



Science Success!

Quarterly Info



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Vol. 1, No. 1

Dear Parents and Students:

Welcome to an exciting new year. As we begin our journey, I would like to share a thought with you. Carl Sagan (a great astronomer) once said, "Somewhere, something incredible is waiting to be known." I hope you will keep your eyes open for the "incredible" all around us. Education does not just happen at school; life itself is the best teacher. Take advantage of every opportunity and you will discover more than you can imagine!

Below is a summary of what we will study this marking period. Instead of just looking at it as a list to conquer, though, I'd like to suggest something more. Find a way to "live" each topic. Spend time together watching a good (or bad) science movie, go for a hike, visit someplace interesting, or read a good book. Do something with someone you love and remember, "Somewhere, something incredible is waiting to be known."

Thank you for sharing in this great adventure!

Henry M. Skirbst
Science Teacher

GRADE 6: We will be studying **GEOLOGY**

* **The weekly topics include:** Minerals, Rocks, Fossils, Geologic Time, Plate Tectonics, and Geomorphology (Landforms)

* **Get out and explore areas of local interest that tie in to these topics:** The Copper Mines Trail on Old Mine Road at the Delaware Water Gap, The Rock Cores Trail on Old Mine Road, White Lake Natural Area on Route 521, The Summit Trail and Ghost Lake Trail at Jenny Jump State Park, The Red-dot Trail climbing Mount Tammany at the Water Gap, and the Field of Dreams built atop the Terminal Moraine in Great Meadows. Go a little further and visit the world-famous Franklin Mineral Museum in Sussex County or the geology museum at Rutgers University. Head out to Poricy Park in Monmouth County to the only fossil-collecting park in the state.

* **Enjoy some Hollywood entertainment:** Watch some science-fiction movies with a geologic twist, like: Journey to the Center of the Earth (G), Dante's Peak (PG), The Core (PG), or find some others...

* **Investigate some potential careers such as:** a geologist, paleontologist, or geographer.

* **Start thinking about the STEM project at the end of the marking period:** We will be building an earth-quake proof structure.

GRADE 7: We will be studying **CELLS**

- * **The weekly topics include:** Microscopes, Living Things, Cell Structures, Cell Processes, Cell Growth & Division, and DNA
- * **Research some places of local interest that tie in to these topics:** Hospitals, dialysis centers, blood centers, research centers.
- * **Enjoy some Hollywood entertainment:** Watch some science-fiction movies with a cellular twist, like: *Osmosis Jones* (PG), *The Andromeda Strain* (G), *Gattaca* (PG-13), *Fantastic Voyage* (PG), or find some others...
- * **Investigate some potential careers such as:** a biologist, doctor, or geneticist.
- * **Start thinking about the STEM project at the end of the marking period:** We will be designing a device to simulate dialysis.

GRADE 8: We will be studying **PHYSICS**

- * **The weekly topics include:** Matter, Motion, Forces, Work & Power, Simple Machines, and Energy
- * **Get out and explore areas of local interest that tie in to these topics:** The Morris Canal Inclined Plane #9, Bread Lock Park, DaVinci Science Center, Liberty Science Center.
- * **Enjoy some Hollywood entertainment:** Watch some science-fiction movies with a physics twist, like: *Chitty-Chitty-Bang-Bang* (G), *Swiss Family Robinson* (G), *2001: A Space Odyssey* (G), *Road Runner Cartoons* (G), or find some others...
- * **Investigate some potential careers such as:** a physicist, engineer, or test-pilot (just kidding mom and dad).
- * **Start thinking about the STEM project at the end of the marking period:** We will be constructing a device to withstand an impact and protect the occupant of a vehicle.

Thank you for helping engage the minds of the next generation! I hope I have given you some ideas to think about this marking period. If you have additional thoughts to share, please send them my way. I would love to include them in the future. Stay tuned for the next update at the beginning of marking period two. And remember,

"Somewhere, something incredible is waiting to be known."



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Vol. 1, No. 2

Dear Parents and Students:

Well, we survived the first marking period together. Hopefully, you spent time exploring the world around you or at least studied the topics we covered in class. Perhaps you completed some home activities or watched one of the movies suggested last marking period. Maybe you even learned something about science! That would be great.

Now get ready for round two! We are about to begin the next set of topics, labs, and activities to spark an interest in (and hopefully a love for) science. In addition to the weekly topics and ideas below, be sure to note the winners of STEM-1 activities.

As always, thank you for sharing in this great adventure of discovery!

Henry M. Skirbst
Science Teacher

GRADE 6: We will be studying **ECOLOGY**

* **The weekly topics include:** Ecology, Lunar Cycles, Biogeochemical Cycles, Weather, Climate, and Biomes of the Earth.

* **Get out and explore areas of local interest that tie in to these topics:** Merrill Creek Reservoir, Pequest Hatchery visitor's center, Van Campen's Glen (at the Delaware Water Gap), "Ice Cave" (on Marble Hill Mountain), and hike the Natural Resource trail at the Pequest Hatchery.

* **Enjoy some Hollywood entertainment:** Watch some science-fiction movies with an ecological twist: *Winged Migration* (G), *The Day After Tomorrow* (PG-13), *Twister* (PG-13), or find some others...

* **Investigate some potential careers such as:** an ecologist, meteorologist, or even a climatologist.

* **Start thinking about the STEM project at the end of the marking period:** We will be building an anemometer (wind meter).

GRADE 7: We will be studying **TAXONOMY**

* **The weekly topics include:** Genetics, Classification, Viruses and Bacteria, Protists, Fungi, and Primitive Plants.

* **Explore some nearby places that tie in to these topics:** a pet store, a local pond, under a rock or dead log.

* **Enjoy some Hollywood entertainment:** Watch some science-fiction movies with a cellular twist, like: *Microcosmos* (G), *Lorenzo's Oil* (PG-13), maybe *Outbreak* (R), or find some others...

- * **Investigate some potential careers such as:** a geneticist, biologist, or a botanist.
- * **Start thinking about the STEM project at the end of the marking period:** We will be building a greenhouse in the classroom and experimenting with seeds.

GRADE 8: We will be studying **MATTER**

- * **The weekly topics include:** Heat Energy, Phases of Matter, Bunsen Burners, Mixtures & Solutions, Elements & Compounds, and Atoms
- * **Get out and explore areas of local interest that tie in to these topics:** a Fireplace Store, Home Depot or Lowes (to check out insulation), or your kitchen to bake cookies.
- * **Enjoy some Hollywood entertainment:** Watch some science-fiction movies with a matter twist, like: The Million Dollar Duck (G), The Abyss (PG-13), The Terminator (R), Men of Honor (R), or find some others...
- * **Investigate some potential careers such as:** a physicist, chemist, chef, or even a cosmetologist.
- * **Start thinking about the STEM project at the end of the marking period:** We will be constructing a device to prevent heat energy from entering a structure.

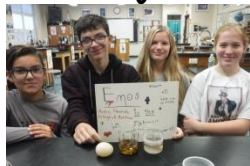
MARKING PERIOD 1 - STEM WINNERS!

Grade 6 - "Earthquake Structure" STEM Project Winners:



(Jocelyn T., Matthew S., Emily P., Aidan S., Juliette R.) & (Emily D., Elyse D., Brayden F., Kylee B.)

Grade 7 - "Osmosis Expansion" STEM Project Winners:



(Kenneth D., Jennie A., Nicki S., Josh B.) & (Andre F., Matthew G., Hannah H., Kaleigh G.)

Grade 8 - "Crash Dummy" STEM Project Winners:



(Jarrett W., Olivia Z., Saige W., Timothy S.) & (Mikayla T., Hannah W., Alyssa Z., Amelia V. not pictured)



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Vol. 1, No. 3

Dear Parents and Students:

It is hard to believe the year is already half-way over! By now, students have become very familiar with the routine, format, and expectations in science class. Parents have become very familiar with checking, reading, and understanding the RealTime Parent Portal for checking grades. As the teacher, I have become very familiar with the individual learning styles and needs of every student.

Together, let's plow ahead and make the second half of the year even better than the first. It is my hope that the topics we will cover in the third marking period will serve to inspire and spark an interest in someone. Perhaps, one of our students will go on to achieve great things because of a topic or encouragement they receive in the next few months. The future belongs to you! **Carpe Diem!** (That's Latin for "seize the day.")

As always, thank you for sharing in this great adventure of discovery!

Henry M. Skirbst, Science Teacher

GRADE 6: We will be studying **CONSERVATION**

* **The weekly topics include:** Erosion and deposition, Soils, Fossil fuels, Conservation, Pollution, and Natural disasters.

* **Get out and explore areas of local interest that tie in to these topics:** The "Jurassic Park" retention fence along route 46 on the way to the Water Gap, the Soil Conservation Service in Hackettstown, drive by the PPL or the Portland power plant, visit the county's Resource Recovery Facility, ask about the Water Treatment Plant on Foul Rift Road, drive along the Delaware River flood plain and talk to people about past floods.

* **Enjoy some Hollywood entertainment:** Watch some science-fiction movies with an ecological twist: Wall-E (G), Dirt: The Movie (D), Garbage Island (D), or find some others...

* **Investigate some potential careers such as:** a conservationist, pedologist, or a petrologist.

* **Start thinking about the STEM project at the end of the marking period:** We will be designing and building a water purification device.

GRADE 7: We will be studying **ZOOLOGY**

* **The weekly topics include:** Land plants, Seed plants, Invertebrates, Vertebrates, Mammals, and Human Anatomy.

* **Explore some nearby places that tie in to these topics:** a pet store, Pequest Fish Hatchery, Wyckoff's Tree Farm, Mackey's greenhouse, a doctor's office.

* **Enjoy some Hollywood entertainment:** Watch some science-fiction movies with a focus on these topics like, A Bug's Life (G), Gorillas in the Mist (PG13), Inner Space (PG), or find some others...

* **Investigate some potential careers such as:** an entomologist, veterinarian, or physician.

* **Start thinking about the STEM project at the end of the marking period:** We will be performing angioplasty surgery on a "dummy" with a clogged artery.

GRADE 8: We will be studying **CHEMISTRY**

* **The weekly topics include:** Periodic Table, Atomic Bonds, Chemical Reactions, Replacement Reactions, Rates of Reactions, and Acids and Bases.

* **Get out and explore areas of local interest that tie in to these topics:** DSM, M&M Mars, a Junk Yard, the Resource Recovery Facility.

* **Enjoy some Hollywood entertainment:** Watch some science-fiction movies with a matter twist, like: Absent-Minded Professor (G), Son of Flubber (G), The Strongest Man in the World (G), or find some others...

* **Investigate some potential careers such as:** a physicist, chemist, chef, cosmetologist, or a research scientist.

* **Start thinking about the STEM project at the end of the marking period:** We will be designing, constructing, and testing an efficient chemical battery.

MARKING PERIOD 2 - STEM WINNERS!

Grade 6 - "Anemometer (Wind Meter)" STEM Project Winners:



(Juliette, Sophia, Grace, Jocelyn) & (Drew, Dylan, Sofia, Kylee, Jarett)

Grade 7 - "Greenhouse" STEM Project Participants:

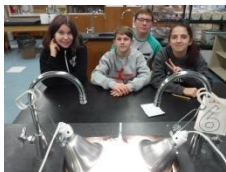


(Entire 7-1 Class)



(Entire 7-2 Class)

Grade 8 - "Hot Box" STEM Project Winners:



(Lillith, Hunter, Michael, Emily) & (Alyssa, Gio, Hannah, Caroline)



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Vol. 1, No. 4

Dear Parents and Students:

Wow! We are already beginning our fourth and final unit of study in science. It's amazing how time flies when you're having fun. At least I hope we've been having some fun in science class this year, I know I have.

As we prepare for the "home stretch" please be sure to remember some of the basics. With each topic, there are essential assignments that must be completed. Completing the vocabulary, home activity, lab activity, and getting weekly quizzes signed are among them.

In addition, also remember the many opportunities for bonus points offered throughout the year. They include asking "good questions" in class, answering the "weekly challenge" correctly, completing the section review questions for the text reading each week, reviewing a science-related current event online, and remembering the "scientist of the week." Each of these can help you finish strong for the year.

As always, thank you for sharing in this great adventure of discovery!

Henry M. Skirbst, Science Teacher

GRADE 6: We will be studying **ASTRONOMY**

- * **The weekly topics include:** Waves, Light, Universe, Stars, Sun, and the Solar System.
- * **Get out and explore areas of local interest that tie in to these topics:** The NJ Astronomical Association observatories in Voorhees and nearby Jenny Jump; local greenhouse facilities to see what kind of lights they use for the plants, or get together at night somewhere for a "star party" with your friends!
- * **Enjoy some Hollywood entertainment:** Watch some science-fiction movies with a focus on the topic like: Contact (PG), October Sky (PG), Gravity (PG-13), or find some others...
- * **Investigate some potential careers such as:** a cosmologist, astronomer, or astrophysicist, an exo-geologist, among many others.
- * **Start thinking about the STEM project at the end of the marking period:** We will be designing and building a water-powered rocket!

GRADE 7: We will be studying **BIODIVERSITY**

- * **The weekly topics include:** Natural Selection, Evolution, Husbandry, Genetic Engineering, Biodiversity, and Stewardship.
- * **Explore some nearby places that tie in to these topics:** a local greenhouse to see the diversity of plants, a florist to do the same, a wildlife sanctuary, or a zoo too.

* **Enjoy some Hollywood entertainment:** Watch some science-fiction movies with a focus on these topics like, Inherit the Wind (G), Nim's Island (PG), Medicine Man (PG-13), or find some others...

* **Investigate some potential careers such as:** a farmer, horticulturalist, or geneticist.

* **Start thinking about the STEM project at the end of the marking period:** We will be designing and planting a flower garden in the courtyard of the school.

GRADE 8: We will be studying **ENERGY**

* **The weekly topics include:** Organic Chemistry, Nuclear Chemistry, Electromagnetism, Nuclear Energy, Wind & Water Energy, and Solar Energy.

* **Get out and explore areas of local interest that tie in to these topics:** a local power company, the resource recovery facility, solar power company, or other places too.

* **Enjoy some Hollywood entertainment:** Watch some science-fiction movies with a focus on energy like: The China Syndrome (PG), IQ (PG), or even War Games (PG)...

* **Investigate some potential careers such as:** a physicist, electrician, or an engineer.

* **Start thinking about the STEM project at the end of the marking period:** We will be designing, constructing, and testing a solar-powered car.

MARKING PERIOD 2 - STEM WINNERS!

Grade 6 - "Water Purification" STEM Project Winners:



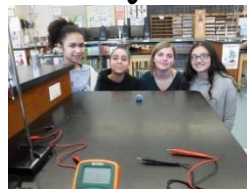
(Jacob, Cameron, Matt, Jarett, Aidan) & (Kylee, Sofia, Justine, James)

Grade 7 - "Angioplasty" STEM Project Participants:



(Alyssa, Max, Nikki, Mike, Josh; Mackenzie, Angel, Ken, Zach, Rachel) & (Andre, Taylor, Rachael, Jenna, Sarah; Samantha, Jonah, Ryan, Destiny)

Grade 8 - "Chemical Battery" STEM Project Winners:



(Emily, Sydney, Marquise, Hunter) & (Jiovanna, Amelia, Angelina, Caroline)