

COURSE: **Science-Grade 6** CODE:
UNIT: **Scientific Investigations and Earth's Waters** MAP LEVEL: 4
CONTACT: athompson@bridgeportedu.net or mcouncil@bridgeportedu.net
TIME FRAME: **1st Marking Period**

PERFORMANCE STANDARDS

27.1 SCIENCE - SCIENTIFIC INQUIRY (I)

- 27.1.1.6.1 Students will identify questions that can be answered through scientific investigation.
- 27.1.1.6.2 Students will read, interpret and examine the credibility of scientific claims in different sources of information.
- 27.1.1.6.3 Students will design and conduct appropriate types of scientific investigations to answer different questions.
- 27.1.1.6.4 Students will identify independent and dependent variables, and those variables that are kept constant, when designing an experiment.
- 27.1.1.6.5 Students will use appropriate tools and techniques to make observations and gather data.
- 27.1.1.6.6 Students will use mathematical operations to analyze and interpret the data.
- 27.1.1.6.7 Students will identify and present relationships between variables in appropriate graphs.
- 27.1.1.6.8 Students will draw conclusions and identify sources of error.
- 27.1.1.6.9 Students will provide explanations to investigated problems or questions.
- 27.1.1.6.10 Students will communicate about science in different formats, using relevant science vocabulary, supporting evidence and clear logic.

27.4 SCIENCE - EARTH SCIENCE (VIII,IX,X)

- 27.4.8.4.12 Students will describe how the sun's energy drives the water cycle.
 - 27.4.8.4.13 Students will describe the role of water in erosion and river formation.
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ESS/FOCUS QUESTIONS

1. What are the steps of the scientific method?
 2. What is an investigable question?
 3. What method should be used to design and conduct an experiment?
 4. What are the properties of water?
 5. Why is water important?
 6. How does water affect the shape of the earth?
 7. How is water classified on earth?
 8. How is earth's water distributed?
 9. How does water play a role in the erosion of the earth's surface?
 10. How does the sun affect the water cycle?
 11. What is global warming?
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CONTENT

Scientific Inquiry

-Search out, describe, explain, and predict natural phenomena.

Scientific Process Skills

-Questions, hypothesis, predictions, planning, observations, interpretations, and communication.

Scientific Literacy

-Speaking, listening, presenting, interpreting, reading, and writing about Science.

SKILLS

- Explain each of the steps of the scientific method.
- Explain what scientific inquiry involves.
- Record and organize data in data tables.
- Measure the volume of liquids using a graduated cylinder.
- Measure and record temperature using the Celsius scale.
- Create a diagram that explains the water cycle.
- Classify the sources of fresh and salt water.
- Compare and contrast Earth's fresh water sources.
- Graph the distribution of the Earth's waters.
- Calculate the percent of ice on the Earth.
- Design an experiment to test how water moves through soil.
- Develop a plan for water conservation in the home.
- Diagram and explain the water treatment process.

ASSURED EXPERIENCES

-Students will conduct controlled scientific experiments, formulate a hypothesis, collect and interpret data, draw conclusions and communicate results.

- Discovery Activity: What are Some Properties of Water?
 - Discovery Activity: Where Does the Water Come From?
 - Lab zone Skills Activity: Calculating how Earth's water is distributed.
 - Create and explain a model of the water cycle.
 - Discover Activity: What's in Pond Water?
 - Try This Activity: A Natural Filter
 - Discovery Activity: Where Does Water Go?
 - Analyzing Data: Uses of Water
 - Design Your Own Lab: Soil Testing
 - Analyzing Data: Household Water Use
 - Diagram and label the features of the ocean floor.
 - Skills Lab: The Shape of the Ocean Floor
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ASSESSMENTS

Rubric
Pre and post tests
Lab reports
Research papers
Student project
Portfolios
Journal
Prentice Hall Progress
Monitoring

OPTIONAL ACTIVITIES

- Develop a brochure, pamphlet or PowerPoint presentation on Water Conservation.
 - Discovery Activity: How Do Waves Change a Beach?
 - Compare and contrast land surface to ocean floor.
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RESOURCES

-Inquiry Skills activity Book I-Prentice Hall Science Explorer

United Streaming Videos

- "Scientific Method and Measurements"
- "The Importance of Water"
- "Water Smart: The Sun, Water Cycle and Climate"
- "Earth Science: Oceans"
- "Freshwater Wetlands: Water"

-Earth's Waters -Prentice Hall textbook

-Websites

www.phschool.com

www.harcourtschool.com

VOCABULARY

Abyssal plain	Spring tide
Acid rain	Submersible
Aquaculture	Surface tension
Aquifer	Tide
Artesian well	Trench
Atoll	Tributary
Capillary action	Tsunami
Coagulation	Upwelling
Concentration	Water cycle
Condensation	Water pollution
Continental shelf	Water quality
Continental slope	Watershed
Coriolis effect	Water table
Current	Wave
Desalination	Wave height
Drought	Wavelength
El nino	Wetland
Estuary	
Eutrophication	
Evaporation	
Filtration	
Flash flood	
Frequency	
Groundwater	
Hydroelectric power	
Hydrothermal vent	
Impermeable	
Intertidal zone	
Irrigation	
Levee	
Longshore drift	
Neap tide	
Neritic zone	
Nodule	
Permeable	
pH	
Precipitation	
Reservoir	
Rip current	
Salinity	
Saturated zone	
Seafloor spreading	

COURSE: **Science-Grade 6** CODE:
UNIT: **Landforms and Sewage Systems** MAP LEVEL: 4
CONTACT: athompson@bridgeportedu.net or mcouncil@bridgeportedu.net
GRADE: 6
TIME FRAME: **2nd Marking Period**

PERFORMANCE STANDARDS

27.1 SCIENCE - SCIENTIFIC INQUIRY (I)

- 27.1.1.6.1 Students will identify questions that can be answered through scientific investigation.
- 27.1.1.6.2 Students will read, interpret and examine the credibility of scientific claims in different sources of information.
- 27.1.1.6.3 Students will design and conduct appropriate types of scientific investigations to answer different questions.
- 27.1.1.6.4 Students will identify independent and dependent variables, and those variables that are kept constant, when designing an experiment.
- 27.1.1.6.5 Students will use appropriate tools and techniques to make observations and gather data.
- 27.1.1.6.6 Students will use mathematical operations to analyze and interpret the data.
- 27.1.1.6.7 Students will identify and present relationships between variables in appropriate graphs.
- 27.1.1.6.8 Students will draw conclusions and identify sources of error.
- 27.1.1.6.9 Students will provide explanations to investigated problems or questions.
- 27.1.1.6.10 Students will communicate about science in different formats, using relevant science vocabulary, supporting evidence and clear logic.

27.4 SCIENCE - EARTH SCIENCE (VIII,IX,X)

- 27.4.9.7.18 Students will describe how folded and faulted rock layers provide evidence of the gradual up and down motion of the Earth's crust.
- 27.4.9.7.19 Students will explain how glaciation, weathering and erosion create and shape valleys and floodplains.
- 27.4.9.7.20 Students will explain how the boundaries of tectonic plates can be inferred from the location of earthquakes and volcanoes.

27.5 SCIENCE - SCI & TECH IN SOCIETY (XI)

- 27.5.11.6.10 Students will explain the role of septic and sewage systems on the quality of surface and ground water sources.
 - 27.5.11.6.11 Students will explain how human activity may impact water resources in Connecticut such as local ponds, rivers and the Long Island Sound ecosystem.
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ESS/FOCUS QUESTIONS

1. How do you use research and technology to conduct scientific investigations?
 2. How do you collect and analyze data?
 3. What are the characteristics of the earth's crust, mantle and core?
 4. What causes convection currents in the earth's mantle?
 5. What is an earthquake?
 6. What is the theory of plate tectonics?
 7. What is subduction?
 8. What is sea -floor spreading?
 9. How do geologists identify and classify rocks?
 10. What is a continental glacier?
 11. What determines the formation of valleys and flood plains?
 12. How does stress affect the Earth's crust?
 13. What is a seismograph and how does it work?
 14. What are the two types of volcanic eruptions?
 15. What causes a volcano to form at a diverging plate boundary?
 16. What causes a tsunami to form?
 17. How can the quality of water be improved?
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CONTENT

Scientific Inquiry

-Search out, describe, explain, and predict natural phenomena.

Scientific Process Skills

-Questions, hypothesis, predictions, planning, observations, interpretations, and communication.

Scientific Literacy

-Speaking, listening, presenting, interpreting, reading, and writing about Science.

SKILLS

- Explain each step of the scientific method.
- Make inferences about the interior of the Earth using direct and indirect evidence.
- Create data tables to compare the depth and thickness of the Earth's layers.
- Explain the three methods of heat transfer on the Earth.
- Compare and contrast folded and faulted rock layers.
- Explain how valleys and floodplains form.
- Identify and explain normal, reverse and strike-slip faults.
- Describe glacier erosion and glacier deposition.
- Explain valley and continental glaciers.
- Construct a cause and effect chart that demonstrates chemical and mechanical weathering.
- Compare earthquakes, tsunamis and volcanoes.
- Create a concept map supporting the Earth's continental drifts.

ASSURED EXPERIENCES

-Embedded task: "Dig In"

-Chapter Project-Make a Model of the Earth

-Discovery Activity: How Do Scientists Find Out What's Inside Earth?

-Analyzing Data: Temperature Inside of the Earth

-Skills Lab: Modeling Sea-Floor Spreading

-Discover Activity: How well Do the Continents Fit Together?

-Skills Lab: Modeling Mantle Convection Currents

-Discover Activity: How Does Stress Affect Earth's Crust?

-Discover Activity: How Do Seismic Waves Travel Through Earth?

-Analyzing Data: Seismic Wave Speeds

-Skills Lab: Finding the Epicenter

-Skills Lab: Mapping Earthquakes and Volcanoes

-Discover Activity: How Can Volcanic Activity Change Earth's Surface?

-Analyzing Data: Mineral Density

-Skills Lab: Gelatin Volcanoes

-Analyzing Data: Mineral Mixture

-Study Guides, Reviews and Assessments: Chapters I, II, and III

-Prepare research paper on the local sewage system.

ASSESSMENTS

Embedded Task

Rubric

Pre and post tests

Research papers

Lab reports

Student project

Portfolios

Journal

Prentice Hall Progress

Monitoring

OPTIONAL ACTIVITIES

-Chapter Project: Growing a Crystal Garden

-Science and Society: Who Owns the Ocean's Mineral Rights?

-Chapter Project: Collecting Rocks

-At-Home Activity: The Rocks Around Us

RESOURCES

United Streaming Videos

- "Geography Basics: Landforms and Living Patterns"

- "Geographical Features: Landforms"

- "The Magic School Bus Blows its Top"

- "Natural Focus with Laurie Sanders: Water Quality"

- "Keeping Your Community Clean"

- Prentice Hall Textbook: Inside Earth

- Prentice Hall: Earth's Changing Surface

- Inquiry Skills Activity Book I-Prentice Hall

- Websites

www.phschool.com

www.harcourtschool.com

www.discoveryschool.com

VOCABULARY

Aftershock	Fault	Mercalli scale	Sea-floor spreading
Anticline	Focus	Metamorphic rock	Sediment
Asthenosphere	Foliated	Mid-ocean ridge	Sedimentary rock
Basalt	Footwall	Mineral	Seismic waves
Batholith	Fossil	Mohs hardness scale	Seismogram
Caldera	Fracture	Moment magnitude scale	Seismograph
Cementation	Friction	Normal fault	Shearing
Cinder cone	Gemstone	Ore	Shield volcano
Classic rock	Geode	Organic rock	Silica
Compaction	Geothermal activity	Outer core	Sill
Composite volcano	Geyser	Pahoehoe	Smelting
Compression	Grains	Pangaea	Stress
Continental drift	Granite	Pipe	Strike-slip fault
Convergent boundary	Hanging wall	Plate	Subduction
Coral reef	Hot spot	Plateau	Surface wave
Crater	Igneous rock	Plate tectonics	S wave
Crust	Inner core	P wave	Syncline
Deep-ocean trench	Intrusive rock	Pyroclastic flow	Tension
Deposition	Island arc	Reverse fault	Texture
Divergent boundary	Lava	Richter scale	Transform boundary
Earthquake	Liquefaction	Rift valley	Tsunami
Epicenter	Lithosphere	Ring of Fire	Vein
Erosion	Magma	Rock	Vent
Extinct	Magnitude	Rock cycle	Viscosity
Extrusive rock	Mantle	Rock-forming minerals	Volcano

COURSE: **Science-Grade 6** CODE:
UNIT: **Heating of the Earth's Surface** MAP LEVEL: 4
CONTACT: athompson@bridgeportedu.net or mcouncil@bridgeportedu.net
TIME FRAME: **3rd Marking Period**

PERFORMANCE STANDARDS

27.1 SCIENCE - SCIENTIFIC INQUIRY (I)

- 27.1.1.6.1 Students will identify questions that can be answered through scientific investigation.
- 27.1.1.6.2 Students will read, interpret and examine the credibility of scientific claims in different sources of information.
- 27.1.1.6.3 Students will design and conduct appropriate types of scientific investigations to answer different questions.
- 27.1.1.6.4 Students will identify independent and dependent variables, and those variables that are kept constant, when designing an experiment.
- 27.1.1.6.5 Students will use appropriate tools and techniques to make observations and gather data.
- 27.1.1.6.6 Students will use mathematical operations to analyze and interpret the data.
- 27.1.1.6.7 Students will identify and present relationships between variables in appropriate graphs.
- 27.1.1.6.8 Students will draw conclusions and identify sources of error.
- 27.1.1.6.9 Students will provide explanations to investigated problems or questions.
- 27.1.1.6.10 Students will communicate about science in different formats, using relevant science vocabulary, supporting evidence and clear logic.

27.4 SCIENCE - EARTH SCIENCE (VIII,IX,X)

- 27.4.9.6.7 Students will describe the effect of heating on the movement of molecules in solids, liquids and gases.
 - 27.4.9.6.8 Students will explain how local weather conditions are related to the temperature, pressure and water content of the atmosphere and the proximity to a large body of water.
 - 27.4.9.6.9 Students will explain how the uneven heating of the Earth's surface causes winds and affects the seasons.
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ESS/FOCUS QUESTIONS

1. How do you conduct a scientific investigation?
2. What is the effect of heating on the movement of molecules in solids, liquids and gases?
3. What are the layers of Earth's atmosphere?
4. What are the characteristics of each layer of the atmosphere?
5. What is the composition of Earth's atmosphere?
6. How are local weather conditions related to the temperature, pressure, and liquid content of the Earth's atmosphere?
7. What causes the Earth's seasons?
8. What are the six main climate regions?

9. How does the uneven heating of the Earth's surface cause winds and affect the seasons?
 10. What is the source of energy that powers the Earth's winds?
 11. What are the major types of air masses that affect Earth's weather?
 12. What factors influence temperature and precipitation?
 14. How do weather instruments work?
 15. What are the steps that meteorologists use to forecast weather?
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CONTENT

Scientific Inquiry

-Search out, describe, explain, and predict natural phenomena.

Scientific Process Skills

-Questions, hypothesis, predictions, planning, observations, interpretations, and communication.

Scientific Literacy

-Speaking, listening, presenting, interpreting, reading, and writing about Science.

SKILLS

- Observing, creating, interpreting and communicating data.
 - Create a graph of the gases that make up the Earth's atmosphere.
 - Prepare a pictorial model of the temperature changes in the Earth's atmosphere?
 - Explain and give examples of the methods of energy transfer on the Earth.
 - Conduct an experiment that investigates the properties of solids, liquids, and gases.
 - Demonstrate the ability to design and explain weather instruments that measure air pressure, wind direction and speed,.
 - Explain how changes in air pressure and temperature cause winds.
 - Compare and contrast local and global winds.
 - Explain how the uneven heating of the Earth's surface causes wind and affect the seasons.
 - Explain how the tilt of the Earth causes seasons to change.
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ASSURED EXPERIENCES

- Discovery Activity: Does Air Have Mass?
- Skills Lab: Working Under Pressure Constructing a Barometer
- Design Your Own Lab: How Clean Is the Air? Prepare data table which includes wind direction and wind speed.
- Study Guides: Organizing Information, Checking Concepts, Thinking Critically and Applying Skills.
- Discover Activity: Does a Plastic Bag Trap Heat?
- Skills Lab: Heating Earth's Surface
- Discover Activity: Build a Wind Vane-Does the Wind Turn?
- Technology Lab: Measuring the Wind-Build an Anemometer

- Discover Activity: Water in the Atmosphere-How Does Fog Form?
 - Discovery Activity: Precipitation-How Can You Make Hail?
 - Discover Activity: How Do Fluids of Different Densities Behave?
 - Skills Activity: Classifying Fronts
 - Discover Activity: How Does Latitude Affect Climate?
 - Skills Lab: Sunny Rays and Angles
 - Consumer Lab: Cool Climate Graphs
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ASSESSMENTS

- Rubric
 - Pre and post tests
 - Research papers
 - Lab reports
 - Student project
 - Portfolios
 - Journal
 - Prentice Hall Progress
 - Monitoring
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OPTIONAL ACTIVITIES

- Lab Zone: Breathe In, Breath Out

 - At-Home Activity: Dust in the Air

 - Skill Activity Calculating: Making a Rain Gauge

 - Discover Activity: What Is the Greenhouse Effect?
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RESOURCES

- Prentice Hall: All in One Teaching Resources-Weather and Climate

- United Streaming Videos
 - "There's No Place Like Earth: Water"
 - "There's No Place Like Earth: Oceans and Tides"
 - "There's No Place Like Earth: The Seasons"
 - "There's No Place Like Earth: Our Atmosphere"
 - "There's No Place Like Earth Video Quiz"

- Prentice Hall: CMT Practice Workbook with Content Review

- Prentice Hall Textbook: Weather and Climate

- Aqurion Water company activities:
<http://www.aqurion.com/education%20outreach.html>

-Websites:

www.phschool.com

www.harcourtschool.com

www.discoveryschool.com

VOCABULARY

Air mass	Microclimate
Air pressure	Monsoon
Anemometer	Occluded
Aneroid barometer	Permafrost
Anticyclone	Photochemical fog
Atmosphere	Polar air mass
Barometer	Polar zone
Chlorofluorocarbon	Pollutant
Climate	Precipitation
Condensation	Psychomotor
Continental air mass	Radiation
Continental climate	Rain gauge
Cyclone	Relative humidity
Density	Savanna
Desert	Steppe
Dew point	Storm surge
Droughts	Stratosphere
Exosphere	Stratus clouds
Front	Subarctic
Global winds	Temperate zones
Greenhouse effect	Temperature
Greenhouse gases	Thermal energy
Humid subtropical	Thermometer
Humidity	Thermosphere
Hurricane	Thunderstorm
Ice age	Tornado
Ionosphere	Tropical air mass
Isobar	Tropical zone
Isotherm	Troposphere
Jet stream	Tundra
La Nina	Ultraviolet radiation
Land breeze	Water vapor
Leeward	Weather
Lightening	Wind
Local winds	Wind-chill factor
Marine climate	Windward
Maritime air mass	
Mesosphere	
Meteorologists	

COURSE: **Science-Grade 6** CODE:
UNIT: **The Solar System** MAP LEVEL: 4
CONTACT: athompson@bridgeportedu.net or mcouncil@bridgeportedu.net
TIME FRAME: **4th Marking Period**

PERFORMANCE STANDARDS

27.1 SCIENCE - SCIENTIFIC INQUIRY (I)

- 27.1.1.6.1 Students will identify questions that can be answered through scientific investigation.
- 27.1.1.6.2 Students will read, interpret and examine the credibility of scientific claims in different sources of information.
- 27.1.1.6.3 Students will design and conduct appropriate types of scientific investigations to answer different questions.
- 27.1.1.6.4 Students will identify independent and dependent variables, and those variables that are kept constant, when designing an experiment.
- 27.1.1.6.5 Students will use appropriate tools and techniques to make observations and gather data.
- 27.1.1.6.6 Students will use mathematical operations to analyze and interpret the data.
- 27.1.1.6.7 Students will identify and present relationships between variables in appropriate graphs.
- 27.1.1.6.8 Students will draw conclusions and identify sources of error.
- 27.1.1.6.9 Students will provide explanations to investigated problems or questions.
- 27.1.1.6.10 Students will communicate about science in different formats, using relevant science vocabulary, supporting evidence and clear logic.

27.4 SCIENCE - EARTH SCIENCE (VIII,IX,X)

- 27.4.10.8.28 Students will explain the effect of gravity on the orbital movement of planets in the solar system.
 - 27.4.10.8.29 Students will explain how the regular motion of the Sun, Earth and Moon explains the seasons, phases of the moon and eclipses.
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ESS/FOCUS QUESTIONS

1. How is a scientific investigation conducted?
 2. How do you communicate scientific information effectively?
 3. What are the names of the planets in the Milky Way Universe?
 4. What is gravity?
 5. What is the law of universal gravitation?
 6. What two factors determine the strength of force of gravity between two objects?
 7. What are the factors that keep the moon and Earth in orbit?
 8. What effect does gravity have on the orbital movement of planets?
 9. What causes the phases of the moon?
 10. How often does the moon go through an entire set of phases?
 11. What are the two types of eclipses and how are they different?
 12. Why does the Earth have seasons?
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CONTENT

Scientific Inquiry

-Search out, describe, explain, and predict natural phenomena.

Scientific Process Skills

-Questions, hypothesis, predictions, planning, observations, interpretations, and communication.

Scientific Literacy

-Speaking, listening, presenting, interpreting, reading, and writing about Science.

SKILLS

-Observe, create, interpret, and communicate data.

-Identify and describe the planets in the Milky Way Universe.

-Compare rotation, revolution, and orbit.

-Explain why different areas of the Earth receive different amounts of heat energy throughout the year.

-Differentiate between mass and weight.

-Explain the factors that influence the strength of gravity and analyze the relationship between those factors and gravity.

-Explain the Law of Universal Gravitation.

-Explain the effect of gravity on the orbital movement of planets.

-Explain how the moon's gravity causes tides on Earth.

-Analyze the causes of moon phases.

-Identify the cause of eclipses.

-Describe the relative positions of objects in space when an eclipse occurs.

-Explain how solstices and equinoxes relate to seasons on Earth.

ASSURED EXPERIENCES

-Discover Activity: What Causes Day and Night?

-Try This Activity: Sun Shadows

-Skills Lab: Reasons for the Seasons

-Discover Activity: Can You Remove the Bottom Penny?

-Analyzing Data: Gravity versus Distance

-Discover Activity: How Does the Moon Move?

-Skills Lab: A "Moonth" of Phases

-At-Home Activity: Moonwatching

-Build Inquiry: Modeling the Movements of the Inner Planets

-Try This Activity: A Loopy Ellipse

-Skills Lab: Stormy Sunspots Graph

-Discover Activity: How Big Are the Planets?

-Analyzing Data: Planet Speed vs. Distance

-Skills Activity: Making Models

-Design Your Own Lab: Speeding Around the Sun

-Study Guides, Reviews and Assessments

ASSESSMENTS

Rubric
Pre and post tests
Research papers
Lab reports
Student project
Portfolios
Journal
Prentice Hall Progress Monitoring

OPTIONAL ACTIVITIES

-Make a scale model of the solar system.

RESOURCES

United Streaming Videos
-"Earth Science: Solar System"
-"Spin Around the Solar System: How the Solar System Works"
-"The Solar System: Above and Beyond"
-Space Exploration: Our Solar System
 "The Inner Planets"
 "The Outer Planets"
-"Spin Around the Solar System: The Small Pieces-Asteroids, Comets and Pluto"
-"Spin Around the Solar System: A look to the Stars"

-Prentice Hall: CMT Practice Workbook with Content Review
-Prentice Hall: Differentiated Instruction Guide
-Prentice Hall: Guided Reading and Study Workbook

-Prentice Hall Textbook: Astronomy

-Websites:
www.phschool.com
www.harcourtschool.com
www.discoveryschool.com

VOCABULARY

Asteroids	Geocentric	Orbit	Space probe
Asteroid belt	Geosynchronous orbit	Orbital velocity	Space spinoff
Astronomy	Globular cluster	Parallax	Space station
Big bang theory	Gravity	Penumbra	Spectrograph
Binary star	Heliocentric	Phase	Spectrum
Chromosphere	Hubble' law	Photosphere	Spiral galaxy
Coma	Irregular galaxy	Planetesimal	Sunspot
Comet	Kuiper belt	Prominence	Supernova
Constellation	Law of Universal	Protostar	Telescope
Comet nucleus	Gravitation	Pulsar	Terrestrial planets
Core	Light-year	Quasar	Thrust
Corona	Lunar eclipse	Radio telescope	Universe
Crater	Maria	Remote sensing	White dwarf
Dark energy	Meteor	Revolution	
Dark matter	Meteorite	Ring	
Eclipse	Meteoroid	Rocket	
Eclipsing binary	Microgravity	Rotation	
Electromagnetic radiation	Nebula	Rover	
Ellipse	Neutron star	Satellite	
Elliptical galaxy	Nuclear fusion	Solar eclipse	
Equinox	Observatory	Solar flare	
Escape velocity	Oort cloud	Solar nebula	
Galaxy	Open cluster	Solar wind	
Gas giants	Optical telescope	Solstice	