A Detailed Lesson Plan in Science for Grade 8
Section 8-Balance; 7:40-8:40 P.M, February 20, 2018
Section 8- Brilliance; 8:40-9:40 A.M, February 20, 2018
Section 8- Bravery; 10:00-11:00 A.M, February 21, 2018
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Code: S8LT-IVh-21

Content Standard:
The learners should be able to explain:

a. the concept of species
b. the species as being further classified into a hierarchical taxonomic system.

Performance Standards:

a. report (e.g., through a travelogue) on the activities that communities engage in to protect and conserve endangered and economically important species

Learning Competency:
The learners should be able to:

a. explain the advantage of high biodiversity in maintaining the stability of an ecosystem

I. Objectives:
At the end of the lesson, the students will be able to:

a. differentiate low and high biodiversity
b. identify ecosystems with low and high biodiversity
c. create a tableau on how human activities destroy biodiversity
d. draw a poster on how to protect and conserve biodiversity

II. Learning Tasks:
Subject Matter: Low and High Biodiversity
Protecting and Conserving Biodiversity
References: * Grade 8 Science Learner's Module
* https://www.slideshare.net/MaraLuarte/low-and-high-biodiversity
* https://socratic.org/questions/what-are-advantages-and-disadvantages-of-biodiversity
* http://www.fftc.agnet.org/htmlarea_file/activities/20110826121346/paper-729213301.pdf

Concepts: Low and High Biodiversity

- definition
- advantages of high biodiversity over low biodiversity

Protecting and Conserving Biodiversity

- causes of declination of biodiversity (HIPPO)

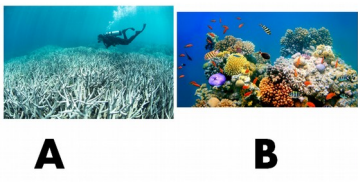
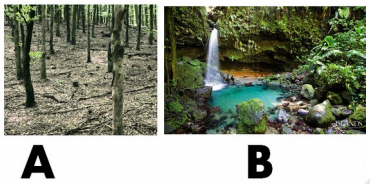
Skills: Analytical/ critical thinking skill, communication skills, social skill, collaboration skills, oral skills, written skills and art skills

Values: Respect, Open mindedness, teamwork, self-confidence, Environmental cleanliness, Awareness, creativity

Materials: Laptop, LCD Projector, Whiteboard, Marker, Bell

III. Procedure

Teacher's Activity	Students' Activity
A. Preliminaries • Greeting of Students Good morning/afternoon Class • Checking of Attendance Who is absent today? • Check if they are in their proper seat • Tell students to align their chair, keep their gadgets, and pick pieces of litter on the floor	Good Morning/Afternoon Ma'am None Ma'am
B. Review Will someone tell something about our topic last meeting? What is all about Phylum Chordata? Will someone give me examples of invertebrate chordates? Also, vertebrate chordates are classified into groups will someone give me those groups? We also had our activity and quiz where we classified organisms into their groups and also identified importance of organisms in our environment. Today we are going to learn on how the habitats of these organisms are diverse and how it will be protected and conserved.	We discussed about Kingdom Animalia specifically Phylum Chordata Phylum Chordata have 4 distinctions to be considered as chordates such as the notochord, hollow dorsal nerve cord, gill slits and post-anal tail. And it has two groups the invertebrate and vertebrate chordates. tunicates and lancelets mammals, amphibians, reptiles, birds and fishes
C. Motivation	

Using powerpoint presentation, there are 2 photos shown and ask students where is more diverse. 1.  2.  3.  4.  5.  	A B B B A
D. Presentation/Discussion Using powerpoint presentation the following terms will be flashed. What comes into your mind every time you hear the word biodiversity? BIODIVERSITY - The variety of life in the world or in a particular habitat or ecosystem. LOW BIODIVERSITY	It is how diverse or comes in different kind on our ecosystem.

- Areas with lesser number of organisms found is considered to have low biodiversity	
Will you give me a biome that has a low biodiversity? examples: tropical forest, savanna, desert, chaparral, grassland,temperate forest, taiga or boreal forest, and tundra. *Show photos	tropical forest, savanna, desert, chaparral, grassland,temperate forest, taiga or boreal forest, and tundra.
HIGH BIODIVERSITY - Areas with higher number of organisms found are considered to have high biodiversity	
Will you give me a biome that has a low biodiversity? example: tropical rainforest	tropical rainforest
ADVANTAGE OF HIGH BIODEIVERSITY OVER LOW BIODIVERSITY - high biodiversity consists of a wide variety of species - less extinction while low biodiversity may lead to over population -high biodiversity species will have more habitats -high biodiversity species has more food source than low biodiversity	
PROTECTING & CONSERVING BIODIVERSITY **Causes of Species declination** H- Habitat destruction I- Invasion of introduced species P- Population increase P- Pollution O- Overcollection/ overharvesting of resources	
1. Habitat destruction	

- occurs when natural habitats are no longer able to support the species present, resulting in the displacement or destruction of its biodiversity. Will you give examples that cause habitat destruction? Examples include harvesting fossil fuels, deforestation, dredging rivers, urbanization, filling in wetlands and mowing fields. 2. Invasion of introduced species (alien species) - are plants, animals, pathogens and other organisms that are non-native to an ecosystem, and which may cause economic or environmental harm or adversely affect human health. Will you give examples of species that are not native in the Philippines? Golden Apple Snail - Originally introduced to increase the protein source of Filipino diet, but now a major pest hindering the promotion and adoption of direct-seeded rice. This snail is also blamed to displace the native edible snail, *Pila conica*, in Luzon. Originated from South America. *Show photo Lantana - was introduced as an ornamental due to its colorful flowers (ISSG, 2006c). It is considered undesirable because it invades pastures and decreases productivity; replaces native forest species after land is cleared for farming, hence preventing succession and restoration, and may even poison cattle when eaten *Show photo 3. Population increase	Kaingin, illegal logging, conversion to agricultural land Golden Apple Snail

- may cause loss of resources and habitat. Over population may lead to loss of biodiversity due to the increase numbers of consumers 4. Pollution - destroys biodiversity through polluting the area that may lead to loss of habitat and species loss Will you give me an example of pollution and its effect to biodiversity? 5. Overcollection/ Overharvestig of resources - overharvesting resources may lead to destruction of biodiversity. Plants and other species might be extinct due to this practice Will you give me an example?	Water pollution, fishes and other marine species will die due to the different pollution found on the sea such as garbage that may kill species when they eat it and oil spills that may destroy the coral reefs Tree logging, most trees that are used for lumbers are hard to grow.
E. Generalization Will someone sum up what you have learned today?	I have learned about low and high biodiversity. Low biodiversity are areas have lesser number of species while high biodiversity have more. Example of low biodiversity is a desert where it has only less species found on the area while tropical rainforest is said to be high biodiversity that has a lot of species. It is also said that high biodiversity is more advantageous than low biodiversity. Then there are also causes of declination on these ecosystems such as the habitat destruction, invasion of introduced species, population increase, pollution and overharvesting of resources.
G. Application/Activity Students will form 4 groups. Using a tableau, students will show the causes of species declination. Students will pick their topics	

through draw lots. 1. Habitat Destruction 2. Pollution 3. Overharvesting of resource 4. Population increase	

IV. EVALUATION. In a short bond paper, Students will make a poster showing ways on how they will protect and conserve biodiversity. It will be passed on February 23, 2018. The poster will be scored according to the following criteria:

Criteria	**Score**
Content	10
Creativity	10
Neatness	5
Timeliness	5
TOTAL	**30 pts**

V. REMARKS

VI. REFLECTION

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