

*Integrating Science and Technology
and
Catholic Curriculum Maps*

Grade 6

Understanding Life Systems Strand

Biodiversity



**Catholic Curriculum Corporation
Central and Western Region**

November, 2008

Understanding Life Systems Strand Grade 6

Unit At-A-Glance

<p>Catholic Social Teaching: Essential Question: OCSGE:</p>	<p>Human Rights and Responsibilities How do we live in accordance with God’s will? Acts morally and legally as a person formed in Catholic traditions (7a) Respects the environment and uses resources wisely (7i)</p>
<p>Topic:</p>	<p>Biodiversity Because all living things (including humans) are connected, maintaining biodiversity is critical to the health of the planet.</p>
<p>Unit Guiding Question:</p>	<p>How does the interrelationship of the diverse living things in God’s creation and the choices we make regarding their environments show accordance with God’s will?</p>
<p>Unit Culminating Task: Students will write a letter to the editor of a local newspaper to explain a local issue related to biodiversity and why the human interactions should show accordance with God’s will. The letter will include:</p> <ul style="list-style-type: none"> • The ecosystem being affected • Some of the organisms living in that ecosystem and how they interact with each other and other ecosystems • The positive and negative aspects of the issue • The issue related to the ecosystem and how it relates to God’s will • Ways in which we can stay in accordance with God’s will when interacting with the ecosystem 	
<p>Essential Understandings</p>	
<p>Catholic Curriculum Map: <i>Essential Question(s) & Links</i></p> <p>Science and Technology: <i>Fundamental Concept(s)</i></p> <p>Science and Technology: <i>Big Ideas and Overall Expectations</i></p> <p>Science and Technology: <i>Scientific Inquiry Skill</i></p> <p>Science and Technology: <i>Expectation Tag, Guiding Questions & Specific Expectations</i></p>	<p>How do we live in accordance with God’s will?</p> <ul style="list-style-type: none"> • Reflect on the Beatitudes • Recognize God is the source of morality • Recognize love as a gift from God • Consider human responsibility for the other • Identify influences in society • Discuss how we influence the environment <p>Sustainability and Stewardship Systems and Interactions</p> <ul style="list-style-type: none"> • Biodiversity includes diversity of individuals, species, and ecosystems(OE 2,3) • Classification of the components within a diverse system is a beginning point for understanding the interrelationships among the components (OE 2,3) • Because all living things are connected, maintaining diversity is critical to the health of the planet(OE 1,3) • Humans make choices that can have an impact on biodiversity(OE 1) <p>Research</p> <p>Relating Science and Technology to Society and the Environment</p> <ul style="list-style-type: none"> • What are some things you might do, in accordance with God’s will, to make others aware of local issues related to biodiversity? (SE 1.1) • What are the benefits that human society derives from biodiversity and the problems that occur when it is diminished? (SE 1.2)

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		<p>Language Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1) Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (Oral Communication OE2) Read and demonstrate an understanding of a variety of literacy, graphical, and informational texts, using a range of strategies to construct meaning (Reading OE1) Create a variety of media texts for different purposes and audiences using appropriate forms, conventions and techniques (OE3)</p> <p>Daily Physical Activity will be incorporated into Lesson 1.1</p>		<p>BLM 1.3b Word Square Fully Alive Manual You Shall Be My Witnesses Manual, essential question posted on chart paper, examples of letter to the editor showing concern for the environment, overhead transparency, overhead projector, overhead markers, student reflection journals</p>
2	Classification of Living Things (40 minutes)	<p>Recognize love as a gift from God Consider human responsibility for the other Identify influences in society Discuss how we influence the environment</p> <p>Investigate the characteristics of living things, and classify diverse organisms according to specific characteristics(OE 2)</p> <p>SE: 2.2, 2.3, 2.4, 2.5, 3.1, 3.2</p> <p>Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)</p> <p>Use speaking skills and strategies appropriate to communicate with different audiences for a variety of</p>	Observations, anecdotal reports, checklist for using graphic organizer, group conferences	<p>Resources that contain information regarding habitats and the organisms found there, including; pictures of plants and animals, books, newspaper articles, science and nature magazines, science textbook, Word Wall</p> <p>Fully Alive Manual You Shall Be My Witnesses Manual, student reflective journals</p>

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		<p>purposes (Oral Communication OE2) Read and demonstrate an understanding of a variety of literacy, graphical, and informational texts, using a range of strategies to construct meaning (Reading OE1) Create a variety of media texts for different purposes and audiences using appropriate forms, conventions and techniques (Media Literacy OE3)</p>		
3	<p>3.1 Biodiversity (40 minutes) 3.2 Biodiversity Continued (40 minutes)</p>	<p>Recognize love as a gift from God Consider human responsibility for the other Identify influences in society Discuss how we influence the environment</p> <p>Investigate the characteristics of living things, and classify diverse organisms according to specific characteristics (OE 2) Demonstrate an understanding of biodiversity, its contributions to the stability of natural systems, and its benefits to humans (OE 3)</p> <p>SE: 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.5</p> <p>Language: Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)</p> <p>Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (Oral Communication OE2)</p>	<p>Observations, anecdotal reports, conferencing,</p>	<p>Resources that contain information regarding habitats and the organisms found there, including; pictures of plants and animals, books, newspaper articles, letters to the editor that discuss our responsibilities to the natural world, science and nature magazines, science textbook, Word Wall Fully Alive Manual You Shall Be My Witnesses Manual</p>

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		<p>Read and demonstrate an understanding of a variety of literacy, graphical, and informational texts, using a range of strategies to construct meaning (Reading OE1)</p> <p>Create a variety of media texts for different purposes and audiences using appropriate forms, conventions and techniques (Media Literacy OE3)</p>		
4	<p>Humans and Their Impact</p> <p>4.1 Product Research (40 minutes)</p> <p>4.2 Product Research Continued (40 minutes)</p> <p>4.3 Product Research Presentations (40 minutes)</p> <p>4.4 Human Impact on an Ecosystem (40 minutes)</p> <p>4.5 Human Impact on an Ecosystem Continued (40 minutes)</p>	<p>Reflect on the Beatitudes</p> <p>Recognize God is the source of morality</p> <p>Consider human responsibility for the other</p> <p>Identify influences in society</p> <p>Discuss how we influence the environment</p> <p>Assess human impacts on biodiversity, and identify ways of preserving biodiversity (OE 1)</p> <p>Demonstrate an understanding of biodiversity, its contributions to the stability of natural systems, and benefits to humans (OE 3)</p> <p>SE: 1.1,1.2, 2.4, 2.5, 3.6,</p> <p>Language: Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)</p> <p>Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (Oral Communication OE2)</p> <p>Read and demonstrate an understanding of a variety of literacy, graphical, and informational texts, using a range of strategies to construct meaning (Reading OE1)</p>	<p>Observations, anecdotal reports, checklist</p>	<p>computers for research, approved websites, nature and science magazines, books on where our products/good come from, paper, pencils, newspaper or magazine article and letters to the editor on a local issue involving local environment and human interactions, BLM 4.1 Product Research and BLM 4.4 KWL Chart for Newspaper Article Fully Alive Manual You Shall Be My Witnesses Manual</p>

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<p>5</p>	<p>Culminating Task</p> <p>5.1 Letter to the Editor (4 X 40 minutes)</p>	<p>How do we live in accordance with God’s will? Reflect on the Beatitudes Recognize God is the source of morality Recognize love as a gift from God Consider human responsibility for the other Identify influences in society Discuss how we influence the environment</p> <p>Assess human impacts on biodiversity, and identify ways of preserving biodiversity (OE 1) Investigate the characteristics of living things, and classify diverse organisms according to specific characteristics (OE 2) Demonstrate an understanding of biodiversity, its contributions to the stability of natural systems, and its benefits to humans (OE 3)</p> <p>Language: Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1) Read and demonstrate an understanding of a variety of literacy, graphical, and informational texts, using a range of strategies to construct meaning (Reading OE1)</p>	<p>Task specific rubric</p>	<p>Chart paper, markers, pencils, papers, Students’ completed BLMs. class created charts and brainstorming from previous sub-tasks. Fully Alive Manual You Shall Be My Witnesses Manual, anchor chart from Lesson 1</p>
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Subtask 1: Introduction to the Unit

Description

Students will be introduced to the unit, discuss the essential question and be introduced to the idea of communicating their ideas through a letter to the editor.

Lesson 1.1 Introducing the Unit

Purpose

Students will identify the essential understanding and the culminating task for the unit, and list characteristics of an effective letter.

Essential Understandings

Catholic Curriculum Map Links:

- How do we live in accordance with God's will?
- Discuss how we influence the environment (5.3 FA)

Science and Technology:

- Use appropriate science and science terminology vocabulary (SE 2.4)
- Which form will communicate my ideas about biodiversity with the best results? (SE 2.6)

Language:

- Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)
- Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (OC OE2)

Assessment for Learning

Observe students in their ability to identify the elements of a good letter, and understanding of the essential question.

Provide feedback to students on use of organization, group discussion skills.

Use assessment information to identify the need for individual or small group instruction

Teacher Notes

This lesson will refer to Fully Alive Unit 5, Theme 5 Living in the World, Topic 3: Signs of a Good Community. The essential question, the big ideas and the culminating task will be written ahead of time on chart paper and posted throughout the unit in the classroom. Examples of letters to the editor discussing our responsibility to the environment and the natural world will be located and placed on overhead for group discussion, individual copies of the letter to be discussed can also be made and distributed. An anchor chart for writing an effective letter will be made during this lesson and posted throughout the unit.

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Instruction

Time to Teach 15 minutes

- In a large group have ask students to discuss “How do we live in accordance with God’s will” using the following prompts; “Thinking about our religion classes what does God want us to do?”, “How are we to interact with the environment?”, “How do we rely on other species, and organisms?” “Why are interrelationships important to creation and doing God’s will?”
- Introduce the unit by discussing the unit topic and what the word Biodiversity might mean. Chart student responses which will be revisited in Subtask 3.1
- Post the unit essential question, the big ideas, and the culminating task.
- As a read aloud, read a sample letter to the editor to the class, asking them to identify the main idea of the letter and the supporting details.
- Identify the reasons why the letter exemplifies the ideas of living in accordance with God’s will; “What is the author’s concerns?”, “Why did the author want to write the letter?”, “Why is it important to speak out when there is a concern or problem?”, “How does this fit in accordance with God’s will?”, “Why do we need to care for the natural world?”

Time to Practice 15 minutes

- Have students work in small groups; give them copies of the letter that was discussed and other letters. Have groups read letters and list ideas that can go on class anchor chart, what makes a good letter to the editor.
- Distribute paper, pencils.

Time to Share 10 minutes

- Gather students together.
- Create a class anchor list: The Elements of An Effective Letter to the Editor.
- Ask students to write in their reflection journals why concern for the environment and the natural world shows how we live in accordance with God’s will.

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Lesson 1.2 Neighbourhood Walk

Purpose

Students will identify the essential understandings and the culminating task for the unit and will identify different organisms in the area.

Essential Understandings

Catholic Curriculum Map Links:

- How do we live in accordance with God's will?
- Discuss how we influence the environment (5.3 FA)

Science and Technology:

- Follow established safety procedures for outdoor activities and field (SE 2.1)
- Investigate the organisms found in a specific habitat and classify them according to a classification system (SE 2.2)
- Use scientific inquiry/research skills to compare the characteristics of organisms within the plant or animal kingdom (SE 2.3)
- Use appropriate science and science terminology vocabulary (SE 2.4)
- Which form will communicate my ideas about biodiversity with the best results? (SE 2.6)
- How do you identify and describe the distinguishing characteristics of different plants and animals? (SE 3.1)

Language:

- Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)
- Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (OC OE2)

Daily Physical Activity

Assessment for Learning

Use observation to note students who are able to identify living organisms, what recording systems are being used (graphic organizers, clear classifications for items), observation skills.

Review students' recording techniques.

Provide feedback to students on use of organization, observation skills.

Use assessment information to identify the need for individual or small group instruction

Teacher Notes

This lesson will refer to Fully Alive Unit 5, Theme 5 Living in the World, Topic 3: Signs of a Good Community. Board and Ministry policy will be followed when planning the neighbourhood walk, (e.g.; supervision, permission forms). You will need bottles and cans with labels that include at least some natural ingredients, paper, pencils for each student, chart paper, markers. The essential question, the big ideas and the culminating task will be written ahead of time on chart paper and posted throughout the unit in the classroom. Students will write a reflection at the end of class on their own interactions with the environment and these will be shared at the beginning of the next class.

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Instruction

Time to Teach 10 minutes

- In a large group have students read labels (from cans or bottles, shirt tags at the back of their shirts) using the following prompts; “What ingredients, materials are in the product?” “Where do these materials come from?” “What are some products that come from a diversity of organisms?” “How do we rely on other species and organisms?” “Why are interrelationships important to creation and doing God’s will?”
- Introduce the unit by posting the unit essential question, the big ideas, and the culminating task.
- Discuss the safe procedures for outdoor activities and fieldwork.
- Describe activity to students: going outside for neighbourhood walk and noting observations on what organisms can be found in the area, and any interactions between organisms (i.e. person walking dog, lawn watering).
- Distribute paper, pencils.
- Take students for walk.

Time to Practice 20 minutes

- Students will walk outside for 20 minutes on planned route, noting living organisms in the area.

Time to Share 10 minutes

- Gather students together in classroom.
- List on chart paper the organisms that were found on walk.
- Discuss with students what interactions were found, and how they show accordance with God’s will (helping each other, the environment, other species and organisms).
- Students will write reflection in journals, how their own interactions with the environment show their accordance with God’s will.

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Lesson 1.3 Building a Word Wall

Purpose:

Students will identify unit vocabulary, create a word wall, and recognize the need for appropriate vocabulary and terminology use.

Essential Understandings

Catholic Curriculum Map Links:

- How do we live in accordance with God's will?
- Discuss how we influence the environment (5.3 FA)

Science and Technology:

- Use scientific inquiry/research skills to compare the characteristics of organisms within the plant and animal kingdom (SE 2.3)
- Use appropriate science and technology vocabulary (SE 2.4)
- Use a variety of forms to communicate with different audiences and for a variety of purposes (SE 2.5)

Language:

- Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)
- Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (OC OE2)

Assessment for Learning

Use observation to identify students who are able to use resources to define vocabulary; glossary in science textbook, dictionary, thesaurus.

Use a checklist to assess student Word Square looking for correct spelling, correct meaning, definition, is word use correctly in sentence, is picture easy to identify?

Provide feedback to students on use of organization, and research skills.

Use assessment information to identify the need for individual or small group instruction

Teacher Notes

This lesson will refer to Fully Alive Unit 5, Theme 5 Living in the World, Topic 3: Signs of a Good Community. Formative assessment is included to assess students' research, and organization skills. You will need paper, pencils, photos of living organisms for each student, BLM 1.3a, 1.3b, chart paper, markers. Word Squares will be created to be a large Word Wall in the classroom. Reflective journals will be shared as a group at the beginning of the class.

Instruction

Time to Teach 15 minutes

- As whole class share reflections that were written yesterday by students on their own interactions with the environments.
- Distribute photos, one per each student. In pairs students play guessing game, student gives clues about the organism to partner, without giving name of the organism in clue. Partner has to guess what is in photo. Partner then gives clues about the photo.

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- Gather large group together and discuss activity, using prompts; “What type of information helped you identify your partner’s organism?” “Why is it important to be able to compare organisms in some organized way?” “Why is a specific vocabulary necessary for the study of biodiversity?”
- Introduce the need for a word wall by the following prompt; “How can we make the vocabulary and terminology visible so we remember to use it when discussing the ideas, and concepts in this unit?” “Where can we find the definitions of words of which we don’t know the meaning, or to confirm our definitions?” (Review use of dictionary, glossary in Science textbook, thesaurus).
- Hand out BLM’s. Students may put lists in Science notebook. To encourage children to make the connection between God’s creation and biodiversity of living organisms use prompt, “What types of words are on the list?”, “Why are there words from our new Science unit and our Religion and Family Life program on the list?”
- Demonstrate the Word Squares that will be used to create the classroom word wall.
Write word chosen in the centre box
In the large box on the top left: write the definition of the word
In the large box on the top right: draw a picture or symbol to represent the word
In the bottom left box: write a synonym for the word
In the bottom right box: write a sentence using the word.
Assign a different word to each student.
Explain checklist requirements to students.

Time to Practice 20 minutes

- Students will work on word squares, and teacher will check for proper use of dictionaries and thesauruses, and understanding of words. Use students’ work to demonstrate examples of work meeting checklist requirements.

Time to Share 5 minutes

- Bring group together. Ask students to share interesting definitions, synonyms, word origins, sentences they created.
- Post word squares in classroom to create unit word wall.

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BLM 1.3a

Biodiversity Unit Vocabulary

Student Name: _____

How does the interrelationship of the diverse living things in God's creation and the choices we make regarding their environments show accordance with God's will?

arthropods
accordance
beliefs
biodiversity
characteristics
classification
contribution
criteria
environment
flowering plants
grasses
influence
insects
interrelationships
invertebrate
kingdom
mammals
natural community
organisms
physical
primates
seed plants
social
society
stability
system
values
vertebrate
will

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BLM 1.3b

Word Square

Student Name: _____

definition of word	picture or symbol of word
synonym of word	Unit word
sentence using word	

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Subtask 2: Classification of Living Things

Description

Developing an understanding of the different way organisms are classified; the importance of biodiversity in God's creation, and the benefits to humans of biodiversity.

Lesson 2 Classification of Living Things

Purpose

Students will classify plants and animals according to identifiable characteristics.

Essential Understandings

Catholic Curriculum Map Links:

- Recognize love as a gift from God(FA 1.1)

Science and Technology:

- Investigate the organisms found in a specific habitat and classify them according to a classification system(SE 2.2)
- Use scientific inquiry/research skills to compare the characteristics of organisms within the plant or animal kingdoms(SE 2.3)
- Use appropriate science and technology vocabulary in oral and written communication(SE 2.4)
- Use a variety of forms to communicate with different audiences and purposes(SE 2.5)
- Identify and describe the distinguishing characteristics of different groups of plants and animals(SE 3.1)
- Demonstrate an understanding of biodiversity as the variety of life on earth, including variety within species of plant and animal, among species of plants and animals in communities, and among communities and the physical landscapes that support them(SE 3.2)

Language

- Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)
- Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (OC OE2)

Assessment for Learning

Use observation to identify students who are able to use resources, materials correctly.

Review students' graphic organizer to assess understanding of classification systems covered and ability to identify and describe the distinguishing characteristics of different groups of plants and animals.

Provide feedback to students on use of organization, and research skills.

Use assessment information to identify the need for individual or small group instruction

Teacher Notes

This lesson will refer to Fully Alive, Theme 1 Created and Loved by God Topic 1: God's Love is Forever. Formative assessment is included to assess students' research, and organization skills. You will need the list of organisms found on the neighbourhood walk from Lesson 1, photos or videos to explore a variety of plant and animals, science textbook, pencils, paper, chart paper, markers.

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Instruction

Time to Teach 15 minutes

- Begin whole class activity by taking an item and asking a student to give it to another, repeat a few times with various items and students. Bring students to the understanding that our differences came from God through the prompts: “What makes it easy to tell each other apart?”, “How did you know who to hand the item to?”, “From where did we get these differences?”, “Why did God give us different talents, and characteristics?”
- Display list created from Lesson 1, discuss list with students using prompts; “God gave us different characteristics, what do you notice about the organisms on this list?”, “What do you notice about the items on the list?”, “Why do you think God gave them all different characteristics?”, “What different ways could we sort the items?”
- Create list of ways to sort the organisms on chart paper. (plants- flowering, coniferous, deciduous, animals- birds, mammals)
- With the students sort the organisms using ideas that they have come up with.
- Explain that students will now break into small groups of 3-4. They will be given picture of animals and plants and they are to come up with a way of sorting those organisms based on their defining characteristics.
- Using word wall review vocabulary necessary for the task (i.e. characteristics, vertebrates, invertebrates, mammals, flowering plants, etc.)
- Students will write a reflection in their journals: How are our differences a reflection of God?

Time to Practice 15 minutes

- Groups will work on creating system to organize their organisms, and post it on chart paper.

Time to Share 10 minutes

- Call all class together.
- Groups will share their work and reflections with each other.

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Subtask 3: Biodiversity

Lesson 3.1 Biodiversity

Purpose

Students will continue the classification of organisms, identifying and describing the distinguishing characteristics of different groups of plants and animals.

Essential Understandings

Catholic Curriculum Map Links:

- Recognize love as a gift from God(FA 1.1)

Science and Technology:

- Investigate the organisms found in a specific habitat and classify them according to a classification system(SE 2.2)
- Use scientific inquiry/research skills to compare the characteristics of organisms within the plant or animal kingdoms(SE 2.3)
- Use appropriate science and technology vocabulary in oral and written communication(SE 2.4)
- Use a variety of forms to communicate with different audiences and purposes(SE 2.5)
- Identify and describe the distinguishing characteristics of different groups of plants and animals(SE 3.1)
- Demonstrate an understanding of biodiversity as the variety of life on earth, including variety within species of plant and animal, among species of plants and animals in communities, and among communities and the physical landscapes that support them(SE 3.2)

Language

- Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)
- Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (OC OE2)

Assessment for Learning

Use observation to identify students who are able to use resources, materials correctly.

Review students' graphic organizer to assess understanding of classification systems covered and ability to identify and describe the distinguishing characteristics of different groups of plants and animals.

Review Exit Tickets to check students' understanding of task requirements.

Provide feedback to students on use of organization, and research skills.

Use assessment information to identify the need for individual or small group instruction

Teacher Notes

This lesson will refer to Fully Alive, Theme 1 Created and Loved by God Topic 1: God's Love is Forever. Diagnostic assessment is included to assess students' research, and organization skills. You will need science textbook, nature and science magazines or websites that include pictures and information about various habitats and ecosystems that include the animals and plants living there, Exit Ticket template, pencils, paper, chart paper, markers.

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Instruction

Time to Teach 15 minutes

- Ask students to share the best ideas from the reflection of the day before; How do our differences reflect God?
- Using Word Wall words, have class play “hangman”, not only must students guess the word but also give the definition.
- Referring back to Lesson 2.1 lead discussion regarding God’s gift of all our different characteristics, and those of all living organisms.
- Create a web organizer on chart paper that shows how we influence our environment and how our environment influences us by using the following prompts; “God has given each of us gifts and characteristics which make us unique. How do the gifts or characteristics that make us unique help us to contribute to the society we live in?”. “How do we influence the world/ our environment (i.e. our home, school)?”, “How does our environment influence us?”, “How do other people influence us?” Make sure to include a point that explains God giving us our gifts.
- Write the word *biodiversity* on the blackboard. Ask students to reflect back on Subtask 1.1 and the original ideas generated about what the word biodiversity might mean. Modify or add to the ideas presented. Give definition if it has not been given by the students. Using the prompt, “Why is biodiversity important in God’s creation?” lead students in discussion of the importance of biodiversity for ecosystems and the natural world. Explain to the students that they will be looking at biodiversity in different habitats for the next couple of lessons.
- Divide students into groups of 2-3 and hand out habitat resource material to each group. Ask each group to identify their habitat or ecosystem.
- Explain that the groups will be creating web organizers showing the organisms in the system and the way they influence each other.

Time to Practice 20 minutes

- Groups will work on creating the webs that will identify specific characteristics of plants and animals in their ecosystem/habitat.

Time to Share 5 minutes

- Post students web organizers around the classroom and have students rotate around the room to look at the work of the other groups.
- Each group must hand in an Exit Ticket explaining one way they can improve their web, or their organization of their work or areas they need to further develop in the next work session.

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Lesson 3.2 Biodiversity Continued

Purpose

Students will continue identifying and describing the distinguishing characteristics of different groups of plants and animals, and identifying diversity among and between species.

Essential Understandings

Catholic Curriculum Map Links:

- Recognize love as a gift from God(FA 1.1)

Science and Technology:

- Investigate the organisms found in a specific habitat and classify them according to a classification system(SE 2.2)
- Use scientific inquiry/research skills to compare the characteristics of organisms within the plant or animal kingdoms(SE 2.3)
- Use appropriate science and technology vocabulary in oral and written communication(SE 2.4)
- Use a variety of forms to communicate with different audiences and purposes(SE 2.5)
- Identify and describe the distinguishing characteristics of different groups of plants and animals(SE 3.1)
- Demonstrate an understanding of biodiversity as the variety of life on earth, including variety within species of plant and animal, among species of plants and animals in communities, and among communities and the physical landscapes that support them(SE 3.2)

Language

- Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)
- Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (OC OE2)

Assessment for Learning

Use observation to identify students who are able to use resources, materials correctly.

Review students' graphic organizer to assess understanding of classification systems covered and ability to identify and describe the distinguishing characteristics of different groups of plants and animals.

Review Exit Ticket to check students' understanding of task requirements.

Provide feedback to students on use of organization, and research skills.

Use assessment information to identify the need for individual or small group instruction

Teacher Notes

This lesson continues the activity from the previous lesson. This lesson will refer to Fully Alive, Theme 1 Created and Loved by God Topic 1: God's Love is Forever. Diagnostic assessment (the Exit ticket) is included to assess students' research, and organization skills. You will need science textbook, nature and science books, magazines or websites that include pictures and information about various habitats and ecosystems that include the animals and plants living there, Exit Ticket template, pencils, paper, chart paper, markers.

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Instruction

Time to Teach 10 minutes

- Begin class by playing 20 questions to identify organisms (plant or animal), encouraging students to use words from Word Wall to phrase their questions.
- Discuss the theme from Fully Alive which celebrates the differences we all have that make us unique, and created by God.
- Review the meaning of biodiversity with the students.
- Discuss the web organizers that the students started in Lesson 3.1; brainstorming problems that occurred, pointing out successful ideas.

Time to Practice 20 minutes

- Groups will continue to work web organizers that identifying specific characteristics of plants and animals in their ecosystem/habitat.

Time to Share 10 minutes

- Post students web organizers around the classroom and have students rotate around the room to look at the work of the other groups.
- Students will complete an Exit Ticket explaining in paragraph form what is meant by diversity and what is its importance to God's creation.

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Subtask 4: Humans and Their Impact

Description

Developing an understanding of the way humans impact on biodiversity, identifying ways of preserving biodiversity in accordance with God's will, and the benefits of biodiversity for humans.

Lesson 4.1 Product Research

Purpose

Students, using websites, books, magazines, will choose a product and determine its plant or animal origins, identify what other products come from the organism, and explain and prioritize the importance of each of those products.

Essential Understandings

Catholic Curriculum Map Links:

- How do we live in accordance with God's will?
- Reflect on the Beatitudes (6.17, 6.18 YSBMW)
- Recognize God is the source of morality (6.16 YSBMW)
- Consider human responsibility for the other (7.21 YSBMW)
- Discuss how we influence the environment (5.3 FA)

Science and Technology:

- Assess the benefits that human societies derive from biodiversity and the problems that occur when biodiversity is diminished (SE 1.2)
- Use appropriate science and technology vocabulary in oral and written communication (SE 2.4)
- Use a variety of forms to communicate with different purposes, and for a variety of (SE 2.5)
- Identify everyday products that come from a diversity of organisms (SE 3.6)

Language

- Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)
- Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (Oral Communication OE2)
- Read and demonstrate an understanding of a variety of literacy, graphical, and informational texts, using a range of strategies to construct meaning (Reading OE1)

Assessment for Learning

Use observation to identify students who are able to use resources, materials correctly.

Review students' Product Research forms to assess understanding of the material, biodiversity and benefits to humans and the relationship to the Beatitudes and social justice.

Use assessment information to identify the need for individual or small group instruction.

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Teacher Notes

This lesson will refer to You Shall Be My Witnesses, Unit 6 Themes 16- 18, Unit 7, Theme 21, the Beatitudes and Social Justice will be discussed during these lessons, and Fully Alive Unit 5, Theme 5 Living in the World, Topic 3: Signs of a Good Community. A chart of the Beatitudes can be posted in the classroom. BLM 4.1 will be needed, pencil, and paper are also needed for each student. This assignment may involve Internet research, and library research. This lesson includes diagnostic assessment through the use of the Product Research template. This lesson will be continued in 4.2 and 4.3.

Instruction

Time to Teach 10 minutes

- Whole class begins by brainstorming list of items they are wearing that have come from plants or animals.
- Using prompts, “What are some of the ways that you think humans might benefit from the biodiversity of ecosystems?”, “As members of God’s creation how should we, as a human community use the biodiversity of plants and animals?”, “What are some of the problems that can occur because of our uses?”, “How can we use the Beatitudes to help us make decisions with respect to how we use plants and animals?”, brainstorm with the class their ideas and place them on chart paper for future reference.
- Distribute copies of BLM 4.1 Product Research; explaining that they will be researching a plant or animal and the ways in which humans benefit from its biodiversity.
- Explain that students will be presenting their information in small groups during lesson 4.3.
- If using the Internet discuss rules, and appropriate behaviors.

Time to Practice 25 minutes

- Students will work individually on their Product Research assignment.

Time to Share 5 minutes

- Bring students together in classroom to discuss what problems were encountered, what worked well.

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BLM 4.1

Product Research

Student Name: _____

Pick a Product: _____

What plant or animal is the origin? _____

Products that come from the plant or animal	What is product used for? What is its importance?	Rank products in order of importance? (#1 - highest importance)

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Lesson 4.2 Product Research Continued

Purpose

Students will use websites, books, magazines students will choose a product and determine its plant or animal origins, identify what other products come from the organism, and explain and prioritize the importance of each of those products.

Essential Understandings

Catholic Curriculum Map Links:

- How do we live in accordance with God's will?
- Reflect on the Beatitudes (6.17, 6.18 YSBMW)
- Recognize God is the source of morality (6.16 YSBMW)
- Consider human responsibility for the other (7.21 YSBMW)
- Discuss how we influence the environment (5.3 FA)

Science and Technology:

- Assess the benefits that human societies derive from biodiversity and the problems that occur when biodiversity is diminished (SE 1.2)
- Use appropriate science and technology vocabulary in oral and written communication (SE 2.4)
- Use a variety of forms to communicate with different purposes, and for a variety of (SE 2.5)
- Identify everyday products that come from a diversity of organisms (SE 3.6)

Language

- Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)
- Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (Oral Communication OE2)
- Read and demonstrate an understanding of a variety of literacy, graphical, and informational texts, using a range of strategies to construct meaning (Reading OE1)

Assessment for Learning

Use observation to identify students who are able to use resources, materials correctly.

Review students' Product Research forms to assess understanding of the material, biodiversity and benefits to humans and the relationship to the Beatitudes and social justice.

Use assessment information to identify the need for individual or small group instruction.

Teacher Notes

This lesson will refer to You Shall Be My Witnesses, Unit 6 Themes 16- 18, Unit 7, Theme 21, the Beatitudes and Social Justice will be discussed during these lessons. and Fully Alive Unit 5, Theme 5 Living in the World, Topic 3: Signs of a Good Community. BLM 4.1 will be needed, pencil, and paper are also needed for each student. This assignment may involve Internet research, and library research. Letters to the editor discussing the use of resources should be included to give students more exposure to this text form before the culminating task. This lesson includes diagnostic assessment through the use of the Product Research template. This lesson will be continued in 4.3 with the oral presentation of the information.

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Instruction

Time to Teach 5 minutes

- Have students share interesting products and origins that they have found.
- Review lesson expectations with the students; what worked well and what needs to be reviewed, changed for today.
- If using the Internet discuss rules, and appropriate behaviors.

Time to Practice 25 minutes

- Students will work individually on their Product Research assignment.

Time to Share 10 minutes

- Bring students together in classroom to discuss what problems were encountered, what worked well.
- Discuss with students oral presentations for Lesson 4.3. They will present in small groups presenting the research they found and explaining why they ranked their products in the order they did. Groups will then make decisions on whether the products fill a need, how would a society that made decisions based on the Beatitudes be different or similar to our society?

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Lesson 4.3 Product Research Presentations

Purpose

Students will present their Product Research to a small group and discuss which demonstrate an understanding of living in accordance with God's will.

Essential Understandings

Catholic Curriculum Map Links:

- How do we live in accordance with God's will?
- Reflect on the Beatitudes (6.17, 6.18 YSBMW)
- Recognize God is the source of morality (6.16 YSBMW)
- Consider human responsibility for the other (7.21 YSBMW)
- Discuss how we influence the environment (5.3 FA)

Science and Technology:

- Assess the benefits that human societies derive from biodiversity and the problems that occur when biodiversity is diminished (SE 1.2)
- Use appropriate science and technology vocabulary in oral and written communication (SE 2.4)
- Use a variety of forms to communicate with different purposes, and for a variety of (SE 2.5)
- Identify everyday products that come from a diversity of organisms (SE 3.6)

Language

- Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)
- Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (Oral Communication OE2)
- Read and demonstrate an understanding of a variety of literacy, graphical, and informational texts, using a range of strategies to construct meaning (Reading OE1)
- Create a variety of media texts for different purposes and audiences using appropriate forms, conventions and techniques (Media Literacy OE3)

Assessment for Learning

Use observation to identify students who are able to express their information and ideas with effectiveness.

Review students' Product Research forms to assess understanding of the material, biodiversity and benefits to humans and the relationship to the Beatitudes and social justice.

Use assessment information to identify the need for individual or small group instruction.

Teacher Notes

This lesson will refer to You Shall Be My Witnesses, Unit 6 Themes 16- 18, Unit 7, Theme 21, The Beatitudes and Social Justice will be discussed during these lessons, and Fully Alive Unit 5, Theme 5 Living in the World, Topic 3: Signs of a Good Community. BLM 4.1 will be needed, pencil, and paper are also needed for each student. Students will be organized into small groups of 4-5 students to present their products and ranking of importance of those products orally. Groups will then decide based on the Beatitudes and living in accordance with God's will which products are more important than others in their own groups. Students will need pencil, paper, and BLM 4.1

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Instruction

Time to Teach 10 minutes

- Whole class plays “Mind Reader” with the word wall. Teacher silently picks a word from the word wall. On paper students mark down numbers 1-5 in margin. Beside #1 they write a word from the word wall that they think the teacher is thinking of. The teacher then gives a clue to help students narrow down the answer. (Example: if word was **biodiversity** teacher could say “my word is in the first half of the alphabet A-M”) Beside # 2 students write down what they now think the word is. Teacher gives new clue (for example “my word has 6 syllables) and students continue by writing what they think word is beside #3. Teacher continues giving clues until student has completed all 5 guesses. Students then give teacher what they think the word is and the definition.
- Students will be organized into groups of 4-5. Review task with students, they will present their products and ranking of importance of those products orally. Groups will then decide based on the Beatitudes and living in accordance with God’s will which products are more important than others, and why in their own groups. Groups will create a chart on chart paper explaining the rankings of the products and why they chose the order they did.

Time to Practice 20 minutes

- Students will present and create their group’s chart.

Time to Share 10 minutes

- Bring students together in classroom to discuss what problems were encountered, what worked well.
- Discuss with students oral presentations for Lesson 4.3. They will present in small groups presenting the research they found and explaining why they ranked their products in the order they did.

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Lesson 4.4 Human Impact on an Ecosystem

Purpose

Students will use a newspaper or magazine article students investigate the impacts of human activity on a local ecosystem

Essential Understandings

Catholic Curriculum Map Links:

- EQ: How do we live in accordance with God's will?
- Reflect on the Beatitudes (6.17, 6.18 YSBMW)
- Recognize God is the source of morality (6.16 YSBMW)
- Consider human responsibility for the other (7.21 YSBMW)
- Discuss how we influence the environment (5.3 FA)

Science and Technology:

- Analyze a local issue related to biodiversity, propose an action that can be taken to preserve biodiversity, and act on the proposal (SE 1.1)
- Assess the benefits that human societies derive from biodiversity and the problems that occur when biodiversity is diminished (SE 1.2)
- Use appropriate science and technology vocabulary in oral and written communication (SE 2.4)
- Use a variety of forms to communicate with different purposes, and for a variety of (SE 2.5)

Language

- Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)
- Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (Oral Communication OE2)
- Read and demonstrate an understanding of a variety of literacy, graphical, and informational texts, using a range of strategies to construct meaning (Reading OE1)

Assessment for Learning

Use observation to identify students who are able to use resources, materials correctly.

Review students' KWL charts to assess understanding of the issue covered, the people involved and the relationship to the Beatitudes and social justice.

Use assessment information to identify the need for individual or small group instruction.

Teacher Notes

This lesson will refer to You Shall Be My Witnesses, Unit 6 Themes 16- 18, Unit 7, Theme 21, and Fully Alive Unit 5, Theme 5 Living in the World, Topic 3: Signs of a Good Community. The Beatitudes and Social Justice will be discussed during these lessons. A copy of a newspaper or magazine article relating to human impact on a local ecosystem (i.e. use of pesticides on plant and animal life, cutting down wooded area for parking lot or road) that students will be able to read and discuss is needed for each student in this lesson. BLM 4.4 KWL chart, pencil, and paper are also needed for each student. This lesson includes formative assessment and diagnostic assessment through the use of the KWL chart. The completed KWL chart will also be used for lesson 4.5.

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Instruction

Time to Teach 10 minutes

- Whole class begins by playing “Headbands”, one student stands at front of room facing class. A student goes up behind them and writes a living organism on the blackboard. Class takes turns giving one-two word identifying characteristics of organism until student guesses. Encourage use of word wall words.
- Using prompts, “What are some of the ways that humans impact on the biodiversity of ecosystems?”, “As members of God’s creation how should we, as a human community interact with the other communities?”, “What are some of the problems that can occur because of our interactions?”, “How can we use the Beatitudes to help us make decisions with respect to our interactions?”, brainstorm with the class their ideas and place them on chart paper for future reference.
- Distribute copies of article and KWL chart; explaining that this is an example of an interaction of humans with a local ecosystem.
- Divide students into pairs for shared reading. Ask students to fill out K and W sections of chart before reading article.

Time to Practice 20 minutes

- Pairs will complete K, W sections of chart together, and then read together the article. Students will individually fill out the L section of the chart.

Time to Share 10 minutes

- Bring students together in classroom to discuss what the question that they had before reading the article were, and the main points of the article are.

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BLM 4.4

KWL Chart

Article Title: _____

Student Name: _____

What do I know about the issue before reading the article?	What do I want to know, what should I know about the issue?	What are the main ideas I have found out about the issue by reading the article?

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Lesson 4.5 Human Impact on an Ecosystem Continued

Purpose

Students will use a newspaper or magazine article students investigate the impacts of human activity on a local ecosystem by choosing one individual or group involved and discussing their actions in written form.

Essential Understandings

Catholic Curriculum Map Links:

- How do we live in accordance with God's will?
- Reflect on the Beatitudes (6.17, 6.18 YSBMW)
- Recognize God is the source of morality (6.16 YSBMW)
- Consider human responsibility for the other (7.21 YSBMW)
- Discuss how we influence the environment (5.3 FA)

Science and Technology:

- Analyze a local issue related to biodiversity, propose an action that can be taken to preserve biodiversity, and act on the proposal (SE 1.1)
- Assess the benefits that human societies derive from biodiversity and the problems that occur when biodiversity is diminished (SE 1.2)
- Use appropriate science and technology vocabulary in oral and written communication (SE 2.4)
- Use a variety of forms to communicate with different purposes, and for a variety of (SE 2.5)

Language

- Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)
- Use speaking skills and strategies appropriate to communicate with different audiences for a variety of purposes (Oral Communication OE2)
- Read and demonstrate an understanding of a variety of literacy, graphical, and informational texts, using a range of strategies to construct meaning (Reading OE1)
- Create a variety of media texts for different purposes and audiences using appropriate forms, conventions and techniques (Media Literacy OE3)

Assessment for Learning

Use observation to identify students who are able to use resources, materials correctly.

Review students' KWL charts, and written paragraphs to assess understanding of the issue covered, the people involved and the relationship of the decisions/actions made by those people to Beatitudes and social justice.

Use assessment information to identify the need for individual or small group instruction

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Teacher Notes

This lesson will refer to You Shall Be My Witnesses, Unit 6 Themes 16- 18, Unit 7, Theme 21, The Beatitudes and Social Justice are discussed during these lessons and Fully Alive Unit 5, Theme 5 Living in the World, Topic 3: Signs of a Good Community. A copy of a newspaper or magazine article relating to human impact on a local ecosystem (i.e. use of pesticides on plant and animal life, cutting down wooded area for parking lot or road) that students will be able to read and discuss is needed for each student in this lesson. The BLM 4.4 KWL chart completed in lesson 4.4 by students will be used again in this lesson, pencil, and paper will also be needed. This lesson includes formative assessment and diagnostic assessment through the use of the KWL chart. Students will use KWL chart and classroom lists to write a paragraph explaining one group involved and their actions/decisions.

Instruction

Time to Teach 10 minutes

- Put 5 word wall words, with letters mixed up, on blackboard have students sort, and solve words.
- Review main ideas of article from lesson 4.4. Using prompts, “What are some of the ways that humans have impacted on the biodiversity of the ecosystem?”, “Who are the groups and people involved?”, “How can we use the Beatitudes to help us make decisions with respect to our interactions?” to develop a class list of people and their reasons for being involved.
- Instruct students to choose one group or person involved with the issue and write a paragraph to them. Students are to include an opening sentence stating their position, for or against the issue presented in the article, three to four sentences with supporting details why they hold this position and a closing sentence so summarize a hopeful resolution reflecting upon the Beatitudes and/or the Catholic social teachings related to the issue.

Time to Practice 25 minutes

- Students will work individually on their paragraphs.

Time to Share 5 minutes

- Bring students together to orally share their written paragraphs.

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Subtask 5: Culminating Task

Description

As a culminating task students will write a letter to the editor of a local newspaper to explain a local issue related to biodiversity and how the human interactions show or do not show accordance with God's will.

The letter will include:

- The ecosystem being affected
- Some of the organisms living in that ecosystem and how they interact with each other and other ecosystems
- The positive and negative aspects of the issue
- The issue related to the ecosystem and how it relates to God's will
- Ways in which we can stay in accordance with God's will when interacting with the ecosystem

Lesson 5.1 Letter to the Editor

Purpose

Students will review the culminating task introduced in Lesson 1.1 and begin to organize their ideas and main points.

Essential Understandings

Catholic Curriculum Map Links:

- How do we live in accordance with God's will?
- Reflect on the Beatitudes (YSBMW 6.17, 6.18)
- Recognize God is the source of morality (YSBMW 6.16)
- Recognize love as a gift from God (FA 1.1)
- Consider human responsibility for the other (YSBMW 7.21)
- Identify influences in society ((FA 5.1)
- Discuss how we influence the environment (FA 5.3)

Science and Technology

- Assess human impacts on biodiversity, and identify ways of preserving biodiversity (OE 1)
- Investigate the characteristics of living things, and classify diverse organisms according to specific characteristics (OE 2)
- Demonstrate an understanding of biodiversity, its contributions to the stability of natural systems, and its benefits to humans (OE 3)

Language:

- Generate, gather and organize ideas and information to write for an intended purpose and audience (Writing OE 1)
- Read and demonstrate an understanding of a variety of literacy, graphical, and informational texts, using a range of strategies to construct meaning (Reading OE1)

Assessment of Learning

Use task specific rubric to assess and evaluate students' understanding of the overall expectations of the unit.

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Teacher Notes

This lesson will refer to You Shall Be My Witnesses, Unit 6 Themes 16- 18, Unit 7, Theme 21, The Beatitudes and Social Justice are discussed during these lessons and Fully Alive Unit 5, Theme 5 Living in the World, Topic 3: Signs of a Good Community. A copy of the newspaper or magazine article relating to human impact on a local ecosystem (i.e. use of pesticides on plant and animal life, cutting down wooded area for parking lot or road) that students will be able to read and discuss is needed for each student in this lesson. The BLM 4.4 KWL chart completed in Subtask 4.4 by students will be used again in this lesson, pencil, and paper will also be needed. This lesson includes summative assessment in the form of a task specific rubric. Students will use prior learning (their KWL chart, classroom lists, and paragraph writing Subtask 4, Lesson 4.5) and do research related to the organisms found in the ecosystem to write a letter to the editor of a newspaper discussing their opinions on the issue. After the letters are completed they may be sent to the newspaper to celebrate the end of the unit and to provide an authentic audience for the activity. The culminating task is scheduled for 4 – 40 minute lessons. Materials needed will include reference books with information regarding the ecosystem, access to appropriate websites, newspaper and magazine articles relating to the issue, paper, pencils, anchor chart created in Subtask 1, Lesson 1.1.

Instruction

Day One

Time to Teach 20 minutes

- Review text forms that are specific to letter writing. Review classroom anchor chart to be posted throughout the culminating task.
- Review the components of the letter to the editor:
- Review rubric for the assignment
- Examine:
 - The ecosystem being affected
 - Some of the organisms living in that ecosystem and how they interact with each other and other ecosystems
 - The issue related to the ecosystem and how it relates to God’s will
 - The positive and negative aspects of the issue
 - Ways in which we can stay in accordance with God’s will when interacting with the ecosystem
- Review appropriate internet rules for students who need to research the organisms.
- Give timeline for task to be completed over 4 lessons.

Time to Practice 15 minutes

- Students will begin to work individually on their research for letter writing.

Time to Share 5 minutes

- Bring students together to discuss any problem, concerns that need to be addressed.

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Day Two

Time to Teach 5 minutes

- Review any concerns from the previous lessons
- Review the components of the letter
- Examine:
 - The ecosystem being affected
 - Some of the organisms living in that ecosystem and how they interact with each other and other ecosystems
 - The issue related to the ecosystem and how it relates to God's will
 - The positive and negative aspects of the issue
 - Ways in which we can stay in accordance with God's will when interacting with the ecosystem
- Review appropriate internet rules for students who need to research the organisms.
- Remind students of the timeline for the task.

Time to Practice 30 minutes

- Students will work individually on their research and begin letter writing.

Time to Share 5 minutes

- Bring students together to discuss any problem, concerns that need to be addressed.

Day Three

Time to Teach 5 minutes

- Review key items addressed in Day One and Day Two

Time to Practice 30 minutes

- Students will have completed research and started work individually on their letters.
- As students finish drafts of letters they switch with peer for editing, proof reading.

Time to Share 5 minutes

- Bring students together to discuss any problem, concerns that need to be addressed.

Day Four

Time to Teach 5 minutes

- Review expectations and timelines as culminating task work sessions conclude

Time to Practice 30 minutes

- Students will work individually on their letters. Handing in their revised and edited letters to the editor.

Time to Share 5 minutes

- Bring students together to write "2 stars and 1 wish" reflection.
- Students will write 2 activities or lessons they enjoyed in the unit and 1 activity or lesson they wish they could change.

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Student Name: _____				
Categories	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding – Subject-specific content acquired in each grade (knowledge), and the comprehension of its meaning and significance (understanding)				
Knowledge of biodiversity and the terminology specific to the unit	The student: <ul style="list-style-type: none"> demonstrates limited knowledge of biodiversity demonstrates limited knowledge of the terminology specific to the study of biodiversity 	The student: <ul style="list-style-type: none"> demonstrates some knowledge of biodiversity demonstrates some knowledge of the terminology specific to the study of biodiversity 	The student: <ul style="list-style-type: none"> demonstrates considerable knowledge of biodiversity demonstrates considerable knowledge of the terminology specific to the study of biodiversity 	The student: <ul style="list-style-type: none"> demonstrates thorough knowledge of biodiversity demonstrates limited knowledge of the terminology specific to the study of biodiversity
Understanding of the impact of humans on biodiversity	The student: <ul style="list-style-type: none"> demonstrates limited understanding of the impact of humans on biodiversity 	The student: <ul style="list-style-type: none"> demonstrates some understanding of the impact of humans on biodiversity 	The student: <ul style="list-style-type: none"> demonstrates considerable understanding of the impact of humans on biodiversity 	The student: <ul style="list-style-type: none"> demonstrates thorough understanding of the impact of humans on biodiversity
Thinking and Investigation - – The use of critical thinking skills and inquiry and problem-solving skills and/or processes				
Use of initiating and planning skills and strategies to identify the peoples involved in the issue and how their actions demonstrate the Beatitudes	The student: <ul style="list-style-type: none"> uses initiating and planning skills and strategies to identify the peoples involved in the issue and how their actions demonstrate the Beatitudes with limited effectiveness 	The student: <ul style="list-style-type: none"> uses initiating and planning skills and strategies to identify the peoples involved in the issue, and how their actions demonstrate the Beatitudes with some effectiveness 	The student: <ul style="list-style-type: none"> uses initiating and planning skills and strategies to identify the people involved in the issue, and how their actions demonstrate the Beatitudes with considerable effectiveness 	The student: <ul style="list-style-type: none"> uses initiating and planning skills and strategies to identify the people involved in the issue, and how their actions demonstrate the Beatitudes with a high degree of effectiveness
Use of processing skills and strategies to identify the positive and negative aspects of the issue	The student: <ul style="list-style-type: none"> uses processing skills and strategies to identify the positive and negative aspects of the issue with limited effectiveness 	The student: <ul style="list-style-type: none"> uses processing skills and strategies to identify the positive and negative aspects of the issue with some effectiveness 	The student: <ul style="list-style-type: none"> uses processing skills and strategies to identify the positive and negative aspects of the issue with considerable effectiveness 	The student: <ul style="list-style-type: none"> uses processing skills and strategies to identify the positive and negative aspects of the issue with a high degree of effectiveness

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Use of critical/creative thinking processes, skills and strategies to make connections between the issue and living in accordance with God's will	The student: <ul style="list-style-type: none"> uses creative/critical thinking skills and strategies to make connections between the issue and living in accordance with God's will with limited effectiveness 	The student: <ul style="list-style-type: none"> uses creative/critical thinking skills and strategies to make connections between the issue and living in accordance with God's will with some effectiveness 	The student: <ul style="list-style-type: none"> uses creative/critical thinking skills and strategies to make connections between the issue and living in accordance with God's will with considerable effectiveness 	The student: <ul style="list-style-type: none"> uses creative/critical thinking skills and strategies to make connections between the issue of living in accordance with God's will with a high degree of effectiveness
Communication - The conveying of meaning through various forms				
Expression and organization of ideas and information in letter format	The student: <ul style="list-style-type: none"> expresses and organizes the ideas and information in letter format with limited effectiveness 	The student: <ul style="list-style-type: none"> expresses and organizes the ideas and information in letter format with some effectiveness 	The student: <ul style="list-style-type: none"> expresses and organizes the ideas and information in letter format with considerable effectiveness 	The student: <ul style="list-style-type: none"> expresses and organizes the ideas and information in letter format with a high degree of effectiveness
Communication in form of letter to the editor	The student: <ul style="list-style-type: none"> communicates his/her knowledge of the issue in a letter to the editor with limited effectiveness 	The student: <ul style="list-style-type: none"> communicates his/her knowledge of the issue in a letter to the editor with some effectiveness 	The student: <ul style="list-style-type: none"> communicates his/her knowledge of the issue in a letter to the editor with considerable effectiveness 	The student: <ul style="list-style-type: none"> communicates his/her knowledge of the issue in a letter to the editor with a high degree of effectiveness
Use of conventions for letter writing, vocabulary, and terminology of the unit written form	The student: <ul style="list-style-type: none"> uses conventions for letter writing, vocabulary, and terminology of the unit with limited effectiveness 	The student: <ul style="list-style-type: none"> uses conventions for letter writing, vocabulary, and terminology of the unit with some effectiveness 	The student: <ul style="list-style-type: none"> uses conventions for letter writing, vocabulary, and terminology of the unit with considerable effectiveness 	The student: <ul style="list-style-type: none"> uses conventions for letter writing, vocabulary, and terminology of the unit with a high degree of effectiveness
Application - The use of knowledge and skills to make connections within and between various contexts				
Application of knowledge of biodiversity, interrelationships between species, and living in accordance with God's will	The student: <ul style="list-style-type: none"> applies knowledge of biodiversity, interrelationships between species, and living in accordance with God's will with limited effectiveness 	The student: <ul style="list-style-type: none"> applies knowledge of biodiversity, interrelationship between species, and living in accordance with God's will with some effectiveness 	The student: <ul style="list-style-type: none"> applies knowledge of biodiversity, interrelationships between species, and living in accordance with God's will with considerable effectiveness 	The student: <ul style="list-style-type: none"> applies knowledge of biodiversity, interrelationships between species, and living in accordance with God's will with a high degree of effectiveness

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Transfer of knowledge of biodiversity to living in accordance with God's will	The student: <ul style="list-style-type: none"> transfers knowledge of biodiversity to living in accordance with God's will with limited effectiveness 	The student: <ul style="list-style-type: none"> transfers knowledge of biodiversity to living in accordance with God's will with some effectiveness 	The student: <ul style="list-style-type: none"> transfers knowledge of biodiversity to living in accordance with God's will with considerable effectiveness 	The student: <ul style="list-style-type: none"> transfers knowledge of biodiversity to living in accordance with God's will with a high degree of effectiveness
Making connections between science, technology, society, and the environment through the understanding of the effects of human influence on biodiversity	The student: <ul style="list-style-type: none"> makes connections between science, and technology, society and the environment through the understanding of the effects of human influence on biodiversity with limited effectiveness 	The student: <ul style="list-style-type: none"> makes connections between science, technology, society and the environment through the understanding of the effects of human influence on biodiversity with some effectiveness 	The student: <ul style="list-style-type: none"> makes connections between science, technology, society and the environment through the understanding of the effects of human influence on biodiversity with considerable effectiveness 	The student: <ul style="list-style-type: none"> makes connections between science, technology, society and the environment through the understanding of the effects of human influence on biodiversity with a high degree of effectiveness
Proposing courses of practical action to deal with problems relating to the issue	The student: <ul style="list-style-type: none"> proposes courses of practical action relating to the issue of limited effectiveness 	The student: <ul style="list-style-type: none"> proposes courses of practical action relating to the issue of some effectiveness 	The student: <ul style="list-style-type: none"> proposes courses of practical action relating to the issue of considerable effectiveness 	The student: <ul style="list-style-type: none"> proposes highly effective courses relating to the issue of practical action