6th Grade Science Syllabus
August - September
1st Nine Weeks
Inquiry, Technology, and Engineering
Designing Experiments
Choosing Tools and Procedures for an Experiment/Lab
Organizing Data
Drawing Conclusions: Addressing Bias and Errors
Embedded Technology & Engineering
SPI 0607.T/E.1 Identify the tools and procedures needed to test the design features of a prototype.
SPI 0607.T/E.2 Evaluate a protocol to determine if the engineering design process was successfully applied.
Bioengineering
August 2017***GLE 0607.6.7 Describe the causes of lunar & solar eclipses
***GLE 0607.2.1 Examine the roles of consumers, scavengers, & decomposers
GLE: 0607 .Inq. 1 Design and conduct---experiment with control and variables
Note: *** will also be embedded throughout the year
2nd Nine Weeks
October - December
Life Science: Interaction of Living Things
Food Chains
Food Webs
Ecosystems
Biomes
***GLE 0607.2.1 Examine the roles of consumers, scavengers, & decomposers
GLE 0607.2.2 Describe how energy and matter is transferred through an ecosystem
GLE 0607.2.3 Conclusions about abiotic (nonliving) and biotic (living or once living)
in a particular environment
GLE 0607.2.4 Analyze the environments and interdependence of organisms found in
the world's major biomes

3rd Nine Weeks
The Universe:
Understanding the structure of our galaxy & the Earth's role in the Cosmos
90607.6.1 Use data to draw conclusions about the major components of the universe.
90607.6.2 Construct a model of the solar system showing accurate positional relationships and relative distances.
90607.6.3 Investigate how the earth, sun, and moon are responsible for a day, lunar cycle, and year.
90607.6.4 Explain why the positions of the earth, moon, and sun were used to develop calendars and clocks.
90607.6.5 Illustrate the positions of the earth, moon, and sun during specific tidal conditions.
90607.6.6 Diagram the relationship of the earth and sun that accounts for the seasons.
90607.6.7 Model the positions of the earth, moon, and sun during solar and lunar eclipses.
4th Nine Weeks
The Atmosphere & Ocean Currents/ Weather/ Energy & Electricity
90607.8.1 Recognize how convection currents in the atmosphere produce wind.
90607.8.2 Design an experiment to investigate differences in the amount of the sun’s energy
absorbed by a variety of surface materials.
90607.8.3 Design an experiment to demonstrate how ocean currents are associated the sun’s energy.
90607.8.4 Analyze ocean temperature data to demonstrate how these conditions affect the weather in nearby land masses.
90607.8.5 Interpret data found on ocean current maps.
90607.8.6 Use data collected from instruments such as a barometer, thermometer, psychrometer, and anemometer to describe local weather conditions.
Various forms of energy are constantly being transformed into other types without any net loss of energy from the system.
90607.10.1 Compare potential and kinetic energy.
90607.10.2 Create a poster that illustrates different forms of potential energy.
90607.10.3 Design a model that demonstrates a specific energy transformation.

Expectations & Resources
Knowledge of TN Science Vocabulary
http://archive.jc-schools.net/tutorials/vocab/academic_vocab-aug09.pdf
Key terms: hypothesis, independent variable, dependent variables, control, bias, protocol
Quizlet: Vocabulary
Login through Google
Brain Pop Science
Category: Scientific Inquiry & Scientific Method
Content Knowledge:
The students will be required to follow the scientific method as stated in Study Jams.
Study Jams, Science Scholastic
We will use terms interchanging synonyms & also understand that steps can be labeled differently,
but it is the same thorough procedure.
Field trip: Solar eclipse-- @ Tims Ford State Park. : Earth, Moon, Sun E.M.S. alignment
Predators: great horned owl & red tail hawk Scavenger: turkey vulture Decomposers: mushrooms
2nd Nine Weeks
Websites listed for the first nine weeks will be used.
The information will be taught from food chains to biomes.
Food webs for terrestrial & marine life illustrated will be required.
Additional Resources:
Interaction of Living Things links
Group project: "I love you to _____ and back!" Students create a poster that represents
astronomical units, light years, & miles it would take for a round trip to a location farther than the
moon and back!
Oreo activity: full, waxing crescent, first quarter moon, waxing gibbous, full moon,
waning gibbous, 3rd quarter moon, waning crescent, & back to new moon.
Students illustrate the position of the moon during a **spring tide**.
(occurs during new & full moon phases--when the Earth, Moon, and Sun line up)

**Students illustrate the position of the moon during a neap tide. When the Earth, Sun, and
^ Moon EMS form a right angle--1st Quarter & 3rd Quarter Moon
solar eclipse: Earth, Moon, & Sun EMS lunar eclipse: Moon, Earth, & Sun MES
Students will be able to explain and track the Earth's seasons according to the angle of the Sun's
light and the position of the Earth's tilt on its axis and the location during its yearly revolution.
land and sea breeze demonstration / fish tank with color dye, cold water, & warm water.
The Sun is the driving force of the Earth's atmosphere air moving--wind!
Global Conveyor Belt https://oceanservice.noaa.gov/facts/conveyor.html
California Cool Current
Weather
Quizlet: Identify a variety of weather instruments & TCAP Coach, p. 104
Energy
https://www.khanacademy.org/science/physics/work-and-energy/work-and-energy-tutorial/v/conservation-of-energy
Gravitational potential, elastic potential, kinetic, mechanical, chemical, heat, radiant
Energy Links
Rube Goldberg Project
Create functioning energy transfers with various materials (include reusing/recycling materials)
materials can include, but not limted to the following examples;
ping pong balls, golf balls, marbles, Mousetrap game, toilet paper and paper towel cores,
PVC pipes, Jenga pieces, dominos, wooden blocks, popsicle sticks, string, rubber bands,
matchbox cars, hot wheels tracks, cardboard boxes, plastic bottles, etc...