

Unit 1: A Changing Earth
Chapter 1: Structure, Earthquakes and Volcanoes
2 Weeks

6.4

- What can we learn about God through studying Creation?**
How does God provide for our needs through studying Creation?
What did the curse of Sin cost us as believers?
How does God use Creation for His glory?
How was the flood viewed in relation to mankind?
What is the significance of the rainbow?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • explain the structure and layers of the earth • describe the tectonic plates • discuss the causes and features of an earthquake • compare/contrast types of earthquake waves • explain the use of the Richter scale • describe the location of the 2 major seismic and volcanic belts • describe the structure of a volcano • explain causes of volcanic eruption • differentiate between lava and magma • differentiate between types of volcanic ejecta • identify parts of a volcano • identify dangers of volcanoes • list products of volcanoes • describe other kinds of thermal eruptions 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook questions, worksheets and activities individually and in groups • videos • daily review 	<ul style="list-style-type: none"> • textbook • workbook • videos • posters • volcanic ejecta samples • pictures • books on earthquakes and volcanoes • 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • answers to questions on worksheets • test • quizzes • volcano report

Unit 1: A Changing Earth
Chapter 2: Weathering and Erosion
12 Days

6.4

- How are we to be stewards of God's Creation?**
How does God use Forces to the Earth's benefit?
What is God's provision for mankind in this chapter?
How is God the Master of Creation?
How is mankind responsible for its resources and its actions?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • differentiate between the 3 major rock types, giving examples of each • differentiate between chemical and physical weathering • describe how acid rain forms • explain how limestone caves are formed in relation to chemical weathering • describe the formation and appearance of several cave formations • compare types and sizes of soil • illustrate soil horizons • differentiate between erosion and weathering • compare types of erosion and effects on rocks • describe how sediments are carried and deposited by a stream • identify types of mass movements 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook questions, worksheets and activities individually and in groups • rock identification activity • daily review 	<ul style="list-style-type: none"> • textbook • workbook • rock and mineral samples • posters • cave pictures • videos • books related to chapter • Rock Cycle Rap 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • answer to questions on worksheets • diagram the rock cycle • test • responses on rock identification activity • soil identification activity

Unit 1: A Changing Earth
Chapter 3: Natural Resources
10 Days
6.4

How are we responsible for the natural resources God has given us?
How has God given mankind dominion over resources?
How has God provided for us?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • recognize differences between renewable and nonrenewable resources • describe the 3 fossil fuels, their origin, acquisition and uses • describe benefits and problems related to nuclear energy • describe renewable /nonrenewable resources • name and identify uses of metals • recognize soil as a natural resource • identify ways to conserve soil • recognize that ocean is source for most fresh water 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook questions, worksheets and activities individually and in groups • hands-on activities • daily review 	<ul style="list-style-type: none"> • textbook • workbook • videos • posters • books related to chapter 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • answer to questions on worksheets • teacher made test • responses to Clean Up the Spill activity • responses to Erosion Prevention Activity

Unit 2: God’s Living Creation
Chapter 4: Cells and Classification
13 Days
6.3

How can we see God’s perfect design in cell design?
How can we see the effect of the result of sin?
How are death and decay part of God’s plan?
How is mankind special in comparison to God’s other creations?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • distinguish between living and nonliving things • identify 5 characteristics of living things • explain the cell theory • review the history of the microscope • identify cells as living organisms • discuss relationship of cells, tissues, and systems • identify cell structures • compare/contrast plant/animal cells • introduce process of cell division • distinguish groups according to criteria • name the 6 kingdoms • compare/contrast man to/from other living organisms • recognize creator of current method of classification • know levels of classification system • identify proper form of scientific name 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook questions, worksheets and activities individually and in groups • daily review 	<ul style="list-style-type: none"> • textbook • workbook • posters • videos • books related to chapter 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • answer to questions on worksheets • test • Activities manual study guides • Evaluation of Cell Model Project • responses to Classification activity

Unit 2: God’s Living Creation
Chapter 5: Animal Classification
2 Weeks
6.1

What role does man play in relationship to animals?
How is man responsible for his actions when it comes to the animal kingdom?
How does Creation model biblical truth?
How does God provide for his creation?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • recognize invertebrates and vertebrates as a way to distinguish animals • describe unique characteristics of mollusks • describe and compare types of worms • explain how worms can be helpful/harmful • describe unique characteristics of arthropods • identify characteristics of various vertebrates • recognize the life cycle of most amphibians • identify characteristics of mammals • compare marsupials to other mammals • compare humans to mammals 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook questions, workbook, and activities individually and in groups • Gallery walk of sea creatures and mammals 	<ul style="list-style-type: none"> • textbook • workbook • video • posters • books on animals • materials provided by Virginia Living museum. 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • teacher made test • Gallery walk posters and participation

**Unit 2: God’s Living Creation
Chapter 6: Plant Classification**

9 Days

6.2

How do we see God as the Master Creator in plant design?

Is God creative and how can this be seen in botany?

How are we required to give God our best?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • explain the difference between vascular and nonvascular plants • recognize that vascular plants can be classified as seed-bearing and seedless plants • recognize that seed-producing plants can be classified as gymnosperm and angiosperm • identify types of conifers and their uses • recognize that angiosperms include trees, shrubs, and flowering plants and their uses • distinguish among annuals, biennials, and perennials • compare monocotyledons and dicotyledons • identify vascular tissues and their functions • identify functions of the stem of a plant • describe differences between herbaceous and woody stems • list main functions of root systems • describe taproots and fibrous roots • 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook and workbook questions and activities individually and in groups • flower dissection • fruit dissection • research projects 	<ul style="list-style-type: none"> • materials for flower dissection • materials for fruit dissection • textbook • workbook • books on plants • videos 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • responses to questions on worksheets • responses to questions on flower and fruit dissections • test • Activities manual study guide • evaluate Plant Products project • responses in activity How Big is My Tree?

Unit 3: Energy in Motion
Chapter 7: Atoms and Molecules

11 Days

6.6

How is God seen as the Master Creator in this chapter?

How can God be seen as an orderly God?

How is God's Creation used for man's enjoyment?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • describe and label size, charge, location of atom parts • recognize atoms are made of one kind of atom • differentiate between atomic mass and atomic number • identify parts and job of the periodic chart • describe process for arranging elements • explain that a chemical change occurs when atoms combine • define synthesis and decomposition reactions • write a chemical formula • compare/contrast ionic and covalent bonding • define ion • recognize chemical reactions • identify a reaction endothermic or exothermic • define acids and bases and their products • explain how salt is formed • use pH indicator paper to determine if acid or base 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook and workbook questions and activities individually and in groups 	<ul style="list-style-type: none"> • textbook • workbook • videos • posters • books on atoms and molecules 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • teacher made test • evaluate elements "Wanted" Project • evaluate responses in Which Antacid is Best activity

Unit 3: Energy in Motion
Chapter 8: Electricity and Magnetism
9 Days
6.6

How does God provide for us?

How is his design evident in magnetism and electricity?

What are some of the key factors we can use to conserve electricity and be good stewards at the same time?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • identify two things needed for an electric current to flow • define static electricity, conductors, resistors, insulators, parallel circuits, series circuits, volt, ampere, watt, magnetism, electricity, electronics • explain how a battery works • describe what happens to magnets at their poles • explain how a generator works • identify some parts of a computer 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook and workbook questions and activities individually and in groups • labs • illustration of circuits 	<ul style="list-style-type: none"> • textbook • workbook • videos • posters • books on electricity and magnetism • material for magnetic lab 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • test • evaluate responses to magnetic lab • evaluate illustrations of circuits

Unit 3: Energy in Motion
Chapter 9: Motion and Machines

9 Days

6.6

What is our responsibility to glorify God?
How are simple machines used for God's glory?
How is motion part of God's unique design?

Objectives	Methods	Resources	Assessment
<ul style="list-style-type: none"> • define speed, velocity, mass, momentum, pulley, wheel and axle, inclined plane, wedge, screw, compound machine • explain why a reference point is needed to observe motion • identify Newton's three laws of motion • explain that gravity and friction work against inertia • explain that work equals force times distance • differentiate between the three classes of levers 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook questions, worksheets and activities individually and in groups • videos • daily review 	<ul style="list-style-type: none"> • textbook • workbook • videos • posters • pictures • books related to chapter • materials for Mini Cars in Motion activity • materials for modeling three types of levers 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • answers to questions on worksheets • test • reactions in Mini Cars in Motion activity • responses in creating each type of lever

Unit 4: Beyond Our Earth

Chapter 10: Stars

9 Days

6.5

How do the heavens reflect God's glory?
How does God use Creation for His purpose?
How does God's creation show his omniscience?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • explain how stars produce their own light • define apparent magnitude, absolute magnitude, pulsating variable star, eclipsing variable star, nova, supernova, reflecting telescope, refracting telescope, open star cluster, globular star cluster, asteroids, meteoroids, meteors, meteorites, comets • recognize stars are classified according to color • explain how distance is measured in space • explain how a neutron star and black hole are formed • identify constellations • explain why a Christian should NOT be involved in astrology • identify how many stars are in a binary star group and a multiple star group • identify our galaxy as the Milky Way and that it is part of a cluster of galaxies called the Local Group • 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook questions, worksheets and activities individually and in groups • videos • daily review 	<ul style="list-style-type: none"> • textbook • workbook • videos • posters • pictures • books on stars • materials for Crater Creations activity 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • answers to questions on worksheets • test • quizzes • Crater Creations activity

Unit 4: Beyond Our Earth
Chapter 11: Solar System
11 Days

6.5

How does the solar system show God's orderly design?
What characteristics of God can we see through the design of the universe?
What does the solar system show about God's character/

Objectives	Methods	Resources	Assessment
<ul style="list-style-type: none"> • identify parts of the sun • describe characteristics of a solar storm • explain why Earth has seasons • understand how sun's gravitational pull keeps planets in orbit • define inner planets, outer planets, solar and lunar eclipses, satellite, probe, • history of planet discovery • characteristics of the planets • explain how God made earth unique • explain why the same side of the moon faces earth • describe history of space exploration • explain how rockets work 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook questions, worksheets and activities individually and in groups • videos • daily review • solar system 3D model 	<ul style="list-style-type: none"> • textbook • workbook • videos • posters • pictures • books on solar system 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • answers to questions on worksheets • teacher made test • teacher made quizzes • evaluate solar system 3D model

Unit 5: God's Continuing Plan
Chapter 12: Plant and Animal Reproduction
8 Days
6.1 & 6.2

What is God's plan for mankind?
How does reproduction show God's purposeful design?
How does each individual reflect the image of God?
Why are we created unique by God and treasured by Him?
What is His one desire for his creation of mankind?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • explain flower part purposes • define pollination, fertilization, germination, seeds, spores, placental gestation, marsupial gestation, • explain how to classify fruits • explain how conifers reproduce • recognize that animals begin as a single cell • differentiate between types of eggs and why some animals lay eggs • identify methods of asexual reproduction • 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook questions, worksheets and activities individually and in groups • videos • daily review • grow a seed in a bag • pinecone demo 	<ul style="list-style-type: none"> • textbook • workbook • videos • posters • pictures • books on reproduction • materials for flower dissection 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • answers to questions on worksheets • teacher made test • teacher made quizzes • evaluate responses seed in a bag activity

Unit 5: God’s Continuing Plan
Chapter 13: Heredity and Genetics
9 Days

What is God’s plan for heredity?
How does heredity show God’s purposeful design?
How does each individual reflect the image of God?
Why are we created unique by God and treasured by Him?
What is His one desire for his creation of mankind?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • define chromosomes, DNA, genes, dominant genes, recessive genes, • identify learned and inherited traits • identify structure of DNA molecule • identify ways DNA testing is used • describe Mendel’s experiments and conclusions • predict genetic probability using a Punnett square • identify sex-linked traits • identify common genetic disorders and diseases • explain genetic engineering and how it is helpful and harmful • 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook questions, worksheets and activities individually and in groups • videos • daily review 	<ul style="list-style-type: none"> • textbook • workbook • videos • posters • pictures • books about chapter 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • answers to questions on worksheets • test • look for recessive and dominant traits on themselves\ • evaluate responses of DNA model activity • evaluate performance in Paper Pet activity

Unit 6: Our Intricate Bodies
Chapter 14: The Nervous System
10 Days

How does the nervous system show the intricacies of God?
How are nervous disorders part of the curse?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • identify two main parts of the nervous system • describe the parts of the central nervous system, the peripheral nervous system, and the endocrine system • list the four lobes of the cerebrum • differentiate the functions of the three parts of the brain • define neuron and how it works • describe a reflex • describe the five senses and the nerves associated with them • distinguish between short-term memory and long-term memory • describe REM sleep • identify disorders of the nervous system and endocrine system • recognize problems of drug abuse and how they affect the nervous system • list biblical reasons for NOT taking drugs 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook questions, worksheets and activities individually and in groups • videos • daily review 	<ul style="list-style-type: none"> • textbook • workbook • videos • posters • pictures • books about the nervous system 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • answers to questions on worksheets • test • quizzes • Evaluate performance in Reaction activity and Touch Tester activity

Unit 6: Our Intricate Bodies
Chapter 15: Immune System
9 Days

How do immune diseases relate to the curse?
Why does God allow these diseases to exist?
What are the ramifications of sin on the human body?

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • recognize disease as a consequence of sin • explain how diseases are classified • identify common pathogens and related diseases • list ways pathogens are spread • differentiate between communicable and noncommunicable diseases • define epidemiologist • identify defensive barriers of the body • explain functions of white blood cells during immune response • list three ways the body can obtain immunity • compare/contrast antibiotics/antibodies • identify problems when the immune system malfunctions 	<ul style="list-style-type: none"> • lecture • discussion • individual reading • completing textbook questions, worksheets and activities individually and in groups • videos • daily review 	<ul style="list-style-type: none"> • textbook • workbook • videos • posters • pictures • books about the immune system 	<ul style="list-style-type: none"> • participation in class discussion • responses to questions from text • answers to questions on worksheets • teacher made test • teacher made quizzes