

# CCS COURSE MAP

## SUBJECT: SCIENCE

**GRADE LEVEL 5<sup>th</sup>**  
**COURSE LENGTH SEMESTER**

**REVIEWED 2018-2019**

Student Goals:					
		I	To have an appreciation for the students' environment and God's natural laws that control it.		
		II	To study and apply basic science skills given to the students by God and used in scientific investigation.		
		III	To demonstrate an understanding of the students' environment and its natural laws		
		IV	To acknowledge the students' bodies as fearfully/wonderfully made by God.		
Student Outcomes					
		I	The students will be able to explore man's collected knowledge of God's universe.		
		II	The student will be able to actively investigate human nutrition and the endocrine system.		
		III	The students will be able to examine plant and animal cells and how man uses them in God's creation.		
		IV	The students will be able to examine agriculture and forestry.		
		V	The students will be able to examine weather and climate, motion and forces, and space.		
UNIT/ WEEKS	STANDARD	OBJECTIVES	ACTIVITIES/ASSESSMENT	RESOURCES	BIBLICAL INTEGRATION
1. Cells  3 weeks	7.4.1.1.1 7.4.1.2.3 7.4.3.1.1	Students will: ·evaluate how the process of machinery parts working together relates to the cell theory  ·state the cell theory, label and describe the functions of major organelles, and distinguish between plant and animal cells  ·summarize how trait	·Discussions ·Writing paragraphs ·Completing worksheets ·Investigations ·Make a DNA model ·Demonstrations ·Use microscope to look at cells ·Review quizzes ·Test after each chapter	·Science Level Five 2 <sup>nd</sup> Ed., 2004 – Purposeful Design ·Science Notebook ·Textbook Worksheets ·Microscope ·Quizzes ·Tests	·Man can never know all there is to know about life.  ·Things seen were made by God from the unseen.

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		<p>are controlled by DNA, genes, and chromosomes</p> <ul style="list-style-type: none"><li>·list, illustrate, and paraphrase the events that occur during the cell cycle</li><li>·relate the levels of cell organization to the development of an organism, beginning with a fertilized egg</li><li>·observe animal and plant cells, discriminate between them, and draw their observations</li><li>·explain how cancer develops, describe at least three common types of cancer, list three methods of treatment, and identify four ways to help prevent certain cancers</li></ul>			
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<p>2. Ecological Succession</p> <p>2 weeks</p>	<p>5.3.4.1.1 5.4.1.1.1</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>·interpret and dramatize the consequences of interruptions to natural cycles</li> <li>·identify two types of ecological succession and will describe the series, or stages, of primary succession</li> <li>·examine the effects of the glacial retreat at Glacier Bay, Alaska. They will track the stages of primary succession that have occurred in this area.</li> <li>·describe and illustrate the four series of secondary succession</li> <li>·give examples of how secondary succession has taken place since the fires of 1988 in Yellowstone National Park</li> </ul>	<ul style="list-style-type: none"> <li>·Discussions</li> <li>·Writing paragraphs</li> <li>·Completing worksheets</li> <li>·Investigations</li> <li>·Make a diorama</li> <li>·Demonstrations</li> <li>·Review quizzes</li> <li>·Test after each chapter</li> </ul>	<ul style="list-style-type: none"> <li>·Science Level Five 2<sup>nd</sup> Ed., 2004 – Purposeful Design</li> <li>·Science Notebook</li> <li>·Textbook Worksheets</li> <li>·Quizzes</li> <li>·Tests</li> </ul>	<ul style="list-style-type: none"> <li>·Nature suffers the consequences of the Fall of man.</li> <li>·God is the source of the strength and wisdom we need to face life’s interruptions and trials.</li> <li>·Good can come from tragedy.</li> </ul>
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		<ul style="list-style-type: none"> <li>·prepare models to demonstrate primary and secondary succession. conduct an experiment and analyze variables involved in volcanic eruptions</li> <li>·examine and summarize two events in history that initiated ecological succession</li> </ul>			
<p>3. Changing Matter</p> <p>3 weeks</p>	<p>5.1.1.1.3 6.2.1.2.1 6.2.1.2.2 8.2.1.1.1</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>·observe and then compare physical characteristics of events occurring in the classroom. The will evaluate the importance of making detailed observations and gathering evidence</li> <li>·describe how a physical change affects bonds and physical properties. They will differentiate van der Waals forces from chemical bonds.</li> </ul>	<ul style="list-style-type: none"> <li>·Discussions</li> <li>·Writing paragraphs</li> <li>·Completing worksheets</li> <li>·Investigations</li> <li>·Demonstrations</li> <li>·Model making</li> <li>·Review quizzes</li> <li>·Test after each chapter</li> </ul>	<ul style="list-style-type: none"> <li>·Science Level Five 2<sup>nd</sup> Ed., 2004 – Purposeful Design</li> <li>·Science Notebook</li> <li>·Textbook Worksheets</li> <li>·Quizzes</li> <li>·Tests</li> </ul>	<ul style="list-style-type: none"> <li>·The God of the Bible is the Creator.</li> <li>·When God created the sun, He included the process of nuclear change to produce energy.</li> <li>·Energy is never created or destroyed which shows God’s power and planning.</li> </ul>

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GRADE LEVEL 5<sup>th</sup>

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		<p>·distinguish between substances and mixtures. They will demonstrate how to use physical changes to separate mixtures.</p> <p>·identify differences between chemical and physical changes. They will name two chemical properties of matter.</p> <p>·contrast chemical and nuclear changes. They will identify fission and fusion as two forms of nuclear change.</p> <p>make models of water molecules to simulate physical, chemical, and nuclear changes. They will demonstrate the solubility and insolubility of different liquids.</p> <p>·analyze how combustion is used to</p>			
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**COURSE LENGTH SEMESTER**

**REVIEWED 2018-2019**

		power a variety of vehicles			
4. Force and Work  2 weeks	5.2.2.1.1 5.2.2.1.2 5.2.2.1.3	<p>Students will:</p> <ul style="list-style-type: none"> <li>·will assess the advantages of using tools to accomplish work.</li> <li>·describe the relationship between speed, velocity, and acceleration. They will calculate the speed of a given object.</li> <li>·use appropriate metric units to calculate force and work.</li> <li>·classify and describe levers and inclined</li> </ul>	<ul style="list-style-type: none"> <li>·Discussions</li> <li>·Writing paragraphs</li> <li>·Completing worksheets</li> <li>·Investigations</li> <li>·Demonstrations</li> <li>·Review quizzes</li> <li>·Test after each chapter</li> </ul>	<ul style="list-style-type: none"> <li>·Science Level Five 2<sup>nd</sup> Ed., 2004 – Purposeful Design</li> <li>·Science Notebook</li> <li>·Textbook Worksheets</li> <li>·Quizzes</li> <li>·Tests</li> </ul>	<ul style="list-style-type: none"> <li>·Frequently, people need to work together to accomplish God’s plan</li> <li>·No matter where we work, we should operate in a community with others so that we can help one another for the kingdom of God</li> </ul>

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**GRADE LEVEL 5<sup>th</sup>**

**COURSE LENGTH SEMESTER**

**REVIEWED 2018-2019**

		<p>planes as types of simple machines.</p> <ul style="list-style-type: none"> <li>·locate and label the load, effort, and fulcrum for each of the three classes of levers</li> <li>·demonstrate the three classes of levers. They will describe the relationship of the distance between the effort and the fulcrum to the amount of effort needed in a first-class lever.</li> <li>·calculate the grade of a slope. They will give examples of how simple machines were used in ancient civilizations.</li> </ul>			
<p>5. Natural Resources</p> <p>2 weeks</p>	<p>5.3.4.1.1 5.3.4.1.2 5.3.4.1.3 5.4.4.1.1</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>·apply their knowledge of basic human needs to determine the necessary resources for survival on a deserted island. They will evaluate how to</li> </ul>	<ul style="list-style-type: none"> <li>·Discussions</li> <li>·Writing paragraphs</li> <li>·Completing worksheets</li> <li>·Investigations</li> <li>·Demonstrations</li> <li>·Review quizzes</li> <li>·Test after each chapter</li> </ul>	<ul style="list-style-type: none"> <li>·Science Level Five 2<sup>nd</sup> Ed., 2004 – Purposeful Design</li> <li>·Science Notebook</li> <li>·Mineral samples</li> <li>·Textbook Worksheets</li> <li>·Quizzes</li> <li>·Tests</li> </ul>	<ul style="list-style-type: none"> <li>·Christians have a responsibility as stewards to protect the Earth’s resources</li> <li>·The phrase <i>garbage in, garbage out</i> exemplifies God’s warning to be</li> </ul>

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**GRADE LEVEL 5<sup>th</sup>**  
**COURSE LENGTH**

**SEMESTER**

**REVIEWED 2018-2019**

		<p>conserve resources in order to survive.</p> <ul style="list-style-type: none"> <li>·list natural resources and distinguish between renewable and nonrenewable resources.</li> <li>·identify the three main types of fossil fuels, explain how each is formed, and give examples of how each is used.</li> <li>·cite physical characteristics of metals and distinguish them as subgroup of minerals. They will simulate how ore is extracted</li> <li>·summarize the environmental and economic issues surrounding landfills and waste. They will plan, prepare, and propose ways to reduce, reuse, and</li> </ul>			<p>careful of what we allow into our lives.</p> <ul style="list-style-type: none"> <li>·What we sow, we will reap.</li> </ul>
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**GRADE LEVEL 5<sup>th</sup>**

**COURSE LENGTH SEMESTER**

**REVIEWED 2018-2019**

		<p>recycle.</p> <ul style="list-style-type: none"> <li>·perform three tests to identify specific properties of minerals. They will decide on an appropriate use for oil based on their observation and understanding of its properties.</li> <li>·describe how solar energy, biomass, and geothermal energy are used as alternative energy sources.</li> </ul>			
<p>6. Weather and Climate</p> <p>2 weeks</p>	<p>5.1.3.4.2</p> <p>5.1.1.2.2</p> <p>5.4.2.1.2</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>·observe and recall three pertinent properties of air through experimentation</li> <li>·evaluate the relationship between unequal heating, differences in air pressure, and convection currents. They will relate how those relationships</li> </ul>	<ul style="list-style-type: none"> <li>·Discussions</li> <li>·Writing paragraphs</li> <li>·Completing worksheets</li> <li>·Investigations</li> <li>·Demonstrations</li> <li>·Make an anemometer</li> <li>·Review quizzes</li> <li>·Test after each chapter</li> </ul>	<ul style="list-style-type: none"> <li>·Science Level Five 2<sup>nd</sup> Ed., 2004 – Purposeful Design</li> <li>·Science Notebook</li> <li>·Textbook Worksheets</li> <li>·Quizzes</li> <li>·Tests</li> </ul>	<ul style="list-style-type: none"> <li>·Like the wind is invisible, but we can see the results; the Holy Spirit is the same. We can't see the Holy Spirit, but we can see the results of the Holy Spirit.</li> <li>·Weather is powerful and out of our control. We do not need to be fearful of the weather. God is sovereign and can control even the weather.</li> </ul>

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## SUBJECT: SCIENCE

GRADE LEVEL 5<sup>th</sup>

COURSE LENGTH SEMESTER

REVIEWED 2018-2019

		<p>influence the formation of wind(s).</p> <p>·explain the factors that influence the formation of global winds. They will identify where the different global wind belts are located.</p> <p>·determine the relationship between an air mass and a front. They will classify four types of air masses and two types of fronts.</p> <p>·demonstrate a proper understanding of common symbols used on weather maps</p> <p>·assemble and employ a model of an anemometer. They will prepare a weather forecast using a weather map and common weather symbols.</p>			
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		<ul style="list-style-type: none"> <li>·compare and contrast mountain breezes, valley breezes, jet streams, and monsoons. They will describe how each one is formed.</li> </ul>			
<p>7. Transitions</p> <p>2 weeks</p>		<p>Students will:</p> <ul style="list-style-type: none"> <li>·review the stages of a monarch butterfly's life cycle and relate the changes involved in metamorphosis to adolescence.</li> <li>·relate the changes that occur during puberty to the work of the endocrine system. They will also label six parts of the endocrine system and compare it to the nervous system</li> <li>·label the structure of the skin and will describe the cause and effect relationship between skin glands and pubescent</li> </ul>	<ul style="list-style-type: none"> <li>·Discussions</li> <li>·Writing paragraphs</li> <li>·Completing worksheets</li> <li>·Investigations</li> <li>·Practice teeth brushing</li> <li>·Demonstrations</li> <li>·Review quizzes</li> <li>·Test after each chapter</li> </ul>	<ul style="list-style-type: none"> <li>·Science Level Five 2<sup>nd</sup> Ed., 2004 – Purposeful Design</li> <li>·Science Notebook</li> <li>·Textbook Worksheets</li> <li>·Quizzes</li> <li>·Tests</li> </ul>	<ul style="list-style-type: none"> <li>·Humans are made in God's image, and He designed each of our individual cells, glands, organs, and systems. He designed them to all work together.</li> <li>·Gnashing of teeth is commonly used in the Bible. We ought to take special note of our daily spiritual attitude, being careful to prayerfully take to the Lord those things that would prompt us to gnash our teeth.</li> <li>·Our sense of worth and identity should come from a relationship with our heavenly Father, not from outward appearances or temporal</li> </ul>

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GRADE LEVEL 5<sup>th</sup>

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		<p>changes.</p> <ul style="list-style-type: none"><li>·associate the growth spurts of puberty with the endocrine system, genetics, and healthy eating and exercise.</li><li>·label the basic structures of a tooth and evaluate their own oral hygiene habits. They will also distinguish between primary and permanent teeth.</li><li>·evaluate their daily lifestyle choices in terms of balance and self-control.</li><li>·summarize the processes that stimulate and regulate the human body's sleep cycle. They will also log and assess their own sleep and wake cycle.</li></ul>			accomplishments
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<p>8. Disease  2 weeks</p>	<p>7.4.4.2.1 7.4.4.2.2 7.4.4.2.3 7.4.4.2.4</p>	<p>Students will:</p> <ul style="list-style-type: none"> <li>· associate the malfunctions and failures of commonly used items to the illnesses and diseases of the human body.</li>   <li>·determine the differences between infectious and noninfectious diseases. They will identify four major groups of pathogens.</li>   <li>·identify certain infectious diseases and the pathogens that cause them. They will describe viral reproduction.</li>   <li>·identify genetic disorders and allergies as noninfectious diseases. They will classify infectious and noninfectious diseases. They will classify infectious and noninfectious diseases</li> </ul>	<ul style="list-style-type: none"> <li>·Discussions</li> <li>·Writing paragraphs</li> <li>·Completing worksheets</li> <li>·Investigations</li> <li>·Demonstrations</li> <li>·Review quizzes</li> <li>·Test after each chapter</li> </ul>	<ul style="list-style-type: none"> <li>·Science Level Five 2<sup>nd</sup> Ed., 2004 – Purposeful Design</li> <li>·Science Notebook</li> <li>·Textbook Worksheets</li> <li>·Quizzes</li> <li>·Tests</li> </ul>	<ul style="list-style-type: none"> <li>·Pain is a gift from God because without it, we might accidentally hurt ourselves.</li>   <li>·God has designed the human body with many built-in barriers to disease.</li>   <li>·Keeping separated from harmful influences help maintain good spiritual health as well.</li> </ul>
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		<p>on the basis of given criteria.</p> <ul style="list-style-type: none"><li>·identify integral parts of the immune and lymphatic systems and discuss the functions of each.</li><li>·graph and analyze data of four specific infectious diseases. They will interpret how pathogens are transmitted and list preventive methods.</li><li>·explain how the human body builds immunity to pathogens and will differentiate between active and passive immunity.</li></ul>			
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