Harrisburg Middle School
Seventh Grade Advanced Science –Course Syllabus
Instructor: Ms. Caffee; hannah.caffee@k12.sd.us

Rationale:

Science is a process and body of knowledge. Advanced science instruction will focus on using the scientific process as a means to develop scientifically literate learners. Scientifically literate learners are able to design their own investigations, conduct their own experiments, and report their findings to the scientific community. More so, advanced science learners will be able to identify sources of error, create their own meaning from personal experiences (inside and outside of the classroom), and use the skills of science as a means to build their own science content and concepts knowledge base. In order to develop and refine these skills, learners will experience a variety of inquiry-based learning opportunities while processing and manipulating a curriculum focused on solving problems and the big ideas of science. Posed problems and big ideas will serve as springboards for future explorations and discovery through class activities, laboratory exercises, and a variety of assignments and assessment measures. Course curriculum is based on the STEM (Science, Technology, Engineering, and Mathematics) education foundations of problem solving, discovery, exploratory learning, and learner engagement (a framework that incorporates engineering and technology into classroom experiences).

Learner Outcomes/Expectations:

Advanced science learners are expected to consistently complete advanced work. Advanced science work includes (but is not limited to) the following:

- Learner demonstration of advanced skills in conducting research and scientific exploration
- Learner mastery of a content appropriate, adult-level vocabulary
- Learner integration, critiques of, and synthesis of ideas to real world events and problems
- Learner use of writing to clarify one's thinking and to present position, facts or stance
- Learner manipulation of data via the collection and analysis processes.

Textbook/Learning Materials:

Write-in Text Information:

Learners will be issued multiple write-in texts during the school year. Learners are issued one write-in text for each unit and are expected to keep track of their own textbooks and materials. If a learner loses his or her write-in text, he/she will be expected to purchase a new text at the learner's expense. Learners will also have access to a digital text and activities throughout the school year.

Text titles: *Science and Technology*, *Astronomy and Space*, *Human Body Systems,* and *Ecology and the Environment*

Publisher: Pearson
Copyright: 2011

Other Learning Materials Information:

Learners are encouraged to utilize a three ring binder as a means to organize course materials. Learners will not only experience a variety of content organized by their write-in texts, but also learners will manipulate content through the use of FOSS kits (*Weather and Water*, *Earth's History*, *Force and Motion*, *Human Brain and Senses*, *Electronics*, and *Chemical Interactions*) as well as a variety of laboratory items and projects. Within the classroom, learners will be keeping an interactive notebook for note-taking, drawings, foldables and lab notes. A composition book is recommended as their interactive science notebook.

Course Objectives:

Upon completion of this yearlong course, learners will be scientifically literate individuals able to use science skills as a means of understanding the world around them. Learners will practice these skills while learning about the following course standards and completing the following graded assignments (tentative schedule):

Semester 1:

- *Analyze and interpret data on the age of Earth and its diversity of life.*
    - Rock Cycle Story
    - Earth History Timeline
    - Rock and Minerals ID Lab
    - Weathering, Erosion, and Fossils Quiz

- Compile discoveries of our solar system to describe its implications for Earth.
    - Phet Gravity and Orbit Lab
    - Crater Lab
    - Earth, Moon and Sun Quiz
    - Deep Space Inquiry

Semester 2:

- Identify the structure and function of each organ system in animals.
    - Brain Dissection
    - Eye Dissection
    - Fetal Pig Dissection
    - Brain Quiz
    - Eye Quiz
    - Body System Websites
    - Fetal Pig Quiz
- Infer evolutionary relationships of organisms using fossil evidence.
    - Homologous Structure Project
    - Fossil Evidence Timeline
    - Weathering, Erosion, and Fossils Quiz
- Newton's Laws of Motion
    - Work and Power Calculations Quiz
    - Work Lab
    - Rube Goldberg Project
- Determine factors that affect strength of electric, magnetic, and gravitational forces.
    - Series/Parallel Circuit Lab
    - Voltage Drop Lab
    - Electricity Quiz 1
    - Electricity Quiz 2

Year-Round:

- Utilize skepticism, logic, and professional ethics in science.
    - Paper Airplane Lab Report
    - Pen Technology Lab
    - Brain Dissection
    - Eye Dissection
    - Fetal Pig Dissection
    - Unit 1 Quiz
- Formulate appropriate questions to test understanding of natural phenomena.
    - Penny Boat Challenge
    - Famous Scientist Questions
    - Socratic Seminar
    - Paper Airplane Lab Report

Ms. Caffee reserves the right to add or delete assignments that will be graded throughout the school year.

Assessments:

Throughout the year, a variety of assessment measures will be utilized to measure learner progress, document learner success, and serve as a tool for curriculum refinement. A variety of assessment measures allows for multiple learner modalities to be assessed. The following types of assessments are planned for the upcoming year (assessments may be added or excluded based upon learning situations): pen and paper tests, quizzes, lab reports, portfolios, performances, short-term projects, and long-term independent study projects (where applicable). Rubrics/checklists will be utilized to grade performance-based assessment measures.

Cheating/Plagiarism Policy (from the HNMS Learner Handbook):

Cheating is the use of deceit to complete schoolwork. Plagiarism is taking the writing of someone else and claiming it as your own, including writing from the internet. If a learner engages in cheating or plagiarism, the teacher will collect the learner's paper and the learner may receive a zero for the work. If another learner assists a peer by allowing them to cheat from their assignment, that learner may also receive a

zero for their work. A disciplinary consequence may also be issued to both learners. The teacher will conference with the learner(s), administration, and contact the parent regarding the final disciplinary decision.

Grading Scale:

The grading scale adopted and posted in the Harrisburg Middle Learner Handbook will be utilized and strictly followed. A learner's final grade will be calculated based on the averages of the following: assessment scores (e.g. tests, quizzesetc), laboratory scores, and projects. Grades will posted weekly to Infinite Campus.

From the student handbook (can be found on the school website): we have combined standards-based grading with a more traditional grading scale to produce a system that carries both the benefits of standards-based grading described previously, and exposes them to performance expectations that they will experience throughout the rest of their lives. While traditional percentage benchmarks will be used to distinguish between the various levels of performance, standards-based terminology will replace the traditional A through F grading scale in order to give a more detailed description of learner performance (Table 1).

Table 1. Middle School Grading Scale

Grade	Percentage
Meets Standard (M)	90% and above
Progressing (P)	80 - 89.5%
Emerging (E)	70 – 79.5%
Standard Not Met (N)	60 – 69.5%
Incomplete (I)	Inadequate work; final grade not assigned
Standard Not Assessed ( )	No scores in gradebook

- All standards will be available for assessment during each semester, or term, of the school year.
- Standards not assessed during a given term will be denoted with a blank in the grade book.
- Learners must maintain a grade of Emerging or higher in each course standard in order to pass the course.
- In the occasion that the standard is not met, the learner will be assigned to summer school.

Redo Policy

- Learners should redo work if it is not 85% or higher.
- Redo's must be completed **1 week** after work is handed back.
- Redos are the *learner's* responsibility.
- Teachers may require evidence of further learning before allowing a redo.
- Learners must request a redo, and teachers may deny that request.

Web Site:

A Harrisburg Middle School Science Web site is available for learners to utilize so they can view the course schedule, view assignment due dates, complete online learning experiences, and access enrichment opportunities.

mscaffee.weebly.com

Teacher Contact Information:

If questions or concerns arise, please have a conversation with your learner first. Coach your learner to self-advocate and speak with the teacher either in class or via e-mail to resolve the concern. If the concern or question is not resolved, parent/guardian involvement is welcome and parents/guardians are encouraged to contact Ms. Caffee through the school phone system or via e-mail. I check my e-mail before, during, and right after school. I strive to respond within 24 hours of your message during the work week.

E-mail: hannah.caffee@k12.sd.us

To sign up for our class text alerts, text the message: @hcaffee7 to 81010 and follow the instructions. Reminders will be sent out for homework, quizzes, tests, projects, etc.