DARIEN PUBLIC SCHOOLS

CURRICULUM GUIDE

Earth Science

Adopted June 24, 2003

DARIEN PUBLIC SCHOOLS

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SECTION I - Course Information

STATEMENT OF PHILOSOPHY

The earth science course at Darien High School blends the study of several dynamic sciences including physical and historical geology, meteorology, oceanography, and astronomy. The course fully supports the mission of Darien High School to nurture student development in a rigorous intellectual environment.

OVERVIEW

"Earth science is an ongoing attempt to understand not only the agents of planetary change but also the resultant features, such as mountains, plains, lakes, ocean basins, river systems, glaciers and weather patterns.

Astronomy, geology, oceanography and meteorology are the four disciplines that interrelate to form the study of earth science. By clarifying the nature of earth, this multidisciplinary approach provides us with information necessary for our well-being."

An excerpt from **Earth Science, *A Holistic Approach*** by Donald J. Conte, Donald J. Thompson, and Lawrence L. Moses

ESSENTIAL QUESTIONS

Essential questions provide central learning themes that characterize the scope of each chapter. They exist for each chapter explored by the earth science course, and may be found at the beginning of each unit of study in the earth science curriculum guide. Research inquiry questions are themes that guide the development of student understanding. Students use these guiding questions to form related questions, develop understanding through research of those questions, design and run laboratory procedures to collect original data, synthesize findings, and present their understanding in written form. Classroom presentations are also encouraged.

PROCESS SKILLS

Process skills included in the earth science curriculum are:

- Using Maps and Globes
- Modeling
- Designing
- Scientific Method
- Writing: A Scientific Report/Lab Report
- Graphing

STUDENT PERFORMANCE TASKS

Chapter specific tests and laboratory exercises are designed to measure student understanding and proficiency for the content and skills learned during the earth science course.

GRADING RATIONALE

Tests: 40%

Laboratories: 40%

Mid-Year Examinations: 20%

Final Examinations: 20%

SECTION II – Unit Information

LIST OF UNITS

Unit Title	*Duration (Weeks)*
Unit 1: Structure of a Dynamic Earth	
Unit 2: Forces That Attack the Surface	
Unit 3: Forces That Raise the Surface	
Unit 4: The Ocean	
Unit 5: Earth and the Universe	
Unit 6: Atmospheric Science	
Unit 7: Earth's History	

UNIT 1 TITLE

Structure of a Dynamic Earth

UNIT 1 ESSENTIAL QUESTIONS

Essential Question 1
What is earth science?

Essential Question 2
What are the earth's shape, size and source of internal heat?

Essential Question 3
What are the structure and composition of minerals?

Essential Question 4
How are minerals identified?

Essential Question 5
How were earth's rocks formed?

Essential Question 6
What are the renewable, nonrenewable and alternative energy resources on earth?

Essential Question 7
What are maps and how are they constructed and used?

Unit 1 Research Inquiry:
How does depositional environment affect the texture of sedimentary rocks?

CONTENT KNOWLEDGE OBJECTIVES

Initial Understanding

Students will gain knowledge and skills by participating in and successfully completing a variety of classroom, text and laboratory experiences during Unit 1. This unit will equip students with essential knowledge and understanding about the processes and structures associated with the formation and evolution of the earth's surface. Students will also develop an understanding of the origin of the earth, its shape, size and internal heat, the atomic structure of matter and minerals, the formation of rocks, earth resources, and making and using maps.

Developing an Interpretation

Students will gain interpretation and analysis skills by participating in laboratory experiences that focus on the essential questions posed in Unit 1. Data collected during laboratory investigations are extensively analyzed and connections are made to other topics and fields of inquiry when appropriate.

Making Connections

Students will be able to synthesize and extrapolate using the knowledge and skills they gain as they progress through the content knowledge objectives of Unit 1. Knowledge in earth science accumulates as the student progresses through each unit in the course. Knowledge and skills gained in each unit are drawn upon and applied in subsequent units in earth science.

Taking a Critical Stance

Students will be able to evaluate, judge and order as they progress through the content knowledge objectives of Unit 1. Course experiences will help students develop keen critical thinking and inquiry skills. These skills will have crossover value for the student in the study of many other sciences (chemistry, physics, etc.)

VOCABULARY

Pertinent terminology in earth science unit 1 consists of seven distinct chapter specific word groups. The terminology provides the student of earth science with a core knowledge base around which each chapter is focused.

Chapter 1 Terminology

Introduction to Earth Science

1. **astronomy:**
2. **crust:**
3. **geology:**
4. **hypothesis:**
5. **inner core:**
6. **mantle:**
7. **meteorology:**
8. **oceanography:**
9. **outer core:**
10. **photosynthesis:**
11. **protoplanet:**
12. **protoplanet hypothesis:**

Chapter 2 Terminology

Earth's Shape, Dimensions, and Internal Heat

1. **density:**
2. **oblate spheroid**

Chapter 3 Terminology:

Atoms to Minerals

1. **atom:**
2. **atomic number:**
3. **compound:**
4. **covalent bond:**
5. **crystal:**
6. **electron:**
7. **element:**
8. **ion:**
9. **ionic bond:**
10. **isotope:**
11. **mass number:**
12. **matter:**
13. **metal:**
14. **mineral:**
15. **molecule:**
16. **native mineral:**
17. **neutron:**
18. **nonmetal:**
19. **proton:**
20. **silica tetrahedron:**
21. **silicate:**

Chapter 4 Terminology

How to Know the Minerals

1. **amphibole:**
2. **carbonate:**
3. **cleavage:**
4. **color:**
5. **crystal shape:**
6. **feldspar:**

7. **ferromagnesian silicate:**
8. **fracture:**
9. **hardness:**
10. **luster:**
11. **mica:**
12. **mineralogy:**
13. **pyroxene:**
14. **rock-forming minerals:**
15. **specific gravity:**
16. **streak:**

Chapter 5 Terminology

How Earth's Rocks Were Formed

1. **chemical**
2. **clastic:**
3. **contact metamorphism:**
4. **felsic:**
5. **fossils:**
6. **igneous:**
7. **mafic:**
8. **magma:**
9. **metamorphic:**
10. **organic:**
11. **plutonic:**
12. **porphyry:**
13. **regional metamorphism:**
14. **rock:**
15. **sedimentary:**
16. **stratification:**
17. **texture:**
18. **uniformitarianism:**
19. **volcanic:**

Chapter 6 Terminology

Resources and Our Environment

1. **acid rain:**
2. **environment:**
3. **eutrophication :**
4. **fossil fuels :**
5. **gangue :**
6. **nonrenewable resources :**
7. **ore mineral**
8. **photosynthesis :**
9. **pollution :**
10. **renewable resources :**
11. **reserves :**
12. **respiration :**
13. **salinization :**
14. **soil depletion :**
15. **soil fertility :**
16. **toxic wastes :**

Chapter 7 Terminology

Using Maps

1. **average slope:**
2. **bench mark:**
3. **contour interval:**
4. **contour line:**
5. **depression contour:**
6. **false-color image:**
7. **great circle:**
8. **imaging radar:**
9. **Landsat:**
10. **latitude:**
11. **longitude:**
12. **magnetic declination :**

13. **meridians :**
14. **parallels:**
15. **polyconic:**
16. **profile:**
17. **remote sensing:**
18. **steep land:**
19. **1:1 000 000:**
20. **7.5 minute quadrangle:**

PROCESS SKILLS

The process skills which the student develops during the Unit 1 curriculum include observation and manipulation of earth materials, proper use if investigative tools, the collection, processing and analysis of scientific data, and the development of hypotheses.

ACTIVITIES

The following is a list of activities and lab skills and objectives associated with Unit 1 of Earth Science.

Chapter 1

Collecting and Interpreting Data:

To **collect data** using laboratory equipment
To **graph** and **interpret** data
To **compare** and **contrast** graphs

Observations of a Sample of Earth Material:

To **observe** and **describe** a sample of soil
To **measure** and **record** data about the soil sample
To **hypothesize** about the source of the soil sample
To **compare** and **contrast** individual soil measurements with class measurements

*C*hapter 2

Eratosthenes and Earth's Circumference:

To **form models** of Eratosthenes' earth
To **measure** and **record** data from the model
To **compute** and **interpret** the data

The Density of Earth Materials:

To **measure** the mass and volume of several objects
To **compute** and **compare** the density of these objects
To **compare** computed values with accepted values
To **graph** and **interpret** data

Chapter 3

Growing Crystals:

To **observe** the formation of a crystal
To **identify** variables that affect crystal growth
To **evaluate** the shape of crystals

Crystals and Crystal Systems:

To **form models** of crystals
To **classify** the models and the actual crystals by their crystal systems
To **evaluate** mineral system identification

Chapter 4

Identification of Minerals:

To **observe, describe and compare** the properties of minerals
To **identify** a set of minerals by their properties

Specific Gravity and Mineral Identification:

To **measure** data and **calculate** the specific gravity of several minerals
To **identify** minerals using their specific gravities

Chapter 5

Studying Rock in Thin Sections:

To **observe** and **interpret** several diagrams of rock thin sections
To **classify** and **identify** the minerals and rocks represented by the diagrams

A Study of Igneous Rocks:

To **classify** and **identify** several igneous rocks
To **compare** the densities of light-colored and dark-colored igneous rocks

A Study of Sedimentary Rocks:

To **classify** and **identify** several sedimentary rocks
A Study of Metamorphic Rocks:
To **classify** and **identify** several metamorphic rocks

Chapter 6

Measuring Particulate Air Pollution:

To **measure** the rate at which solid particles are deposited around your school
To **compare** the amount of particulates in the air at different places around your school
To **determine** the sources of those particulates

Passive and Active Solar Heating:

To **construct** models of a passive solar collector and an active solar collector
To **compare** the operation and effectiveness of solar collectors

Chapter 7

Latitude and Longitude:

To **interpret** latitude and longitude line on various maps
To **identify** cities by their latitude and longitude

Mapping a Mountain:

To **describe** the shape of a land surface using a contour map

CAREER AWARENESS

Meteorology, geology, and cartography are three careers in science that students are made aware of during the course of unit 1 studies.

MATERIALS AND SUPPLIES

General list of supplies and material needed for unit 1 instruction:

1. A fully equipped science laboratory
2. Rock and mineral specimens
3. Topographic maps

UNIT 1- Goals and Standards

14 distinct Content Standards exist in the Connecticut 9-12 Science Curriculum.
Unit 1 addresses the following Content Standards:

1. Content Standard 1a-f.
2. Content Standard 7a.
3. Content Standard 7e.
4. Content Standard 7g.
5. Content Standard 8b.
6. Content Standard 8d.

UNIT 2 TITLE

Forces That Attack the Surface

UNIT 2 ESSENTIAL QUESTIONS

Essential Question 8
What are weathering, soils and mass movements?

Essential Question 9
What is groundwater?

Essential Question 10
How does running water affect the surface of the earth?

Essential Question 11
What role have glaciers played in the evolution of earth's landscape?

Essential Question 12
How do winds, waves and currents shape the earth's surface?

Unit 2 Research Inquiry:
How have mechanical and chemical weathering processes influenced Connecticut's landscape?

CONTENT KNOWLEDGE OBJECTIVES

Initial Understanding

Unit 2 provides the student of earth science an opportunity to develop understanding of the many forces at work that have shaped our planet's surface. This unit will equip students with an appreciation for the processes responsible for the evolution of the earth's surface over geologic time. Students will develop an understanding that these forces have been, are and will continue to shape and reshape the earth's surface into the distant future.

Developing an Interpretation

Students will gain interpretation and analysis skills by participating in laboratory experiences that focus on the essential questions posed in Unit 2. Data collected during laboratory investigations are extensively analyzed and connections are made to other topics and fields of inquiry when appropriate.

Making Connections

Students will be tasked to synthesize and extrapolate using the knowledge and skills they gain as they progress through the content knowledge objectives of Unit 2. Knowledge in earth science accumulates as the student progresses through each unit in the course. Knowledge and skills gained in each unit are drawn upon and applied in subsequent units in earth science.

Taking a Critical Stance

Students will be able to evaluate, judge and order as they progress through the content knowledge objectives of Unit 2. Course experiences will help students develop keen critical thinking and inquiry skills. These skills will have crossover value for the student in the study of many other sciences (chemistry, physics, etc.)

VOCABULARY

Pertinent terminology in earth science unit 2 consists of five distinct chapter specific word groups. The terminology provides the student of earth science with a core knowledge base around which each chapter is focused.

Chapter 8 Terminology

Weathering, Soils and Mass Movement

1. **carbonic acid:**
2. **chemical weathering:**
3. **creep:**
4. **erosion:**
5. **exfoliation:**
6. **hydrolysis:**
7. **ice wedging:**
8. **landslide:**
9. **mass movement:**
10. **mechanical weathering:**
11. **mudflow:**
12. **oxidation:**
13. **parent material:**
14. **residual soil:**
15. **soil:**

16. **soil erosion:**
17. **soil profile :**
18. **subsoil :**
19. **topsoil :**
20. **transported soil:**
21. **weathering:**

Chapter 9 Terminology

Water Moving Underground

1. **aquifer:**
2. **artesian formation:**
3. **deficit:**
4. **evapotranspiration:**
5. **geysers:**
6. **porosity:**
7. **recharge:**
8. **hydrosphere:**
9. **impermeable:**
10. **permeability:**
11. **surplus:**
12. **usage:**
13. **water budget:**
14. **water cycle:**
15. **water table:**

Chapter 10 Terminology

Running Water

1. **abrasion:**
2. **alluvial fan:**
3. **base level :**
4. **bed load :**
5. **carrying power:**
6. **delta:**
7. **discharge:**
8. **divide:**

9. **drainage basin or watershed:**
10. **flash flood:**
11. **flood plain:**
12. **gully:**
13. **headward erosion:**
14. **levees:**
15. **meanders:**
16. **oxbow Lake:**
17. **pothole:**
18. **solution:**
19. **stream piracy:**
20. **suspension:**
21. **water gap:**

Chapter 11 Terminology

Glaciers

1. **arête:**
2. **calving:**
3. **cirque:**
4. **continental glacier:**
5. **crevasses :**
6. **drumlins :**
7. **erratics :**
8. **eskers :**
9. **firn :**
10. **glacial trough :**
11. **horn:**
12. **ice caps:**
13. **ice front:**
14. **ice sheet:**
15. **kames:**
16. **kettles:**
17. **moraine:**
18. **nunataks:**
19. **outwash:**
20. **outwash plains:**
21. **roches moutonnees:**
22. **rock flour:**

23. **snow line :**
24. **striations :**
25. **till:**
26. **valley glacier:**

Chapter 12 Terminology

Effects of Winds, Waves, and Currents

1. **fjord: atoll:**
2. **backwash:**
3. **barrier reef:**
4. **beach:**
5. **blowouts:**
6. **corals:**
7. **deflation:**
8. **desert pavement:**
9. **dust storm:**
10. **fetch:**
11. **fringing reef:**
12. **lagoon:**
13. **loess:**
14. **longshore current:**
15. **period:**
16. **refraction:**
17. **rip current:**
18. **sandbar:**
19. **sea cliff:**
20. **swash:**
21. **tsunami:**
22. **ventifact:**
23. **wave height:**
24. **wavelength:**

PROCESS SKILLS

The process skills that the student develops during the Unit 2 curriculum include observation and manipulation of earth materials, proper use of investigative tools, the collection, processing and analysis of scientific data, and the development of hypotheses.

ACTIVITIES

The following is a list of activities and lab skills and objectives associated with Unit 2 of Earth Science.

Chapter 8

Temperature and Chemical Weathering:

To **model** a chemical weathering process
To **graph** the data from the model and to **interpret** the graph
To **predict** what will happen when the model is modified
To **compare** the observed data with the theoretical data

Weathering of Rock Materials:

To **observe** and **measure** some effects of chemical weathering on rock samples

Chapter 9

Interpreting Water Budgets:

To **describe** how water usage, deficit, recharge, and surplus are shown in both water budget data and graphs
To **compare** and **contrast** water budget graphs from different areas

Porosity, Permeability, and Capilarity:

To **measure** and **compare** the porosity, permeability and capillarity of several particle sizes

Cleaning Polluted Water:

To **observe** the results of three treatment methods for wastewater
To **evaluate** the effectiveness and limitation of wastewater treatment methods

Chapter 10

Stream Divides and River Systems:

To **identify** major United States river systems
To **locate** the drainage divides that form the boundaries of those systems

Particle Size and Settling Rate:

To **observe, measure and compare** the settling rates of several particle sizes
To **design an experiment** to investigate settling rates of several particle densities

Water Gaps:

To **relate** the action of moving water and weathering to information found on maps

Chapter 11

Glacial Rebound:

To **interpret** a map showing rebound contours for Canada
To **construct and interpret** a graph based upon data taken from the map

Analysis of Glacial Till:

To **identify** the particle sizes found in glacial material

Chapter 12

Beach Erosion and Deposition:

To **compare** the effects of wave speed on beach erosion and deposition
To **describe** the effect of shoreline slope on the rate of beach erosion

Effects of Blowing Winds:

To **observe** and **compare** the effects of moving air on different particle sizes
To **observe** some features of wind deposits

CAREER AWARENESS

Water quality chemist is a career in science that students are made aware of during the course of unit 2 studies.

MATERIALS AND SUPPLIES

General list of supplies and material needed for unit 2 instruction:

4. A fully equipped science laboratory
5. Stream table apparatus
6. Soil, water, rock, and glacial sediment samples

UNIT 2 Goals and Standards

14 distinct Content Standards exist in the Connecticut 9-12 Science Curriculum.
Unit 2 addresses the following Content Standards:

7. Content Standard 8b.
2. Content Standard 8d.

UNIT 3 TITLE

Forces That Raise the Surface

UNIT 3 ESSENTIAL QUESTIONS

Essential Question 13
What is plate tectonics?

Essential Question 14
How does volcanism relate to plate tectonics?

Essential Question 15
How do earthquakes relate to plate tectonics?

Essential Question 16
How do mountains result from tectonic forces?

Unit 3 Research Inquiry:
What factors help determine the different shapes formed by volcanoes?

CONTENT KNOWLEDGE OBJECTIVES

Initial Understanding

Unit 3 provides the student of earth science with a working knowledge of the concept of plate tectonics. The unit explores plate movement, crustal evolution, volcanism, earthquakes and mountain building processes as they relate to the theory of plate tectonics.

Developing an Interpretation

Students will gain interpretation and analysis skills by participating in laboratory experiences that focus on the essential questions posed in Unit 3. Data collected during laboratory investigations are extensively analyzed and connections are made to other topics and fields of inquiry when appropriate.

Making Connections

Students will be tasked to synthesize and extrapolate using the knowledge and skills they gain as they progress through the content knowledge objectives of Unit 3. Knowledge in earth science accumulates as the student progresses through each unit in the course.

Knowledge and skills gained in each unit are drawn upon and applied in subsequent units in earth science.

Taking a Critical Stance

Students will be able to evaluate, judge and order as they progress through the content knowledge objectives of Unit 3. Course experiences will help students develop keen critical thinking and inquiry skills. These skills will have crossover value for the student in the study of many other sciences (chemistry, physics, etc.)

VOCABULARY

Pertinent terminology in earth science unit 3 consists of four distinct chapter specific word groups. The terminology provides the student of earth science with a core knowledge base around which each chapter is focused.

Chapter 13 Terminology

Plate Tectonics

1. **asthenosphere:**
2. **collision boundary:**
3. **converging boundary:**
4. **craton:**
5. **diverging boundary:**
6. **fault:**
7. **lithosphere:**
8. **plate tectonics:**
9. **spreading centers:**
10. **subduction boundary:**
11. **terrane:**
12. **thin-skinned thrusting:**

Chapter 14 Terminology

Volcanism and Plate Tectonics

1. **batholith:**
2. **dike:**
3. **felsic:**
4. **hot spot:**
5. **laccolith:**
6. **lava:**
7. **mafic:**
8. **magma:**
9. **pluton:**
10. **rift eruption :**
11. **sill :**
12. **stock:**
13. **subduction boundary eruption:**
14. **tephra:**
15. **volcanic neck:**
16. **volcano:**

Chapter 15 Terminology

Earthquakes and Plate Tectonics

1. **earthquake:**
2. **elastic-rebound theory:**
3. **epicenter :**
4. **focus :**
5. **L wave:**
6. **Mohorovicic discontinuity (Moho):**
7. **P wave:**
8. **Richter scale:**
9. **seismic moment:**
10. **seismogram:**
11. **seismograph:**
12. **shadow zone:**
13. **S wave:**
14. **time-travel graph:**

Chapter 16 Terminology

Mountains and Plate Tectonics

1. **active continental margin:**
2. **anticline:**
3. **dome mountain:**
4. **fault-block mountain:**
5. **joint:**
6. **normal fault:**
7. **passive continental margin :**
8. **reverse fault :**
9. **strike-slip fault :**
10. **syncline:**

PROCESS SKILLS

The process skills which the student develops during the Unit 3 curriculum include observation and manipulation of earth materials, proper use if investigative tools, the collection, processing and analysis of scientific data, and the development of hypotheses.

ACTIVITIES

The following is a list of activities and lab skills and objectives associated with Unit 3 Earth Science.

Chapter 13

Convection Currents:

To **model** the movement of molten rock material within the asthenosphere
To **observe** and **describe** the movement of a fluid within a convection current

Patterns of Magnetic Polarity Reversals:

To **measure** the rate of seafloor spreading using patterns of magnetic reversals
To **compare** the rates of seafloor spreading in several different oceans

Plate Boundaries:

To **recognize** the boundaries of earth's plate and their direction of motion

Chapter 14

Patterns of Volcanism:

To **analyze** data relating to several volcanic belts
To **describe** volcanic belt properties based on these date

Volcanic Rocks and Their Formation:

To **construct** pie graphs for four unknown volcanic rocks
To **compare** and **contrast** pie graphs for rhyolite, andesite, and basalt with graphs of unknown specimens
To **identify** four unknown volcanic rocks and classify them according to the conditions of their formation

Chapter 15

Earthquakes and Subduction Boundaries:

To **construct** profiles across two subduction zones
To **compare** and **contrast** the behavior of two subducting plates

Locating an Earthquake Epicenter:

To **identify** the location of an earthquake epicenter using a time-travel graph and three seismograph tracings

Chapter 16

Mountains and Plate Boundaries:

To **correlate** mountain system locations with types of plate boundaries
To **compare** and **contrast** continental and oceanic mountain ranges

Folded Mountains:

To **interpret** the structure and geology of an area from map and cross-section data
To **infer** the relative resistance to weathering of various rock types

Folding and Faulting:

To **form models** of different fold and fault structures
To **evaluate** differences in tectonic features in order to form models

Faults and Tilted Layers:

To **interpret** the geology of an area from the symbols used on a geologic surface map and cross section

PERFORMANCE ASSESSMENT

Standard performance assessments for Unit 3 will include laboratory exercises and chapter specific tests. Laboratory exercises and chapter tests are evaluated based upon teacher prescribed performance parameters.

CAREER AWARENESS

Seismology is a career in science that students are made aware of during the course of unit 3 studies.

MATERIALS AND SUPPLIES

General list of supplies and material needed for unit 3 instruction:

1. A fully equipped science laboratory
2. Geologic maps
3. Topographic maps

UNIT 3 - Goals and Standards

14 distinct Content Standards exist in the Connecticut 9-12 Science Curriculum.
Unit 3 addresses the following Content Standards:

1. Content Standard 7b.
2. Content Standard 7c.

UNIT 4 TITLE

The Ocean

UNIT 4 ESSENTIAL QUESTIONS

Essential Question 17
What are the properties of ocean water?

Essential Question 18
What are the major characteristics of the ocean floor and its sediments?

Essential Question 19
How do ocean currents form and what are their characteristics?

Unit 4 Research Inquiry:
How do microscopic fossils found buried in ocean floor sediments help us construct a record of earth' past climates?

CONTENT KNOWLEDGE OBJECTIVES

Initial Understanding

Unit 4 provides the student of earth science with a foundation in the study of oceanography. The unit explores ocean water, seafloor environments and ocean currents. The unit is further augmented by additional topics related to life in the oceans and to current exploration efforts to study the earth's ocean regions.

Developing an Interpretation

Students will gain interpretation and analysis skills by participating in laboratory experiences that focus on the essential questions posed in Unit 4. Data collected during laboratory investigations are extensively analyzed and connections are made to other topics and fields of inquiry when appropriate.

Making Connections

Students will be tasked to synthesize and extrapolate using the knowledge and skills they gain as they progress through the content knowledge objectives of Unit 4. Knowledge in earth science accumulates as the student progresses through each unit in the course.

Knowledge and skills gained in each unit are drawn upon and applied in subsequent units in earth science.

Taking a Critical Stance

Students will be able to evaluate, judge and order as they progress through the content knowledge objectives of Unit 4. Course experiences will help students develop keen critical thinking and inquiry skills. These skills will have crossover value for the student in the study of many other sciences (chemistry, physics, etc.)

VOCABULARY

Pertinent terminology in earth science unit 4 consists of three distinct chapter specific word groups. The terminology provides the student of earth science with a core knowledge base around which each chapter is focused.

Chapter 17 Terminology

Properties of Ocean Water

1. **black smoker:**
2. **diatom:**
3. **mixed layer:**
4. **oceanography:**
5. **phytoplankton:**
6. **salinity:**
7. **thermocline:**
8. **zooplankton:**

Chapter 18 Terminology

The Ocean Floor and Its Sediments

1. **abyssal hill:**
2. **abyssal plain:**
3. **atoll:**
4. **clays:**
5. **continental rise:**
6. **continental shelf:**
7. **continental slope:**

8. **guyot:**
9. **manganese nodules:**
10. **muds:**
11. **oozes :**
12. **seamount :**
13. **submarine canyon :**
14. **turbidites:**
15. **turbidity currents:**

Chapter 19 Terminology

Ocean Currents

1. **countercurrent:**
2. **density current:**
3. **ocean current:**
4. **upwelling:**

PROCESS SKILLS

The process skills that the student develops during the Unit 3 curriculum include observation and manipulation of earth materials, proper use of investigative tools, the collection, processing and analysis of scientific data, and the development of hypotheses.

ACTIVITIES

The following is a list of activities and lab skills and objectives associated with Unit 4 Earth Science.

Chapter 17

Interpreting a Salinity Profile:

To **construct** an ocean water salinity profile
To **interpret** the salinity profile

Sea Water and Fresh Water:

To **compare** the densities of salt water and fresh water
To **predict** the behavior of salt water and fresh water in nature

Chapter 18

Contour of the Ocean Floor:

To **construct** and **interpret** an ocean floor profile

Seafloor Analysis:

To **analyze** a set of data from a portion of the Atlantic Ocean Floor

Chapter 19

World Ocean Currents:

To **identify** and **describe** the world's major ocean currents
To **observe** and **interpret** the relationship between winds and ocean currents

Density Currents:

To **observe** and **measure** a density current
To **design an experiment** to determines what happens when warm river water flows into cold ocean water

CAREER AWARENESS

Chemical oceanography is a career in science that students are made aware of during the course of unit 4 studies.

MATERIALS AND SUPPLIES

General list of supplies and material needed for unit 4 instruction:

7. A fully equipped science laboratory
8. Sea water and ocean floor sediment samples
9. Topographic maps of earth's seafloor regions

UNIT 4 - Goals and Standards

14 distinct Content Standards exist in the Connecticut 9-12 Science Curriculum.
Unit 4 addresses the following Content Standards:

8. Content Standard 8a.
9. Content Standard 8e.
10. Content Standard 8f.

UNIT 5 TITLE

Earth and the Universe

UNIT 5 ESSENTIAL QUESTIONS

Essential Question 20
How do we study the universe?

Essential Question 21
What are the characteristics of the stars and galaxies?

Essential Question 22
What are the characteristics of the sun and its solar system?

Essential Question 23
What are the characteristics of the planets in the solar system?

Essential Question 24
What are the characteristics of the moon and its effects on earth?

Essential Question 25
What are the characteristics of earth's motions?

Unit 5 Research Inquiry:
How do the earth's position and motions influence the changing of seasons?

CONTENT KNOWLEDGE OBJECTIVES

Initial Understanding

Unit 5 provides the student of earth science with a foundation in the study of astronomy. The unit examines the tools of astronomy, the nature of stars and galaxies, the sun, the planets of the solar system, the moon, and earth's motions. Laboratory experiences provide opportunities to explore various topics in astronomy while enhancing students' scientific collection, observation and analytical skills.

Developing an Interpretation

Students will gain interpretation and analysis skills by participating in laboratory experiences that focus on the essential questions posed in Unit 5. Data collected during laboratory investigations are extensively analyzed and connections are made to other topics and fields of inquiry when appropriate.

Making Connections

Students will be tasked to synthesize and extrapolate using the knowledge and skills they gain as they progress through the content knowledge objectives of Unit 5. Knowledge in earth science accumulates as the student progresses through each unit in the course. Knowledge and skills gained in each unit are drawn upon and applied in subsequent units in earth science.

Taking a Critical Stance

Students will be able to evaluate, judge and order as they progress through the content knowledge objectives of Unit 5. Course experiences will help students develop keen critical thinking and inquiry skills. These skills will have crossover value for the student in the study of many other sciences (chemistry, physics, etc.)

VOCABULARY

Pertinent terminology in earth science unit 5 consists of six distinct chapter specific word groups. The terminology provides the student of earth science with a core knowledge base around which each chapter is focused.

Chapter 20 Terminology

Studying the Universe

9. **baseline:**
10. **bright-line spectrum:**
11. **charge-coupled device (CCD):**
12. **continuous spectrum:**
13. **dark-line spectrum:**
14. **Doppler effect:**
15. **electromagnetic energy:**
16. **electromagnetic spectrum:**
17. **interferometry:**
18. **multiple-mirror telescope (MMT):**

19. **optical telescope:**
20. **radio astronomy:**
21. **radio telescope array:**
22. **reflecting telescope:**
23. **refracting telescope:**
24. **Schmidt telescope:**
25. **spectroscope:**
26. **visible spectrum:**

Chapter 21 Terminology

Stars and Galaxies

16. **absolute magnitude:**
17. **apparent magnitude :**
18. **astronomical unit (AU):**
19. **Big Bang hypothesis :**
20. **black holes:**
21. **Cepheid variables:**
22. **constellation:**
23. **dwarf stars:**
24. **eclipsing binary:**
25. **galaxies:**
26. **light-year (LY):**
27. **luminosity:**
28. **nebulae:**
29. **neutron star:**
30. **nova:**
31. **protostars:**
32. **pulsars:**
33. **quasars:**
34. **red giants :**
35. **supergiants :**
36. **supernova:**
37. **variable stars:**

Chapter 22 Terminology

The Sun and Its Solar System

5. **aphalion:**
6. **auroras:**
7. **chromosphere:**
8. **corona:**
9. **coronal holes:**
10. **deferent:**
11. **elliptical orbit:**
12. **epicycles:**
13. **equal area law:**
14. **escape velocity:**
15. **geocentric system:**
16. **granules:**
17. **harmonic law:**
18. **heliocentric:**
19. **laws of planetary motion:**
20. **orbit:**
21. **perihelion:**
22. **photosphere:**
23. **retrograde motion:**
24. **solar flares:**
25. **solar prominences :**
26. **solar system :**
27. **solar telescope :**
28. **solar wind:**
29. **sunspots:**
30. **universal law of gravitation:**

Chapter 23 Terminology

The Planets and the Solar System

1. **asteroid:**
2. **comet:**
3. **evening star:**
4. **greenhouse effect:**
5. **impact crater:**
6. **inner planet:**
7. **jovian planet:**
8. **meteor:**
9. **meteorite:**
10. **meteoroid:**
11. **meteor shower:**
12. **morning star:**
13. **outer planet:**
14. **satellite of moon:**
15. **terrestrial planet:**

Chapter 24 Terminology

Earth's Moon

1. **annular eclipse:**
2. **apogee:**
3. **Apollo:**
4. **crater:**
5. **Gemini:**
6. **Luna:**
7. **lunar eclipse:**
8. **lunar month:**
9. **maria:**
10. **mascon:**
11. **Mercury:**
12. **micro meteoroid:**
13. **neap tide:**

14.penumbra:
15.perigee:
16.phases:
17.Pioneer:
18.Ranger:
19.rays:
20.regolith:
21.rilles:
22.solar eclipse:
23.space shuttle:
24.spring tide
25.Surveyor:
26.tidal range:
27.tides:
28.umbra:
29.waning:
30. waxing:

Chapter 25 Terminology

Earth's Motions

1. **altitude:**
2. **autumn equinox:**
3. **axis of rotation:**
4. **Coriolis effect:**
5. **daylight saving time:**
6. **international date line:**
7. **parallax:**
8. **parallelism of the axis:**
9. **prime meridian:**
10. **revolution:**
11. **rotation:**
12. **solar noon:**
13. **solar time:**
14. **spring equinox:**
15. **standard time zones:**
16. **summer solstice:**

17. **time meridian:**
18. **winter solstice:**
19. **zenith:**

PROCESS SKILLS

The process skills which the student develops during the Unit 5 curriculum include observation and manipulation of earth materials, proper use if investigative tools, the collection, processing and analysis of scientific data, and the development of hypotheses.

ACTIVITIES

The following is a list of activities and lab skills and objectives associated with Unit 5 Earth Science.

Chapter 20

The Simple Spectroscope:

To **make** a simple spectroscope
To **compare** spectra from different light sources

The Refracting Telescope:

To **measure** the focal length of the lenses in a refracting telescope
To **observe** and **describe** the parts of a simple refracting telescope
To **design an experiment** to determine the optimum eyepiece location in a simple refracting telescope

Chapter 21

Constellations and the Seasons

To **locate** several stars and constellations on star maps
To **analyze** the apparent motions of stars and constellations over the seasons

Properties of Stars

To **graph** a simplified Hertzsprung-Russell diagram
To **identify** the characteristics of a star from the data in the diagram
To **classify** a star by its position in the diagram
To **compare** the life cycle stages of stars based on their positions in the diagram

Chapter 22

Ellipses and Eccentricity:

To **graph** several elipses
To **interpret** graphs to discover relationships between ellipse variables
To **compare** the ellipse models with orbits of planets

Retrograde Motion of Stars:

To **graph** part of the celestial sphere
To **interpret** data on the motion of Mars across the celestial sphere
To **predict** the motions of other planets

Chapter 23

Dimensions of the Solar System:

To **compute** the orbit distance and sizes of the planets on a scale model
To **form a model** of the solar system that illustrates the relative orbit distances and sizes of the planets

Jupiter and the Galilean Moons:

To **construct a graph** of the changing positions of the Galilean moons relative to Jupiter
To **analyze** the graph to determine patterns in the moon's motions
To **compare and contrast** the orbits and positions of the moons

Chapter 24

Moon, Sun, and Seasons:

To **construct a graph** of the altitudes of the sun and the moon over a one year period
To **interpret** the patterns on the graph
To **draw conclusions** about the relationship between the sun's noon altitude and the moon's maximum altitude

Diameter of the Moon and the Ecliptic Limit:

To **measure** the moon's diameter using the method of early astronomers.
To **identify** the portion of a lunar orbit where an eclipse could occur

Chapter 25

Apparent Size of the Sun

To **construct a graph** of solar apparent diameter data
To **interpret** the graph in terms of Earth's distance from the sun
To **compare** the graph with Earth's seasonal changes

Time and the Sun

To **measure latitude** by measuring the altitude of Polaris
To **graph** an anelemma
To **compare** the altitude of the sun on different dates using the analemma
To **identify** the seasons during which the solar time is ahead of and behind clock time

CAREER AWARENESS

Astronomer and lunar geologist are two careers in science that students are made aware of during the course of unit 5 studies.

MATERIALS AND SUPPLIES

General list of supplies and material needed for unit 4 instruction:

10. A fully equipped science laboratory
11. Seasonal star maps
12. Hertzsprung-Russell diagram

UNIT 5 - Goals and Standards

14 distinct Content Standards exist in the Connecticut 9-12 Science Curriculum.
Unit 5 addresses the following Content Standards:

11. Content Standards 10a-10g.

UNIT 6 TITLE

Atmospheric Science

UNIT 6 ESSENTIAL QUESTIONS

Atmospheric Science

Essential Question 26
What is the composition and structure of the atmosphere?

Essential Question 27
How do evaporation, condensation and precipitation in the atmosphere influence the weather?

Essential Question 28
How do atmospheric pressure and winds function in the atmosphere?

Essential Question 29
How do air masses and fronts influence the weather?

Essential Question 30
What are the characteristics of storms and how are they forcast?

Essential Question 31
What factors influence world climate patterns?

Unit 6 Research Inquiry:
What controls influence North American climate on a large scale, and how do those controls affect the local weather for any given area?

CONTENT KNOWLEDGE OBJECTIVES

Initial Understanding

Unit 6 provides the student of earth science with a foundation in the study of meteorology. This unit critically examines the nature of weather, the movement of weather fronts, storms, forecasting the weather, global climate patterns and their distribution. Laboratory experiences emphasize the behavior of heat as it applies the flow of energy in the atmosphere. Numerous additional non-text based laboratories examine

the inter-relationships among factors that influence local weather patterns and global climate distribution on earth.

Developing an Interpretation

Students will gain interpretation and analysis skills by participating in laboratory experiences that focus on the essential questions posed in Unit 6. Data collected during laboratory investigations are extensively analyzed and connections are made to other topics and fields of inquiry when appropriate.

Making Connections

Students will be tasked to synthesize and extrapolate using the knowledge and skills they gain as they progress through the content knowledge objectives of Unit 6. Knowledge in earth science accumulates as the student progresses through each unit in the course. Knowledge and skills gained in each unit are drawn upon and applied in subsequent units in earth science.

Taking a Critical Stance

Students will be able to evaluate, judge and order as they progress through the content knowledge objectives of Unit 6. Course experiences will help students develop keen critical thinking and inquiry skills. These skills will have crossover value for the student in the study of many other sciences (chemistry, physics, etc.)

VOCABULARY

Pertinent terminology in earth science unit 6 consists of six distinct chapter specific word groups. The terminology provides the student of earth science with a core knowledge base around which each chapter is focused.

Chapter 26 Terminology

Weather and the Atmosphere

1. **Beaufort Scale :**
2. **Chlorofluorocarbon (CFC) :**
3. **Conduction :**
4. **Convection :**
5. **Degree :**
6. **Greenhouse Effect:**

7. **Insolation:**
8. **Ionosphere:**
9. **Isotherm:**
10. **Mesosphere:**
11. **Meteorology:**
12. **Normal Lapse Rate:**
13. **Radiation:**
14. **Stratosphere:**
15. **Temperature Inversion:**
16. **Thermometer:**
17. **Thermosphere:**
18. **Troposphere:**
19. **Weather:**

Chapter 27 Terminology

Evaporation, Condensation, and Precipitation

1. **acid rain:**
2. **cirrus :**
3. **condensation :**
4. **condensation level :**
5. **condensation nuclei :**
6. **cumulonimbus :**
7. **cumulus :**
8. **dew :**
9. **dew point :**
10. **evaporation:**
11. **frost:**
12. **hail:**
13. **hygrometer:**
14. **moist-adiabatic lapse rate:**
15. **precipitation:**
16. **psychrometer:**
17. **rain gauge:**
18. **relative humidity:**
19. **sleet:**
20. **specific humidity:**

21. **stratus:**
22. **supercooled water:**

Chapter 28 Terminology

Atmospheric Pressure and Winds

1. **air pressure:**
2. **anemometer:**
3. **barometer:**
4. **Coriolis effect:**
5. **doldrums:**
6. **Hadley cell:**
7. **high-pressure area (high):**
8. **horse latitudes :**
9. **intertropical convergence zone (ITCZ) :**
10. **isobar:**
11. **jet Stream:**
12. **knot:**
13. **land breeze:**
14. **low-pressure area (low):**
15. **millibar:**
16. **monsoon:**
17. **polar front:**
18. **pressure gradient:**
19. **pressure-gradient force:**
20. **sea breeze:**
21. **sea-level pressure:**
22. **trade winds:**
23. **wind vane:**

Chapter 29 Terminology

Air Masses and Fronts

1. **air mass:**
2. **anticyclone:**
3. **cold front:**
4. **continental Arctic (cA):**

5. **continental Polar (cP):**
6. **continental Tropical (cT):**
7. **cylone:**
8. **front:**
9. **maritime Polar (mP):**
10. **maritime Tropical (mT):**
11. **Occluded front:**
12. **rawinsond:**
13. **stationary front:**
14. **warm front:**

Chapter 30 Terminology

Storms and Weather Forecasts

1. **air-mass thunderstorm:**
2. **blizzard:**
3. **computer model:**
4. **eye:**
5. **frontal thunderstorm:**
6. **hurricane:**
7. **severe thunderstorm:**
8. **station model:**
9. **storm surge:**
10. **tornado:**
11. **waterspout:**

Chapter 31 Terminology

Climate and Climate Change

1. **bora:**
2. **chinook:**
3. **climate:**
4. **continental climate :**
5. **El Nino:**
6. **foehn:**
7. **marine climate:**
8. **mistral:**
9. **Santa Ana:**

PROCESS SKILLS

The process skills which the student develops during the Unit 6 curriculum include observation and manipulation of earth materials, proper use if investigative tools, the collection, processing and analysis of scientific data, and the development of hypotheses.

ACTIVITIES

The following is a list of activities and lab skills and objectives associated with Unit 6 Earth Science.

Chapter 26

Temperature Inversion:

To **graph data** associated with a temperature inversion and with normal conditions, and to **compare** these two graphs
To **predict** the effects of a temperature inversion on the levels of air pollution near the ground
To **predict** changes in temperature conditions in the early morning

Absorption and Radiation of Heat Energy:

To **record** temperature changes produced by heat absorption and radiation
To **compare** light and dark materials and dull and shiny materials in terms of the amount of heat they absorb and radiate
To **compare** the "land" and "ocean" in terms of the heat they absorb and radiate

Chapter 27

Dew Point and Relative Humidity:

To **observe** dew formation, and **compute** relative humidity, using dew point method
To **compute** relative humidity using psychrometer method
To **compare** the methods used for finding relative humidity

The Effects of Acid Rain:

To **observe** and **measure** the effects of acid rain on plants, concrete and steel
To **summarize** and **draw conclusions** from the data obtained

Cloud Droplets, Light, and Rainbows:

To **observe** the formation of cloud droplets
To **observe** two different effects of the refraction of light by water
To **observe** how light is separated into its constituent colors by a prism
To **demonstrate** how sunlight is refracted by cloud droplets to produce rainbows

Chapter 28

Recording and Correlating Weather Variables:

To **measure** and **record** weather variables
To **identify** how weather conditions are related
To **predict** the local weather for a 24 hour time period

Prevailing Winds:

To **interpret** global wind patterns from the Prevailing World Winds map
To **evaluate** the relationship between prevailing winds and ocean currents

The Foucault Pendulum and the Coriolis Effect:

To **demonstrate Foucault's** experiment concerning earth's rotation
To **demonstrate** how earth's rotation produces the Coriolis effect

Chapter 29

Evaporation and the Windchill Factor:

To **observe** the effect of evaporation on temperature
To **compare** the rates of evaporation of water , alcohol, and glycerin
To **identify** the relationship between evaporation and windchill factor

Weather Patterns:

To **construct** maps of weather variables
To **interpret** data on weather maps based on the movement of air masses

Chapter 30

Reading Weather Maps:

To **recognize** weather map symbols
To **interpret** weather patterns based on the data on weather maps

Hurricane Andrew:

To **graph** and **interpret** weather data
To **correlate** the track of a hurricane with weather data

Chapter 31

World Climates:

To **interpret** a map of world climates
To **compare** the climates of several areas on a map
To **infer** causes of climate differences between areas

Temperatures in a Microclimate:

To **record** the variations in temperature occurring within the area of a microclimate
To **record** temperature variations with a small change in elevation
To **design an experiment** to determine optimum placement of solar energy equipment

Carbon Dioxide and Global Warming:

To **graph** changes in atmospheric carbon dioxide concentration and to interpret the graph
To **correlate** trends in carbon dioxide concentrations with future climate change

CAREER AWARENESS

Hurricane meteorologist and severe storms analyst are two careers in science that students are made aware of during the course of unit 6 studies.

MATERIALS AND SUPPLIES

General list of supplies and material needed for unit 6 instruction:

13. A fully equipped science laboratory
14. Weather and climate maps
15. Weather instrumentation

UNIT 6 - Goals and Standards

14 distinct Content Standards exist in the Connecticut 9-12 Science Curriculum.
Unit 6 addresses the following Content Standards:

12. Content Standards 9a-9i.

UNIT 7 TITLE

Earth's History

UNIT 7 ESSENTIAL QUESTIONS

Earth's History

Essential Question 32
How can rock and fossil records be used to interpret geologic time?

Essential Question 33
What are the characteristics of the Precambrian through the Paleozoic eras?

Essential Question 34
What are the characteristics of the Mesozoic and Cenozoic eras?

Unit 7 Research Inquiry:
How have the methods used to measure absolute time helped us to better understand earth's history?

CONTENT KNOWLEDGE OBJECTIVES

Initial Understanding

Unit 7 provides the student of earth science with a foundation in the study of historical geology. The unit chronicles Precambrian through modern life and environments as evidenced from rock and fossil records. Various dating methods are closely examined. Laboratory experiences analyze the significance of rock and fossil remains.

Developing an Interpretation

Students will gain interpretation and analysis skills by participating in laboratory experiences that focus on the essential questions posed in Unit 7. Data collected during laboratory investigations are extensively analyzed and connections are made to other topics and fields of inquiry when appropriate.

Making Connections

Students will be tasked to synthesize and extrapolate using the knowledge and skills they gain as they progress through the content knowledge objectives of Unit 7. Knowledge in earth science accumulates as the student progresses through each unit in the course. Knowledge and skills gained in each unit are drawn upon and applied in subsequent units in earth science.

Taking a Critical Stance

Students will be able to evaluate, judge and order as they progress through the content knowledge objectives of Unit 7. Course experiences will help students develop keen critical thinking and inquiry skills. These skills will have crossover value for the student in the study of many other sciences (chemistry, physics, etc.)

VOCABULARY

Pertinent terminology in earth science unit 7 consists of three distinct chapter specific word groups. The terminology provides the student of earth science with a core knowledge base around which each chapter is focused.

Chapter 32 Terminology

The Rock Record

20. **absolute time:**
21. **Archean:**
22. **Cenozoic:**
23. **correlation:**
24. **era:**
25. **epoch:**
26. **evolution:**
27. **fossil:**
28. **geologic timetable:**
29. **half-life:**
30. **index (guide) fossil:**
31. **key bed:**
32. **Mesozoic:**
33. **Paleozoic:**
34. **period:**
35. **Proterozoic:**

36. **radioactive decay:**
37. **radiocarbon:**
38. **relative time:**
39. **unconformity:**

Chapter 33 Terminology

Precambrian through Paleozoic

23. **brachiopod:**
24. **crinoid:**
25. **eurypterid:**
26. **foraminifera:**
27. **graptolite:**
28. **Precambrian:**
29. **shield:**
30. **stromatolites:**
31. **trilobite:**

Chapter 34 Terminology

The Mesozoic and Cenozoic Eras

24. **ammonite:**
25. **dinosaur:**
26. **hominid:**

PROCESS SKILLS

The process skills that the student develops during the Unit 7 curriculum include observation and manipulation of earth materials, proper use of investigative tools, the collection, processing and analysis of scientific data, and the development of hypotheses.

ACTIVITIES

The following is a list of activities and lab skills and objectives associated with Unit 7 Earth Science.

Chapter 32

Interpreting Geologic History:

To **interpret** the geology of an area from geologic map and cross-section data
To **infer** how the geology and topography relate to the geologic history of an area

Making a Geologic Time Line:

To **compare** and **contrast** the relative lengths of the geologic eras and periods

Chapter 33

Analysis of Brachiopod Fossils:

To **graph** and **interpret** fossil data
To **predict** characteristics of another fossil population based on these data

Rock Correlation:

To **construct** a stratigraphic column by correlating rock outcrops

Chapter 34

How Big Was That Dinosaur?:

To **measure** and **record** data from a model dinosaur
To **infer** information about real dinosaurs from model data
To **compare** dinosaur size with human size

Using Fossils:

To **identify** several kinds of fossils
To **compare** the the ages of the fossils
To **identify** the geologic age of the rock containing the fossils

CAREER AWARENESS

Historical geologist and paleontologist are two careers in science that students are made aware of during the course of unit 7 studies.

MATERIALS AND SUPPLIES

General list of supplies and material needed for unit 7 instruction:

16. A fully equipped science laboratory
17. Rock and fossil specimens

UNIT 7 - Goals and Standards

14 distinct Content Standards exist in the Connecticut 9-12 Science Curriculum.
Unit 7 addresses the following Content Standards:

13. Content Standard 6a.
14. Content Standard 6c.

SECTION III - Learning Resources

The earth science course will take advantage of a variety of supplemental learning resources available to Darien High School students. Wherever appropriate, these resources may include fieldwork experiences, off-campus field trips to museums and other natural sites of pertinent interest, information gained via the Internet, and the presentations of expert guest speakers from the earth science field.

PERFORMANCE ASSESSMENT

Standard performance assessments will include written reports and chapter specific tests. Written reports will be evaluated using teacher designed rubrics.

CORE TEXT

Earth Science by Nancy E. Spaulding and Samuel N. Namowitz

SUPPLEMENTAL RESOURCES

This is a current list of our district's media resources available to support the teaching of earth science.

Video media:

The Miracle Planet: Volumes 1,2,3, and 5.

Eyewitness: 'The Planets."

TMW Media: "The Solar System… A New Look."

National Geographic: "Exploring Our Solar System" and "Asteroids"

Hubbard Scientific: "The Meteorology Series"

Laser Disc Media:

The Living Textbook: "Geology and Meteorology", "Field Trips", "Beyond Earth"

Filmstrip Media:

National Geographic: "Geology…Our Dynamic Earth"

Scholastic Filmstrips: "The Earth", "Continental Drift", "Global Cooling Trend"

Ward's Series: "Continental Drift Parts I, II" and "Seafloor Spreading"

Educational Dimensions: "Plate Tectonics"