangible” scientific data and discoveries.

Expected Student Outcomes

1. Satisfactory mastery of essential concepts and facts as determined by test results, project based learning, reciprocal peer teaching, and a passing score on the final exam.
2. Planning, conducting and reporting of laboratory investigations as evidenced by laboratory reports and lab test results.
3. Reading assigned material as evidenced by completed assignments, projects, quizzes, and test results.
4. Maintaining an organized binder for assignments, class notes, lab notes, and assessments.
5. Showing evidence of responsibility by helping classmates, participating in class discussions, cooperative learning lessons, behaving in a careful, responsible manner during laboratory activities, and participating in lab clean-up activities.
6. Maintaining a minimum grade average of a “B” or better. If this is not attained, additional class instruction is required to achieve this expectation. **Various methods of assistance will be provided on Monday (B) and Wednesday (A) during H.O.T. Lunch.**

Attendance

Tardies: When the bell rings you are to be in your seat and ready to begin class. If you arrive after the bell without a legitimate note from previous teacher or administrator, you must sign the Tardy Sheet. Failure to do so will result in further discipline according to school policy. If you are late additional times, you will serve additional school discipline accompanied by a phone call to your parents and the development of a Behavior Contract.

Unexcused Absences: Attendance is taken every day and the school policy on attendance will be followed. A class cut is a serious offense, and it is the responsibility of the student to be aware of the consequences of cutting class.

School Related Absences: Athletic events, field trips and other school-sponsored absences from class must be excused one day in advance or they will be considered a Class Cut. All work must be picked up in advance and turned in on time.

Hall Passes: There is a 3-minute time limit on hall pass use and only one student may use the pass at any time. NEVER leave the classroom without a hall pass and permission from your teacher.

Making Up Assignments: This must be done during the specified science tutorial time on Monday (2nd half of lunch) or Wednesday (1st half of lunch). Though unlikely, your teacher may opt to have you take it in class (rather than wait until Monday or Wednesday). This decision is at the discretion of the teacher.

Materials: please bring these items every day (*a hall pass will not be given to get these items*)

3-Ring Binder (1” flexible style is ideal): Inside the binder you should have loose-leaf, college ruled paper AS WELL AS at least 25 pages of blank paper (recycled scrap paper with one side already printed on is the sustainable way to go – and therefore mandatory!). All work should be organized by unit and kept for the entire quarter, at which time your instructor will indicate what materials you may remove from the binder. Items that are removed should be saved in long-term storage as review sheets for the final examination, which will be comprehensive.

Pencil: A **mechanical pencil** with lead is highly encouraged! All work is to be done in pencil. Work done in other colors may not be acceptable. #2 pencils will be required for many Lesson and Unit Exams, as well as Benchmark Assessments. *Do not expect these to be issued by the teacher.*

Colored pencils (12-pack): These will be needed every day classwork and homework assignments throughout the duration of the course. Much of this class relies on illustration – bring your own pack of colored pencils every day!

Memory Storage: Students are encouraged (not required) to have a way of saving and transferring electronic files beyond email. This can include Flash/Jump Drives (preferred) or an email address.



Grades and Evaluation Criteria

The final year grade is determined according to school policy.

Student grades for each 9-week Term will be determined more specifically by the following criteria:

10% Homework

Homework: Assignments are to be fully completed by the assigned due dates. **All assignments should be done in #2 pencil.** Each assignment must have a heading that includes: your name, class period, date, and assignment number. Unless your teacher allows cooperative work on assignments, individual work should be done independently and the written assignment should never be identical to that of another student. In other words, **NO COPYING**. All questions that you are assigned should be written as complete sentences (unless otherwise noted), avoiding the use of unidentified pronouns and implying the question in the answer.

40% Tests & Quizzes

Tests: Tests will be given at the conclusion of each unit, and will be based on material from lecture notes, laboratory results, in-class activities, and group projects. Questions will be of 3 varieties: Factual, Conceptual, and Application. Understanding and applying the concepts of each unit will be just as important as memorizing the facts.

Quizzes: Short (5-10 point) quizzes will be given at least once per week, most likely on Fridays. The quizzes will be cover the respective week's material and can be cumulative. They may be announced in advance or unannounced.

50% Classwork and Labs/Activities/Projects

Classwork: Assignments to be completed in class will be weighted appropriately. Assignments may include webquests, labs, peer teaching, group work, or other reinforcement material.

Labs/Activities/Projects: A lab report will be required for most investigations and is to be completed in #2 pencil and turned in by the announced due date.

Class Participation and Class Conduct: Self-Management

Follow Instructions: Please pay attention and ask for clarification and not for repetition of direction or information.

Assignments and Activities: Classwork is part of class participation.

Class Discussion: You are expected to participate in all class discussions in a positive and constructive manner. Your teacher may call on you even if you do not raise your hand during such discussions.

Conduct: Improper conduct interferes with the learning of others. All students are expected to be respectful of others. Raise your hand to be called upon. Do class activities with quiet voices to maintain a good learning environment. Demonstrate acceptable social manners. Abide by all lab safety guidelines to guarantee the health and safety of everyone involved. Remain seated and engaged until dismissed by the teacher (at, or following the bell).

Cheating and Academic Misconduct will not be tolerated. Any student caught cheating on any assignment will complete an alternate assignment in accordance with the school wide policy to receive full credit. He/she will also be referred to the appropriate administrator for disciplinary consequences.

Make-up Work Is Your Responsibility

If you have an excused absence from class, it is your responsibility to find out what was missed and complete the work. Please see the student handbook for a detailed explanation of the late work policy.

Tests and Quizzes: If you are absent on the day a Unit Test is given but were in class prior to the test date, you are expected to take the makeup test on the day you return to class. Tests must be made up within the time guidelines. You can get a pass to take your test during lunch (with teacher permission) and report to the classroom to make up the test. Special arrangements to make up tests before or after school can also be made.

Extra Credit and Enrichment

The purpose of extra credit and enrichment is to give you the opportunity to demonstrate that you have learned something extra within the content of the curriculum. If you plan on doing extra credit, you must gain my approval in advance. These opportunities will be extremely limited.

Class Safety and Climate

All food and beverages must remain outside the classroom. This includes candy. School rule.

ALL electronics are to remain out of sight and turned OFF unless teacher allows media use during class time. If used or on at inappropriate times, items will be confiscated.

Students are not to leave their seats without permission.

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Please Sign Below

STUDENT PRINTED NAME & SIGNATURE:

PARENTS PRINTED NAME & SIGNATURE:

PARENTS PHONE:

PARENT EMAIL:
