The American School of Marrakesh

Grade 8 Science 2014-15

*Welcome students and parents to the third year of middle school science!*

**Introduction:**

In Grade 8 Science, students continue developing their understandings of the physical and living universe. Students will explore topics from the major scientific disciplines including the physical (including physics and chemistry), biological, and earth sciences. Students will develop an appreciation of the scientific process to the acquisition of scientific knowledge. Students will also start to develop scientific report writing skills, gain proficiency in use of scientific equipment, and have the opportunity to apply computer and mathematical skills.

Preparation

The curriculum for grade 8 is aligned with AERO and supported by the textbook *Science Integrated Course 3* published by *McDougal Littell*. This textbook offers learning science in terms of accuracy, depth, presentation and expression of scientific concepts.

The textbook will be used for both class and homework and as such is essential for every class. Students are responsible for their new textbooks and should not be left in the classroom. It should be brought to class every session.

Students will be required to have a science notebook for recording information they have studied. The students will turn in and compile graded lab reports.

The student planner is a wonderful way of getting students organized. The school encourages students to have one and use them throughout the year.

Students need to be equipped with black or blue pens (for note taking), pencil, ruler and eraser (for scientific diagrams and graphing), and glue sticks (for keeping worksheets in order). Highlighters and correction tape are also useful items. Students should label their stationery items as many items end up in the science lost property.

Assessment:

Assessments will take a variety of forms that may include written projects, manual projects, technology tasks, oral presentation, quizzes and tests.

Assessment in middle school is as follows:

**60% Tests, Quizzes and Term Projects (Individual, Group Work)**

**15% Lab Reports and Projects** (lab reports, lab-based projects and major research projects)

**10% Classwork/Homework**

**5% Class Participation**

**5% Readiness for Class** (on time for class, materials complete,

Science Starter)

**5% Notebook Check** (announced/unannounced)

**\*Term 3 Grade =** Final Exam, Performance Assessment, Portfolio

##### Homework Policy

Students in Grade 8 science should be completing roughly 1-1.5 hours of homework in Science per week, though this will vary somewhat depending on the topic. As can be seen from the course outline tables (refer next page), homework may tend to be less at the commencement of a topic and increase towards the end of each topic when major assessments are due, and when study/review for unit tests is required.

Homework in Science may include textbook work, completion of lab reports to be done at home, or research for projects and assignments.

Late homework policy of deducting 20% for a day an assignment will be followed where no valid or reasonable excuse is provided. **No late assigments will be accepted after one day late.**

**Tutorials /extra assistance**

Tutorial classes/extra help for Grade 6 Students will be held in **Room 204** from 3:45-4:15pm. Tutorials are primarily designed to assist students having difficulties with scientific concepts and who wish to improve their grade.

At tutorials, students may:

* Ask questions to the teacher/get extra assistance for class or homework
* Catch up on missing homework or bookwork
* Work on groups to complete group tasks such as projects or group based lab reports

Attendance at tutorials is voluntary. Ms. Vergara would appreciate if you could let her know in advance if you would be attending or not.

**Additional Information**

Additional information about Grade 8 Science can be found at the school’s website, AERO website, and teacher website (Weebly)

If you wish to know any other information regarding Grade 8 Science, or should you have concerns that arise during the year, please don’t hesitate to contact me at:

rvergara@asm.ac.ma

Regards,

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###### Ms. R. M. Vergara

Grade 8 Science

Scope and Sequence of Topics

The following tables show the sequence of topics, the relevant scientific standard(s) for which they are assessed, the reference source(s), and a time frame for the study of the major scientific ideas taught in Grade 6 Science.

**Term 1-Earth Science**

|  |  |  |  |
| --- | --- | --- | --- |
| Unit Title | **Content relevant scientific standard** | **Textbook reference** | **Time (weeks)** |
| Working Scientifically | Students apply scientific method and scientific thinking | various | 2 |
| Plate Tectonics | Students understand that movement of tectonic plates causes geologic changes on Earth | Unit A  Ch. 1 | 3 |
| Earthquakes | Students explain how earthquakes happen, what to do during earthquakes and how to predict and minimize damages of earthquakes | Unit A  Ch. 2 | 1 |
| Mountains and Volcanoes | Students explain how mountains and volcanoes form | Unit A  Ch. 3 | 1 |
| Views of the Earth’s Past | Students recognize fossils, rocks and other types of natural evidences that tell Earth’s history | Unit A  Ch. 4 | 3 |
| The Water Planet | Students describe the characteristics of the Earth in which we live in | Unit C  Ch. 1 | 1 |
| Freshwater Resources | Students realize and appreciate that society depends on natural resources for energy and materials | Unit C  Ch. 2 | 1 |

**Term 2-Physical Science**

|  |  |  |  |
| --- | --- | --- | --- |
| Unit Title | **Content relevant scientific standard** | **Textbook reference** | **Time (weeks)** |
| Atomic Structure and the Periodic Table | Students understand that a substance’s atomic structure determines its physical and chemical properties | Unit D  Ch. 1 | 2 |
| Chemical Bonds and Compounds | Students learn that the properties of compounds depend on their atoms and chemical bonds | Unit D  Ch. 2 | 2 |
| Mixtures | Students recognize different kinds of mixtures and ways of separating them into individual substances | Unit D  Ch. 4 | 3 |
| Chemical Reactions (if time permits) | Students learn that chemical reactions form new substances by breaking and making chemical bonds | Unit D  Ch. 3 | 2 |
| Carbon in Life and in Materials | Students recognize that carbon is essential in living things and to modern materials | Unit D  Ch. 5 | 2 |

**Term 3-Life Science**

|  |  |  |  |
| --- | --- | --- | --- |
| Unit Title | **Content relevant scientific standard** | **Textbook reference** | **Time (weeks)** |
| The Cell | Students learn that the parts and function of the cell and the postulates of the Cell Theory | Unit E  Ch. 1 | 3 |
| How Cells Function | Students explain how cells need energy to carry own life processes | Unit E  Ch. 3 | 1 |
| Modern Genetics | Students learn that DNA is a set of instructions for making cell parts. | Unit E  Ch. 5 | 4 |
| Patterns of Heredity | Students recognize that genes are passed on from parents to offsprings in predictable patterns. | Unit E  Ch. 4 | 2 |