7th Grade General Science Syllabus
Northland Preparatory Academy
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Course Description: This course is designed to introduce concepts in life, Earth and space sciences setting a foundation for higher grades as well as foster an appreciation and respect for the world around us. The classes are steeped in hands-on inquiry-based activities. First semester consists of studies in populations of organisms in an ecosystem and the structure of the Earth. Second semester students explore Earth's processes and systems and understand the relationship of the Earth and other objects in the solar system. Throughout the year students will continue to improve their understanding and skills related to scientific inquiry, scientific methods and the analysis of data.

In the first semester students will learn the inquiry process about populations of organisms in an ecosystem. They will formulate predictions, questions, or hypotheses based on observations. They will design and conduct controlled investigations. Analyze and interpret data to explain correlations and results as well as formulate new questions. Communicate results of investigation. They will analyze the relationships among various organisms and their environments. Key objectives for the semester are:

- Formulate questions based on observations that lead to the development of a hypothesis.
- Select appropriate resources for background information related to a question, for use in the design of a controlled investigation.
- Explain the role of a hypothesis in a scientific inquiry.
- Demonstrate safe behavior and appropriate procedures in all science inquiry.
- Design and investigation to test individual variables using scientific processes.
- Conduct a controlled investigation, utilizing multiple trials, to test a hypothesis using scientific processes.
- Perform measurements using appropriate scientific tools.
- Keep a record of observations, notes, sketches, questions, and ideas using tools such as written and/or computer logs.
- Compare food chains in a specified ecosystem and their corresponding food web.
- Explain how organisms obtain and use resources to develop and thrive in niches as well as describe predator/prey relationships.
- Analyze the interactions of living organisms with their ecosystems.
- Evaluate data related to problems associated with population growth and possible solutions.
- Predict how environmental factors affect survival rates in living organisms.
- Create a model of the interactions of living organisms within an ecosystem.

The second semester, students will learn about he structure of Earth, Earth's processes and systems as well as Earth in the solar system. They will describe the composition and interaction between the structure of the Earth and it's atmosphere, understand the

processes acting on the Earth and their interaction with the Earth systems and understand the relationships of the Earth and other objects in the solar system.. Key objectives for second semester are:

- Classify rocks and minerals by observable properties.
- Describe the properties and the composition of the major layers of the Earth.
- Explain erosion, deposition, plate tectonics and volcanism as they relate to the formation of Earth's structure.
- Describe how the rock and fossil record show that environmental conditions have changed over geologic and recent time.
- Explain the rock cycle.
- Distinguish the components and characteristics of the rock cycle for igneous, metamorphic and sedimentary rock.
- Analyze the evidence that lithospheric plate movement occur.
- Explain lithospheric plate movement as a result of convection.
- Related plate boundary movement to their resulting landforms.
- Describe how earthquakes are measured.
- Explain the phases of the Moon in terms of the relative positions of the Earth, Sun and Moon.
- Construct a model for the relative positions of the Earth, Sun and Moon as they related to corresponding eclipses.
- Explain the interrelationship between the Earth's tide and the Moon.
- Explain the seasons in the Northern and Southern Hemispheres in terms of the tilt of the earth's axis relative to the earth's revolutions around the Sun.
- Identify major constellations visible seasonally from the Northern Hemisphere.
- Explain the relationship among common objects in the solar system, galaxy, and the universe.

Supplies: Please bring these supplies every day:

Item	***Quantity***	***Comments***
Composition Book	One	Wide-ruled, 100 sheets, 9 ¾" x 7 ½"
Two-Pocket Folder	Two	One will be kept in room to hold current work, the other for take-home work
Pencils	Several	#2 only
Pens	Several	Blue or Black only
Glue Sticks	Two	These will be used all year for science notebook
Ruled Notebook Paper	One package	
Colored Pencils	One package	
Pencil Sharpener	One	Small hand held

General Rules:
1. Cooperate with your teacher and classmates.
2. Respect the rights and property of others.
3. Carry out your student responsibilities.

Student Responsibilities:
1. Come to class prepared
2. Keep track of your own books and assignments.
3. Start your work on time and allow enough time to finish.
4. Ask for help when you need it.
5. Do your own work.
6. Turn your work in on time.
7. Accept responsibility for grades or other consequences.
8. Abide by all school handbook policies.

Grading Information:
Grades are based on the student's cumulative earned points.

90-100%.....A
80-89.9%.....B
70-79.9%.....C
60-69.9%.....D
Below 59.9%.....F

Participation, class assignments, projects, tests, and homework are all important in determining your grade. In order to earn FULL credit, work must be turned in on the assigned due date.

Class Work Time:
There may be times when individual work is allowed during class time. This time is not social time. It is an expectation that you will work quietly on given assignments.

Assignments:
Homework is assigned usually 1-2 times per week. Assignments will be due the following day unless directions are given otherwise. It is expected that students do their very best and complete each assignment entirely.

Absent Information:
It is your responsibility to make-up all work and tests. You have one day for every excused absence to make up the daily work for full credit.

Late Work:
Late work is accepted for half credit.

Extra Help:

I am available most days before school, during lunch, and after school. Please make an appointment with me so that I can plan to be available to assist you. Your success is important. If you feel that you don't understand, are struggling with the material, or just plain lost, COME IN TO GET HELP!!!

Let's have a great year!