**EXPECTATION SHEET**
**WESTMONT JUNIOR HIGH SCHOOL**
**8TH GRADE SCIENCE**
**MR. SHERRY**
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**COURSE OBJECTIVES:** Students will learn through participation, labs, and activities how science affects their everyday lives. Upon completion of this class, the students will achieve a deeper understanding of science and the scientific method. This year-long class will also help students prepare for future science courses.

**MATERIALS:** Students are expected to be in their seats at the beginning of each period with the following materials: pen or pencil, CHARGED Chromebook, notebook, folder, and agenda. Late students will receive a tardy. Three tardies will result in a lunch detention.

**CURRICULUM SEQUENCE:**
**CHAPTER 1- THE NATURE OF SCIENCE**
**CHAPTER 2-MEASUREMENT**
**CHAPTER 14-PLATE TECTONICS**
**CHAPTER 15-EARTHQUAKES & VOLCANOES**
**CHAPTER 18-MATTER**
**CHAPTER 19-PROPERTIES & CHANGES OF MATTER**
**CHAPTER 20-WAVES**
**CHAPTER 21-SOUND**
**CHAPTER 22-ELECTROMAGNETIC WAVES**
**CHAPTER 8-CELL REPRODUCTION**
**CHAPTER 9-PLANT REPRODUCTION**
**CHAPTER 11-HEREDITY**

**GRADING:** Students' grades will be based on the following criteria:

TESTS/EXAMS: 25%
QUIZZES: 20%
LABS: 20%
PROJECTS: 20%
HOMEWORK aka PRACTICE: 5%
PREPARATION AND PARTICIPATION: 10%

**ASSESSMENTS:**
TESTS/EXAMS: Exams will follow the material covered in a chapter. Prior notification will be given for an exam.
QUIZZES: Quizzes will be given approximately once a week covering the material presented that week.

**LABS AND PROJECTS:**
LABS: Students will participate in various hands-on lab activities. The labs and results are to be neatly kept in the students' notebooks for future reference.
PROJECTS: Throughout the year there will be multiple inquiry based projects. To complete the projects, the students will need to research the concepts and use their own creativity to present the research.

**HOMEWORK/PRACTICE:** Practice will be assigned every night. Practice may include reading and/or written assignments. Practice is due the day after it is assigned.

**PREPARATION AND PARTICIPATION:** Students should have all of the required materials every day. Students are also expected to participate actively, in a positive manner, during in class discussions and group presentations.

**All of the concepts covered in this class are aligned to the Next Generation Science Standards (NGSS). The students will complete the NGSS/ISA assessment near the end of this school year.**

**Below is a list of NGSS Essential Standards for 8th Grade Science:**

## Earth & Space Science

**MS-ESS3-2** Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.

**MS-ESS2-2** Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.

**MS-ESS2-3** Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

## Physical Science

**MS-PS4-1** Use mathematical representation to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.

**MS-PS4-3** Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.

**MS-PS1-2** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

**MS-PS3-4** Plan an investigation to determine the relationships among the energy transferred , the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.

**MS-PS1-5** Develop a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.

**MS-PS4-2** Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

## Life Science

**MS-LS1-5** Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

**MS-LS4-5** Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.

**MS-LS3-2** Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic mutations.

**MS-LS3-1** Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, or neutral effects to the structure and function of the organism.

## Science Exit Outcomes

By the end of **Eighth Grade**, students should be able to…

*Life Science*

· Explain how cells can divide and its importance for life.

· Compare characteristics of organisms produced from a single parent with those of organisms produced by two parents.

· Explain how heredity affects all living organisms.

*Physical Science*

· Explain interactions of energy with matter including changes of state and conservation of mass and energy.
· Model and describe the chemical and physical characteristics of matter (e.g., atoms, molecules, elements, compounds, mixtures).
· Be able to model and describe both mechanical and electromagnetic waves.

*Earth Science*

· Analyze and explain large-scale dynamic forces, events and processes that affect the Earth's land and plate tectonics.
· Describe the interactions between earthquakes and volcanoes and how they relate to plate tectonics.

*Science Inquiry*

· Form a hypothesis, conduct a scientific experiment, and make a conclusion.
· Identify and reduce hazards found in scientific activities.
· Describe how occupations use scientific and technological knowledge and skills

*Students should be able to pass their Marzano vocabulary and scientific model post test.