

**2011-2012**

**EARTH SCIENCE EIGHTH GRADE**

<b>CHAPTER NUMBER/BOOK</b>	<b>CHAPTER NAME</b>	<b>MONTH</b>
<b>3 EARTH SCIENCE</b>	<b>ROCKS</b>	<b>SEPTEMBER</b>
<b>4 EARTH SCIENCE</b>	<b>PLATE TECTONICS</b>	<b>OCTOBER</b>
<b>5 EARTH SCIENCE</b>	<b>EARTHQUAKES</b>	<b>NOVEMBER</b>
<b>6 EARTH SCIENCE</b>	<b>VOLCANOES</b>	<b>DECEMBER</b>
<b>2 EARTH'S WATERS</b>	<b>FRESH WATER</b>	<b>JANUARY</b>
<b>3 EARTH'S WATER</b>	<b>FRESH WATER RESOURCES</b>	<b>FEBRUARY</b>
<b>1 ASTRONOMY</b>	<b>SUN, MOON AND EARTH</b>	<b>MARCH</b>
<b>3 ASTRONOMY</b>	<b>THE SOLAR SYSTEM</b>	<b>APRIL</b>
<b>4 ASTRONOMY</b>	<b>STARS, GALAXIES, UNIVERSE</b>	<b>MAY</b>
<b>10 EARTH SCIENCE</b>	<b>ENERGY RESOURCES</b>	<b>MAY/JUNE</b>

Above is a tentative calendar for the eighth grade curriculum. From October to January students will also be working on Science Fair. Below are chapter descriptions that include activities, labs and assessments.

## **Mapping Earth's Surface**

In this chapter students will investigate the topography of Earth's surface. Students will also explore the different models of Earth, such as maps and globes. Finally, students will describe the components of a topographic map. In this chapter students will participate in a lab titled *Borderline Case*, where students learn about the states' borders. Also students will make a topographic map in the lab *A Map in a Pan*. Students should expect section assignments as well as a chapter assessment.

## **Rocks**

In the primary grades students should have learned about minerals so now the students will explore Earth's rocks. Students will classify and identify the three types of rocks as well as explore the rock cycle. Some labs in this chapter include *Mystery Rocks* where students will use properties of rocks to help classify them. Students will also model the rock cycle using chocolate. At the conclusion of the chapter students will explore an interdisciplinary unit on rocks that includes language arts and social studies lessons. Students should expect section assignments and a chapter assessment.

## **Plate Tectonics**

Students will now take their knowledge of Earth's surface and Earth's rocks to explore plate tectonics. Students will explore the interior of Earth as well as the theory of plate tectonics. Students will build a model of Earth and participate in several labs. Students will model sea-floor spreading and convection currents in two separate labs. Students should expect section assignments and a chapter assessment.

## **Earthquakes**

As a result of plate tectonics earthquakes occur. Students will explore the types of faults and stress inside Earth. Students will investigate the different seismic waves and scales in which earthquakes are measured. Students will also learn about earthquake safety and hazards. In the lab *Modeling Movement Along Faults* students will use playdough to model faulting. Students will also locate the epicenter of an earthquake in the lab *Locating an Epicenter*. Finally students will debate the risks of an earthquake in a Science and Society feature. Students should expect section assignments and chapter assessment.

## **Volcanoes**

Earthquakes and Volcanoes are very closely related. In this chapter students will take their prior knowledge from the past chapters and apply it to Volcanoes. Student will explore volcanic activity and landforms. Finally students will investigate volcanoes in the solar system. Students will research the effect of volcanoes on society in the past. Students will understand the connection between volcanoes and earthquakes in the lab *Mapping Earthquakes and Volcanoes*. Students will also model the movement of magma inside a volcano in the lab *Gelatin Volcanoes*. Students should expect section assignments and a chapter assessment.

## **Fresh Water**

Students explored weather and climate in the seventh grade. In this chapter students will now explore water on Earth's surface. Students will review the water cycle as well as water on and below Earth's surface. In the lab *Water From Trees* students will explore how much water a tree can give off. Students will also explore the speed of water through different soils in the lab *Soil Testing*. Students should expect section assignments and a chapter assessment.

## **Fresh Water Resources**

In this chapter students will explore freshwater drinking needs and pollution. Students will also investigate how to balance water needs and water as an energy resource. Students will participate in the *Real World Lab Testing the Waters* where students discover the difference between bottled, mineral and tap water. *Getting the Salt Out* is a lab where students learn how distillation can be used. Students will debate the overuse of water resources in a Science and Society activity. Students should expect section assignments and a chapter assessment.

## **Earth, Moon and Sun**

In this chapter students will explore earth's rotation and revolution. Student will also understand the moon and how it causes tides. Students will also learn about rockets and satellites as tools of modern astronomy. Students will complete section discovers as well as the chapter lab *Reasons for the Seasons*. Students will also participate in the lab *A Moonth of Phases* to explore the phases of the moon. Students should expect section assignments as well as a chapter assessment.

## **The Solar System**

In this chapter students will explore the sun, inner planets, outer planets, comets, asteroids and meteors. Students will also explore life beyond Earth. Students will model the solar system to scale as a chapter project. In the lab *Storm Sunspots* students will explore sunspots. In the skills lab *Speeding Around the Sun* students will investigate the revolution of planets around the sun. Finally students will debate the relevance of the space program in a Science and Society assignment. Students will complete a chapter project on the planets. Students should expect section assignments and a chapter assessment.

## **Stars, Galaxies and the Universe**

Students will learn about the tools of astronomy, characteristics of stars, lives of stars, star systems and galaxies. Students will investigate constellations of stars as a chapter project. In the lab *Make Your Own Telescope* students will do just that. Students will debate the issue of light pollution in a Science and Society assignment. In the lab *How Far Is That Star?*, students will use parallax to determine distance. Students should expect section assignments and chapter assessment.

## **Energy Resources**

In this chapter students will investigate fossil fuels, renewable sources of energy, nuclear energy and energy conservation. In the lab *Cooking With Sunshine* student will determine the best shape for a solar panel. Students will debate the cost of hydroelectric dams in a Science and Society assignment. Finally in the lab *Keeping Comfortable* students will investigate which materials are most effective in heat transfer. Students can expect section assignments and chapter assessment.

## **Science Inquiry Skills**

In all areas of science certain skill are necessary to be successful. These skills include predicting, inferring, observing graphing, classifying, making measurements, communicating results and making models. Throughout this year each month the students will be focusing on one of these skills in order to master it for the future.