

CCS COURSE MAP

SUBJECT: BIOLOGY

GRADE LEVEL 9th-10th
COURSE LENGTH Year

REVIEWED 2018-2019

Student Goals:					
		I	To gain appreciation for God and the world He created.		
		II	To learn laws of God and man that apply to earth and how it works.		
		III	To demonstrate an understanding of the students' environment and its natural laws.		
Student Outcome					
		I	The students will be able to study the human body and its relationship to the environment.		
		II	The students will be able to explore man's collected knowledge of the living things God created.		
		III	The students will be able to study basic science skills used in scientific investigation.		
		IV	The students will be able to show their understanding of scientific knowledge through investigations, and projects.		
UNIT/ WEEKS	STANDARD	OBJECTIVES	ACTIVITIES/ASSESSMENT	RESOURCES	BIBLICAL INTEGRATION
Module 1: Biology: Study of Life 2 weeks	9.4.1.2.3	Students will: ·learn the criteria for being considered alive ·know the parts of the microscope ·practice using the microscope ·use a biological key to identify organisms	·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests	· <i>Exploring Creation with Biology</i> 2 nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests	·God has designed living organisms to adapt to their surroundings so that they can survive ·God created all things. No matter how much man wants to create life; there are limits on science.

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<p>Module 2: Kingdom Monera</p> <p>2 weeks</p>		<p>Students will:</p> <ul style="list-style-type: none"> ·be able to explain the characteristics of bacteria ·classify bacteria according to shape ·learn the behaviors of bacteria ·look for bacteria in pond water 	<ul style="list-style-type: none"> ·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests 	<ul style="list-style-type: none"> ·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests 	<ul style="list-style-type: none"> ·Although secular scientist want to label bacteria as a simple life form, a closer look reveals that clearly bacteria is not simple and must be a result of design. God is clearly the designer because he says he is and he is all powerful and all knowing.
<p>Module 3: Kingdom Protista</p> <p>2 weeks</p>		<p>Students will:</p> <ul style="list-style-type: none"> ·learn the characteristics of the major organisms in the Kingdom protista ·identify algae ·look at pond water in detail through lab activities 	<ul style="list-style-type: none"> ·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests 	<ul style="list-style-type: none"> ·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests 	<ul style="list-style-type: none"> ·Symbiosis is yet another witness to God’s handiwork and His plans. ·God’s designs solve problems. ·God’s handiwork is readily available even in the smallest of organisms.

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<p>Module 4: Kingdom Fungi</p> <p>2 weeks</p>		<p>Students will:</p> <ul style="list-style-type: none"> ·learn the characteristics of fungi ·identify types of fungus ·study/observe types of fungus ·grow yeast in laboratory activity 	<ul style="list-style-type: none"> ·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests 	<ul style="list-style-type: none"> ·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests 	<ul style="list-style-type: none"> ·God has covered all the bases. Knowing that creation creates waste, He designed an organism or two to take care of this. ·Fungi represent God’s variety and interesting design.
<p>Module 5: The Chemistry of Life</p> <p>2 weeks</p>	<p>9.4.1.2.1 9.4.1.2.2 9.4.2.2.1</p>	<p>Students will:</p> <ul style="list-style-type: none"> ·understand the basic unit of matter ·understand the changes matter can undergo ·know the process of photosynthesis ·know which organic compounds are needed in the body and for what they are needed 	<ul style="list-style-type: none"> ·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests 	<ul style="list-style-type: none"> ·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests 	<ul style="list-style-type: none"> ·The chemistry of life is orchestrated and designed by God. Everything works together and not one detail has been forgotten. Just as the chemical aspect of life works together, so God has worked every aspect of our lives if we just trust Him to take care of it.

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<p>Module 6: The Cell</p> <p>2 weeks</p>	<p>9.4.1.2.4 9.4.1.2.5 9.4.1.1.1</p>	<p>Students will:</p> <ul style="list-style-type: none"> ·explain the structure and parts of the cell ·explain why each part of the cell is important and what is its function 	<ul style="list-style-type: none"> ·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests 	<ul style="list-style-type: none"> ·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests 	<ul style="list-style-type: none"> ·Just like God designed every part of the cell to function together to carry out life, so has He designed Christians to each have their own spiritual gifts that work together with other Christians to make the Body of Christ.
<p>Module 7: Cellular Reproduction and DNA</p> <p>2 weeks</p>	<p>9.4.1.2.6 9.4.3.1.3 9.4.3.2.1 9.4.3.2.2 9.4.3.2.3</p>	<p>Students will:</p> <ul style="list-style-type: none"> ·learn the process of DNA and RNA reproduction ·observe mitosis and meiosis through the microscope 	<ul style="list-style-type: none"> ·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests 	<ul style="list-style-type: none"> ·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests 	<ul style="list-style-type: none"> ·Just like Jesus is the source for our spiritual lives, DNA is the source for our physical life. ·DNA is the guidebook for our physical life as the Bible is our guidebook for our spiritual life.

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<p>Module 8: Mendelian Genetics</p> <p>2 weeks</p>	<p>9.4.3.1.1 9.4.3.1.2</p>	<p>Students will:</p> <ul style="list-style-type: none"> ·learn the basics of genetics ·practice with Punnett squares and lab activities ·understand what it means for a gene to be sex-linked 	<ul style="list-style-type: none"> ·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests 	<ul style="list-style-type: none"> ·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests 	<ul style="list-style-type: none"> ·God wants us to be fruitful and multiply. Understanding how traits are passed from one organism to another, further helps us to find ways to combat incorrect gene transfer. ·Genetics also offers ways to increase food production for the betterment of mankind.
<p>Module 9: Evolution</p> <p>2 weeks</p>	<p>9.4.3.3.1 9.4.3.3.2 9.4.3.3.3 9.4.3.3.4 9.4.3.3.5 9.4.3.3.6</p>	<p>Students will:</p> <ul style="list-style-type: none"> ·learn the basics of what an evolutionists believes ·learn things to refute evolution 	<ul style="list-style-type: none"> ·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests 	<ul style="list-style-type: none"> ·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests 	<ul style="list-style-type: none"> ·It is important to know what the God has said about the beginning of time. ·Since God wants us to always be ready to give an answer to the hope that lies within, we should become armed with an answer in this area.

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<p>Module 10: Ecology</p> <p>2 weeks</p>	<p>9.4.2.1.1 9.4.2.1.2 9.4.2.2.2</p>	<p>Students will:</p> <ul style="list-style-type: none"> · be able to explain the different types of ecosystems · draw and explain the water, oxygen, and carbon cycle 	<ul style="list-style-type: none"> · class discussions · projects · lab activities · worksheets · homework · quizzes · tests 	<ul style="list-style-type: none"> · <i>Exploring Creation with Biology</i> 2nd ed. – Apologia · Lab Supplies · Microscope · Lab Sheets · Quizzes · Tests 	<ul style="list-style-type: none"> · As God has mandated us to take care of the Earth, studying ecosystems and their effect on other ecosystems, gives us the knowledge to be better caretakers.
<p>Module 11: Invertebrates of Kingdom Animalia</p> <p>2 weeks</p>	<p>Zoology Std: SC.912.L.15.7</p>	<p>Students will:</p> <ul style="list-style-type: none"> · learn the characteristics of invertebrates · learn the main organisms for the main phyla of invertebrates · dissect an earthworm 	<ul style="list-style-type: none"> · class discussions · projects · lab activities · worksheets · homework · quizzes · tests 	<ul style="list-style-type: none"> · <i>Exploring Creation with Biology</i> 2nd ed. – Apologia · Lab Supplies · Microscope · Lab Sheets · Quizzes · Tests 	<ul style="list-style-type: none"> · Each time we study the design of an organism, it gives us a better appreciation for the Designer. It begs us to decide if we will accept Him or reject the amazing design played out before us.

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<p>Module 12: Phylum Arthropoda</p> <p>2 weeks</p>	<p>Zoology Std: SC.912.L.15.7</p>	<p>Students will:</p> <ul style="list-style-type: none"> ·learn the characteristics of arthropods ·learn the different systems of a crayfish ·dissect a crayfish ·learn major points of interest in spider anatomy ·learn major points of the class insecta and how to classify them 	<ul style="list-style-type: none"> ·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests 	<p>·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia</p> <ul style="list-style-type: none"> ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests 	<ul style="list-style-type: none"> ·God’s design is well thought out. Every little organism is part of the design and network of living things working together. ·Every organism is important to God. Just as God said that not one sparrow falls without His notice.
<p>Module 13: Phylum Chordata</p> <p>2 weeks</p>	<p>Zoology Std: SC.912.L.15.7</p>	<p>Students will:</p> <ul style="list-style-type: none"> ·understand the characteristics of the fish and amphibian ·dissect a perch ·dissect a frog 	<ul style="list-style-type: none"> ·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests 	<p>·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia</p> <ul style="list-style-type: none"> ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests 	<ul style="list-style-type: none"> ·God places the care of animals on a high level. This is why we should study them, so that we can take better care of them.

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<p>Module 14: Kingdom Plantae: Anatomy and Classification 2 weeks</p>	<p>exceeds the standard</p>	<p>Students will: ·learn the structure of leaves, stems, and roots ·be able to identify leaves based on their structure ·look at microscopic portions of stems, leaves, and roots</p>	<p>·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests</p>	<p>·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests</p>	<p>·Being able to identify different organisms of God’s creation is beneficial to man. In the Garden of Eden, recognizing which tree Adam and Eve were not to partake in was a life altering event. The same goes for now. Learning the potential hazards and benefits of different plants is important.</p>
<p>Module 15: Kingdom Plantae: Physiology and Reproduction 2 weeks</p>	<p>exceeds the standard</p>	<p>Students will: ·learn the needs of plants ·explain the reproduction process of plants ·learn the process of germination</p>	<p>·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests</p>	<p>·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests</p>	<p>·Because God designed life to bear after its own kind, the reproduction process is important to God. What is important to God should be important to us.</p>

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<p>Module 16: Reptiles, Birds, Mammals</p> <p>2 weeks</p>	<p>9.4.1.1.2 Zoology Std: SC.912.L.15.7</p>	<p>Students will:</p> <ul style="list-style-type: none"> ·learn the basic characteristics of reptiles, birds and mammals ·be able to identify local birds 	<ul style="list-style-type: none"> ·class discussions ·projects ·lab activities ·worksheets ·homework ·quizzes ·tests 	<ul style="list-style-type: none"> ·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests 	<p>·The mention of birds is quite frequent in the Scriptures. If God cares about each bird, then it stands to reason that we can care too. We can also learn many things by studying birds.</p>
<p>Human anatomy</p> <p>2 weeks</p>	<p>9.4.1.1.2 9.4.4.1.1 9.4.4.2.1 9.4.4.2.2 9.4.4.2.3 9.4.4.2.4 9.4.4.2.5</p>	<p>Students will:</p> <ul style="list-style-type: none"> ·learn each system of the body and the important organs for each system ·be able to identify key structures for each system ·know basic best practices for keeping our systems healthy 		<ul style="list-style-type: none"> ·<i>Exploring Creation with Biology</i> 2nd ed. – Apologia ·Lab Supplies ·Microscope ·Lab Sheets ·Quizzes ·Tests 	<ul style="list-style-type: none"> ·Our bodies are a holy temple of God. It is vital that we understand the human body so that we can keep it clean and pure. ·God has given man the ability to know much knowledge. We should be wise stewards of this knowledge.