

CCS COURSE MAP

SUBJECT: SCIENCE

GRADE LEVEL 2nd GRADE
COURSE LENGTH: YEAR

REVIEWED 2018-2019

General Goals:					
		I	To gain appreciation of the world that God created.		
		II	To investigate the beauty, order, and variety of God’s world.		
Student Outcomes:					
		I	The students will be able to learn how to use some simple science tools and practice making observations.		
		II	The students will be able to use the basics of the scientific method to investigate scientific questions.		
		III	The students will be able to identify characteristics of vertebrates and invertebrates and use these to classify animal life.		
		IV	The students will be able to investigate and describe different forms of energy.		
		V	The students will be able to investigate and describe God’s purposeful design of our earth in its weather and its oceans.		
		VI	The students will be able to investigate and describe the body systems that give them their five senses, and how they can be good stewards of these body systems.		
UNIT/ WEEKS	STANDARD	OBJECTIVES	ACTIVITIES/ASSESSMENT	RESOURCES	BIBLICAL INTEGRATION
Life Science (Vertebrates and Invertebrates) 4 weeks	MN Science Standards: 3.4.1.1.2 1.4.3.1.1 2.1.1.2.1	Student will: <ul style="list-style-type: none"> • trace the backbones of several vertebrate images. • classify various vertebrates as mammals, reptiles, and amphibians. • classify domestic dogs, cats, and guinea pigs as mammals and will discuss each animal’s unique design. • identify features of a camel and will match 	<ul style="list-style-type: none"> • Read and discuss student edition • Write, draw, cut, and glue in student edition • Classroom discussions • Partner discussions • Complete Black Line Master worksheets • View and discuss related videos • Teacher demonstrations • Whole class creates classification charts 	<ul style="list-style-type: none"> • <i>Purposeful Design Science: Level Two</i> Student and Teacher Edition • Chapter 2 and Chapter 3 Black Line Masters • Chapter 2 and Chapter 3 Transparency Masters • Chapter 2 and Chapter 3 Computer 	<ul style="list-style-type: none"> • God’s purposeful design is evident in the structure and variety of animal life. • In Job 38-41, God reveals Himself to Job by calling Job’s attention to the creatures He has created. • God has uniquely suited animals to their environment (Job 39:6,

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		<p>several of its body parts to their function.</p> <ul style="list-style-type: none"> • review five distinguishing characteristics of reptiles and will label a diagram with specific features of iguanas. • compare and contrast reptiles and amphibians. They will order the stages of an amphibian’s life cycle. • read about naturalist John James Aubodon and use observation skills to make detailed drawings of birds. • classify animals as vertebrates or invertebrates and will analyze unique characteristics of some invertebrates. • observe earthworms and will use scientific inquiry to investigate some earthworms’ behavior. • differentiate between arachnids and insects and will make a model showing the body parts of a spider. 	<ul style="list-style-type: none"> • Experiment with earthworms • Create clay model of spider • Create model of ant • Chapter 2 and Chapter 3 tests 	<p>Presentations</p> <ul style="list-style-type: none"> • Various teacher resources and experiment materials. 	<p>8).</p> <ul style="list-style-type: none"> • In Matthew 6:26, Jesus used birds to illustrate God’s provision. • As students observe nature, they feed their natural curiosity about the things around them and develop a deeper appreciation for God’s creation. • God preserved each animal for a purpose, even the ones we don’t like (Genesis 6:20). His ways are perfect (2 Samuel 22:31). • Proverbs 6:6-8 tells us to look to the ant for an example of hard work and planning ahead. • God’s creativity and love of beauty is evident in the design of mollusks.
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		<ul style="list-style-type: none"> • construct a model to show the parts of an ant and will associate an ant's body parts with their function. • label an image showing body parts and other physical characteristics of a land snail. 			
Physical Science (Energy and Heat) 5 weeks	MN Science Standards: 4.2.3.1.1 4.2.3.1.3 2.2.1.2.1 6.2.3.2.1 3.2.3.1 2.2.2.2.2 8.3.4.1.1 3.2.3.1.3	Students will: <ul style="list-style-type: none"> • define the term <i>energy</i> and indicate that three forms of energy are heat, light, and sound. • distinguish between objects that show the energy of motion and those that do not. • associate physical and chemical forms of stored energy with the energy motion that results when the stored energy is released. • observe the effects that height has on the amount of energy stored in suspended objects and will conclude that the greater 	<ul style="list-style-type: none"> • Read and discuss student edition • Write, draw, cut, and glue in student edition • Classroom discussions • Partner discussions • Complete Black Line Master worksheets • View and discuss related videos • Teacher demonstrations • Experiment observing stored energy in rubber balls • Chapter 5 and 6 Tests 	<ul style="list-style-type: none"> • <i>Purposeful Design Science: Level Two Student and Teacher Edition</i> • Chapter 5 and Chapter 6 Black Line Masters • Chapter 5 and Chapter 6 Transparency Masters • Chapter 5 and Chapter 6 Computer Presentations • Various teacher resources and experiment materials. 	<ul style="list-style-type: none"> • It is through God's power that all creation is energized and given life (Job 12:10) • Energy and power are attributes of God. • Scientists and inventors who use energy in creative ways and for useful purposes reflect the image of God because He is creative. • Regular, predictive movement in nature reveals a part of God's character. • There are visible and invisible aspects of creation (Hebrew

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		<p>the height, the greater the stored energy.</p> <ul style="list-style-type: none">• sequence steps on an energy chain to show how energy moves from one form to another.• identify three fossil fuels and describe the origin of these fuels.• distinguish renewable energy sources from nonrenewable sources and will name ways electricity is produced from the sun, wind, and water.• indicate that molecules move faster when heat energy increases, and temperature is a measure of heat energy.• illustrate how heat energy is transferred through radiation.• associate dark colors with heat absorption and light colors with heat reflection.• identify the means by which heat energy moves through solid objects as <i>conduction</i>.• determine if a material is a			<p>11:3).</p> <ul style="list-style-type: none">• Radiant heat and light from the sun is an enduring gift of God (Ecclesiastes 11:7).• Jesus showed himself to have control over the wind.
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		<p>good insulator or conductor of heat energy.</p> <ul style="list-style-type: none"> • heat transfer through liquids and gases is called convection. • associate the three states of water with terms <i>water vapor</i>, <i>liquid water</i>, and <i>ice</i>. They will recognize that heat causes food to change. 			
<p>Earth Science (Ocean and Weather)</p> <p>5 weeks</p>	<p>MN Science Standards</p> <p>2.3.2.2.1</p> <p>4.3.2.3.1</p> <p>1.4.1.1.1</p> <p>2.1.1.2.1</p>	<p>Students will:</p> <ul style="list-style-type: none"> • recognize God’s purposeful design of the weather and will highlight four factors involved in weather: the sun, the land, the water, and the air. • use Fahrenheit and Celsius scales to read and record temperatures. • describe evaporation and condensation and how these terms relate to changes in state of water. • describe how the condensation of water vapor causes dew and fog to form. They will distinguish between the 	<ul style="list-style-type: none"> • Read and discuss student edition • Write, draw, cut, and glue in student edition • Classroom discussions • Partner discussions • Complete Black Line Master worksheets • View and discuss related videos • Teacher demonstrations • Experiment- how does salinity affect buoyancy? • Chapter 8 and 9 Tests 	<ul style="list-style-type: none"> • <i>Purposeful Design Science: Level Two Student and Teacher Edition</i> • Chapter 8 and Chapter 9 Black Line Masters • Chapter 8 and Chapter 9 Transparency Masters • Chapter 8 and Chapter 9 Computer Presentations • Various teacher resources and experiment materials. 	<ul style="list-style-type: none"> • God has authority over the weather. • God put weather processes in place that help us predict the weather, and we can thank God for this. • Dew and rain were essential to life in the Promised Land. Moses compared this life-giving water to godly teaching (Deut. 32:2). • God reveals Himself in all creation (Romans 1:20) and there is something in the raw power of a storm that inspires awe and

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		<p>formation of dew and formation of fog.</p> <ul style="list-style-type: none"> • use the words <i>evaporation</i>, <i>condensation</i>, and <i>rain</i>, <i>snow or ice</i> to label components of the water cycle. • distinguish among three main types of clouds- cirrus, cumulus, and stratus. • delineate characteristics of thunderstorms, tornadoes, hurricanes, and blizzards. • label the five oceans on a map. They will recognize that storms and sunlight affect ocean color. • predict, observe, collect data, and summarize the effect that the salinity of water has on a carrot's buoyancy. • order the steps in the formation of an ocean wave. • label landforms on the ocean floor. • classify three categories of ocean animals and 			<p>awareness of vulnerability.</p> <ul style="list-style-type: none"> • Ocean movements are certainly impressive and display God's power at work in the world. • God is alive and active everywhere, even in the depths of the sea where our students have not been (Job 38:16). • The diversity of ocean life encourages us to praise God for wonders of His creation.
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		<p>indicate some animals' general location in the ocean.</p> <ul style="list-style-type: none"> • discuss how coral reefs form and how the habitat provides for aquatic animals. 			
<p>Human Body (Sound & Hearing, Sight & Touch, Taste & Smell)</p> <p>4 weeks</p>	<p>MN State Standards:</p> <p>2.1.1.2.1</p> <p>0.4.1.1.2</p> <p>3.2.3.1.1</p> <p>4.4.4.2.1</p> <p>7.4.1.1.2</p>	<p>Students will:</p> <ul style="list-style-type: none"> • review the five senses. They will associate sound with hearing. • identify how pitch is related to the speed of vibrations. • label the parts of the ear. • order the steps of hearing and recognize that each part of the ear has a function in the hearing process. • identify ways technology can help people who are deaf or hard-of-hearing. • identify ways of keeping their ears healthy and preventing hearing loss. • label the structure of the eye and identify the pathway light takes through the eye. They will 	<ul style="list-style-type: none"> • Read and discuss student edition • Write, draw, cut, and glue in student edition • Classroom discussions • Partner discussions • Complete Black Line Master worksheets • View and discuss related videos • Teacher demonstrations • Experiment- do foods that have a nice smell also taste good? • Chapter 10, 11, and 12 Tests 	<ul style="list-style-type: none"> • <i>Purposeful Design Science: Level Two Student and Teacher Edition</i> • Chapter 10, 11, and 12 Black Line Masters • Chapter 10, 11, and 12 Transparency Masters • Chapter 10, 11, and 12 Computer Presentations • Various teacher resources and experiment materials. 	<ul style="list-style-type: none"> • We can thank God for making our bodies with 5 senses. • We need all of our senses- we can't have just eyes (Romans 12:17-18). • The power of sound reminds us how great God is. • Jesus urges those who follow Him to use their ears to listen to His teaching. • Throughout Israel's history, God showed His mercy and compassion on individuals with disabilities (Leviticus 19:14), and Jesus healed the disabled. • Knowing that God

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		<p>recognize that God has provided natural protection for their eyes.</p> <ul style="list-style-type: none"> • discuss vision dysfunctions and how eyeglasses can help people see more clearly. Students will recognize that some people cannot see colors well. • explore devices that an eye doctor uses in the course of an eye exam and state the importance of taking proper care of eyeglasses. • read about Helen Keller. They will comprehend that Braille letter enable blind persons to read. • state how they are able to experience the sense of touch. • identify various components of the skin. • discuss good health habits for maintaining the health of the eyes and skin. • read about the sense of taste and distinguish between flavors. 			<p>made our bodies and places value on them (1 Cor. 6:19-20) can encourage us to keep them healthy.</p> <ul style="list-style-type: none"> • God empowered both Helen Keller and Louis Braille, two people who struggled with sensory disabilities, to use their other senses to become productive members of society. • The sense of touch can confirm data gathered by sight or hearing (Luke 24:39b). • Jesus healed people with leprosy, which affects the sense of touch (Mark 1:41). • Proverbs 24:13-14a talks about tasting sweet things and that wisdom is also sweet to the soul. • Speech is surely a great gift from God, and people are responsible for how and when they choose
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		<ul style="list-style-type: none">• describe characteristics of the tongue and observe their taste buds.• use their nose to distinguish various scents. They will read about how their nose senses molecules in the air.• identify some parts and functions of the nose.• acknowledge that germs spread through the air and by contact. They will perform a skit about ways to maintain a healthy mouth and nose.• by conducting an experiment, observe that things that smell good do not always taste good.			<p>to speak.</p> <ul style="list-style-type: none">• 2 Corinthians 2:14-15 talks about spreading “the fragrance of the knowledge of Him.” Smells communicate to people in ways that sight and sound do not.
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