Science 8 Course Outline

Name _____
Block _____

Panorama Ridge Secondary 2016/17
Mrs. Enders Room B204

Date_____

Welcome to Mrs. Enders' Science 8 class. The purpose of this course is to introduce you to the world of 'High School Science' and help you gain scientific literacy and skills to better understand and appreciate the world in which we live.

Science 8 is split into 4 'Big Ideas' where we will develop Inquiry and critical thinking skills within these Content Areas:

Life Processes are performed at the cellular level (Biology)

In this unit we will answer questions like:

- What is life? What makes something 'alive'?
- What are cells, and how do they work?
- What are 'micro-organisms' and how do they affect me? How can we use them?
- How does my Immune system work?
- How can I help my Immune system and protect myself from disease?

The behavior of matter can be explained by the Kinetic Molecular Theory and Atomic Theory (Chemistry)

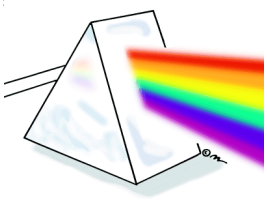
In this unit, we will answer questions like:

- What are 'Atoms' and what are they made of?
- What are 'subatomic particles'?
- How do atoms behave - What is the 'Kinetic Molecular Theory' and the 'Atomic Theory'?
- How do we know they exist?

Energy can be transferred as both a particle and a wave (Physics)

In this unit, we will answer questions like:

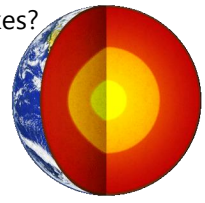
- What are 'waves'?
- What is electromagnetic radiation, and how can we use it?
- How does light work? What is it 'made' of?
- How do mirrors and lenses work?
- How can we detect light?
- How do our eyes work?



The theory of Plate Tectonics is the unifying theory that explains Earth's geological processes. (Earth Science)

In this unit, we will answer questions like:

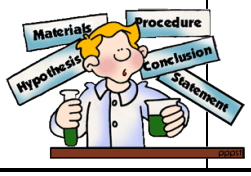
- How is our planet put together? How does it change?
- What is an earthquake?
- How do volcanoes work?
- How do Earthquakes and volcanoes affect us here where we live?
- How can we prepare for earthquakes?



Through the year as we learn the content, we will be developing skills such as:

Questioning and Predicting

- Making observations about your environment
- Ask a question that you would like to find the answer to
- Make a hypothesis (a possible answer to your question) using an 'If…then' statement
- Make predictions about the answer to your question



Planning and Conducting

- Come up with a well designed, fair experiment to test your hypothesis
- Identify the different types of variables (dependent and independent)
- Observe, measure, and record data using equipment with accuracy and precision
- Use proper units and be able to convert them when necessary

Processing and analyzing data and information

- Be able to represent data in a variety of ways including graphs, tables, keys, models, and digital technologies
- Be able to draw and apply data from different sources including 'First Peoples' perspectives and knowledge.
- Identify patterns and connections in the data from information collected in experiments and from secondary sources
- Draw conclusions and identify relationships (what did your data tell you?)

Evaluating

- Reflect on investigation methods:
- Were there any problems with my experiment design?
- Was my data accurate?
- Where there any sources of error?
- What could be done better next time?
- Did I influence the outcome in any way unintentionally?
- Does the outcome of my experiment make sense, or is it totally unexpected?

Applying and Innovating

- Work with others to design projects and solve problems
- Apply what you learned to new situations and other problems
- Express new ideas to solve problems

Communicating

- Communicate your experiment results and findings using proper language and format (lab reports)

Supplies Needed:

- **A 2 inch, 3 – ring binder with paper and dividers.** *** No other subject should be included in this binder

*** ***How*** you organize your binder is up to you (i.e. by chapter, assignment type, etc), but it **MUST** be organized in order to facilitate your success!! ***

I suggest the following: 5 dividers with the following sections:

- Notes
- Homework/warmups
- Labs/assignments
- Quizzes/tests
- Scrapwork

- **Pencils, pens (blue and red), eraser**
- ***scientific* calculator**
- **ruler**
- **Agenda/Thunder App**

*******Please bring ALL these supplies to EVERY class. Students will NOT be allowed to return to their lockers to get supplies after the bell goes!*******

Note - there will be no assigned textbook for this course, study materials and notes will be provided throughout the course.

Evaluation:

Each of the 4 units will be worth 25% of your **Class** mark. Your percentages will be calculated based on quizzes, tests, and summative labs/projects. The labs and projects will work on developing skills as well as applying concepts learned in class.

To help students assess their own learning, they are encouraged to reflect on the following:

- **Where am I now with my learning?**
- **Where do I want to get to with my learning?**
- **What do I need to do to get better?**

A **86% +**	Has deep understanding of the content, exceeds expectations of learning standards, sees possibilities and is able to innovate.
B **73% - 85%**	Has deep understanding of the content, routinely meets acceptable learning standards, initiates, plans and can follow through to completion.
C+ **67% - 72%**	Has a good working knowledge of the content, able to achieve most tasks using own judgment but requires assistance when problems occur.
C **60% - 66%**	Has a working knowledge of key aspects of the content, completes straightforward tasks to an acceptable standard, some assistance needed for complex tasks.
C- **50% - 59%**	Minimal understanding of the content, adherence to taught rules or framework, requires some assistance to complete most tasks.
I or F **Below 50%**	Not demonstrating minimal understanding of the content, cannot complete tasks even with assistance, possibly as a result of poor attendance.

The final grade will be a combination of the class mark (worth 80% of the final mark), and a final assessment (worth 20%)

Website - www.enders.tk