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I. Course Description: Students will learn the nature of science, matter, forces and motion, energy, and waves.

Units	Unit Question	Concepts	Example Activities
Introduction to Science	How do we conduct science and measure the results?	To understand the nature and tools of science and to use its language: mathematics. To understand units of measurement and their conversions.	<ul style="list-style-type: none"> ● Measurement of density ● Construct cubes ● Displacement of density ● Estimate common object's mass, length, etc. ● Conversions
Matter and Its Interactions	What is everything made of?	To understand how molecules, atoms, and subatomic particles interact to create our universe.	<ul style="list-style-type: none"> ● Element investigation ● Model an atom
Force and Motion	How do we measure motion?	To understand Newton's Laws of Motion and be able to mathematically describe them.	<ul style="list-style-type: none"> ● Graph constant motion and acceleration ● Measurements of forces ● Electroscopes ● Circuits ● Magnetism
Energy	How do we change electricity into other forms of energy?	To understand how energy is defined and how one form of energy is transformed into another form.	<ul style="list-style-type: none"> ● Pulley, inclined plane, and lever labs ● Electromagnetism ● Energy conversion lab
Waves	How does energy move?	To understand how waves and sound carry energy and how speed, temperature, and matter affect it.	<ul style="list-style-type: none"> ● Eye diagrams ● Flat Mirror Lab ● Curved mirror lab ● Curved lens lab ● Refraction lab ● Draw EM spectrum ● Optical illusions demo ● Light mixing demos

II. Aims & Objectives

By the end of the 9th grade, students should be able to:

- explain the ways in which science is applied and used to address specific problems or issues
- use scientific language correctly
- use appropriate communication modes such as verbal (oral, written), visual (graphic, symbolic) and communication formats (laboratory reports, essays, presentations) to effectively communicate theories, ideas and findings in science
- apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations
- formulate a testable hypothesis and explain it using scientific reasoning
- collect and record data using units of measurement as and when appropriate
- analyze and interpret data
- work safely and use material and equipment competently
- work effectively as individuals and as part of a group by collaborating with others.

III. Texts & Resources:

- Physical Science published by Glencoe, copyright 2012.

IV. Methodology:

Students will be exposed to various methods of instruction, including: written, oral, and kinesthetic. Students will be expected to participate and work independently, in small groups, and in large group activities and labs.

V. Methods of Assessment/Grading Policy:

- 50% Tests, Quizzes, and Lab skills
- 40% Classwork (Homework, group activities, etc.)
- 10% Semester Final Exam

What to expect: This year, in addition to learning about the nature of science, you will learn about motion, forces and gravity, work and machines, heat, waves and sound, light and color. You will use math to work with ideas from physics, and you will become good at drawing and reading graphs.

Course materials:

- You need pencils, pens, a 3-ring binder with dividers and paper.
- You need a basic calculator, not your cell phone.
- You need a laptop computer which we will use regularly.

Chapter introductions: At the beginning of each chapter you will get a sheet called a “Chapter Intro;” these include a vocabulary list, some questions for you to answer, a list of the worksheets and labs, and a list of the topics you should have notes on. The ‘Introduction’ should act like a ‘Study Guide’ at the end of the Chapter or Unit and is your key to having an organized notebook for the chapter test. Save each Chapter Intro (Study Guide)!

Weekly Quizzes: At the end of each week, we will have a short quiz on the topics we covered that week.

Late work and make up work:

- In the case of illness, you have 2 days to make up work.
- Late work will not qualify for a grade of 100%, especially if the answers have been discussed in class, or if graded papers with answers have been returned to students.
- There will be a 5% deduction for each day the assignment is late, to a maximum deduction of 40%. For example, if an assignment is two days late, the highest grade you can earn is a 90%. If an assignment is five days late, the highest grade you can earn is 75%, and so on.
- There really is no excuse for late work or being behind if you have access to the internet – I have a school web page with all homework and assignments that are downloadable and printable.

Tests and the final exam

- You will be allowed one sheet of notes (front and back) created by yourself for each test
- Notes will not be allowed for the final exam

Test corrections

If, after completing a test, you want to earn a higher grade, you may correct the answers you got wrong on the test. This will allow you to earn back up to half the credit you lost when you first took the test. Your corrections should be completed on a separate sheet of paper, attached to your test, and given to me. Each correction must be attached to a separate piece of paper and should have the following parts. **If you are missing any of these parts, you will not earn credit back:**

- The problem number
- Your original answer
- A correct, reworked answer (show every step you need to take to get to the answer)
- An explanation of why you think your new answer is the correct one

How the class works:

- You will do daily (formative) class work which will teach you the science skills to do labs yourself. You will also practice these skills in class.
- You will be given a project or a lab where you use your learned and practiced science (ninja) skills.
- You will also get tested on these science practices and skills.

Course grading scale: same as for all WRHS courses, and printed in the Student Handbook.

To know your current grade: Parents and students can access Schoology anytime – just go to www.schoology.com or access Schoology via a smartphone app. I also keep copies of all classroom assignments and notes on Schoology.

Questions: call Mr. LaFerriere at 578-5020 ext.2274, or email at nlaferriere@blaineschools.org.

Classroom rules:

- **Respect yourself, respect others, and respect your environment**

1. Be ready for this class – bring your pencil, calculator, notebook, blank paper, etc.
2. Clean up after yourself, please – including in the lab.
3. Be polite, and let others work.
4. Observe the lab safety rules*
 - a) no fooling around in the lab, EVER!
 - b) don't wander around the room during a lab. Stay with your team.
 - c) Be aware of hot water, hot surfaces, swinging weights, moving objects, wet floors and be sure your teammates are aware of what you're doing.
 - d) report all broken or damaged equipment right away. We need to know before the next class starts.*Violations of lab safety rules mean you will leave the lab and receive a detention.
No warnings or 2nd or 3rd chances. 30-minute detention before or after school or during lunch.
6. Use the hall pass to go to either the bathroom or the drinking fountain, **one person at a time**. To go anyplace else, you'll need a written hall pass note.
7. Cell phones/electronic devices are not allowed during instructional time unless directed by a teacher for instructional purposes. Students who violate the cell phone policy will be subject to the following disciplinary actions:
 - 1st offense:** Phone is confiscated and taken to the office. Student is given a warning and can pick up the phone after school in the front office.
 - 2nd offense:** Phone is confiscated and taken to the office. Phone can be picked up by parent during the following day or at the end of the school week.
 - Repeat offenses:** Phone is confiscated and taken to the office. Phone will be returned to parent after a meeting between parent, student, and administration.