Lesson Title: "Exploring Biodiversity In Washington's Ecosystems"

Lesson Subject/Focus: Science/Biodiversity

Grade: Third Grade

Time for Lesson: 45 minutes

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I. Materials, Resources, and Technology

Materials:

- Large ecosystems posters/maps
- Photos of local plants and animals
- Pictures of the different ecosystems in Washington
- Chart paper
- Markers
- Index cards

Resources:

- Washington Counties Puzzlemap, related clues include:
    - "Down by the Bay"
    - "Kids in the Creek"
    - "Where Mossy Giants Grow"
    - "Prairie Paradise"
    - "River Talk - Shrub Talk"
- Washington state department of natural resources website
- Library books about Washington's ecosystems (marine shorelines, riparian areas/ecosystems, shrub step ecosystems, Westside prairies)

Technology:

- Videos about different ecosystems,
- Projector or a smart board to show these videos and pictures

II. Central Focus of Learning Segment

Students will explore and understand the concept of biodiversity by researching and examining the various characteristics and biodiversity of four different ecosystems in Washington State.

III. State Learning Standards

DCI Arrangements of the Next Generation Science Standards

3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.* [Clarification Statement:

Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food, and other organisms.] [Assessment Boundary: Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.]

3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. [Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.]

Learning Targets (Objectives) and Assessments

Learning Target	Language Opportunities	Assessments
I can describe biodiversity in Washington ecosystems.	They can share ideas with a partner and classroom. "I think..." "I know..." "I saw"	Create an exit task where students have to mention one fact about either of the four ecosystems that they can choose from.
I can identify how different habitats support different animals and plants.	Partner/group/table discussions and observations	Complete an ecosystem matching activity
I can name the four ecosystems in Washington state.	Discuss the ecosystems out loud	Oral Responses, worksheet sorting activity

IV. Students' prior knowledge or experiences with the content of this lesson

The students may have basic knowledge of animals and plants in their local area and community. They may have seen different types of plants and animals and know that they're different.

V. Sequence of Learning Activities

Estimated Minutes	Teacher Actions	Student Actions
5 min	**Introduction:** Show a video of Washington's ecosystems. **Afterward ask,** "What do you notice?"	Observe and share key ideas and key points about what they see and find out what they already know.
5 min	**Introduce them to the vocabulary:** Introduce them to the term biodiversity and explain what it means. Show and explain the four ecosystems in Washington. **Afterward Ask:** "Why is biodiversity important?"	Students should listen, repeat new words, and share examples that they have seen within their community or in different places they have visited.

20	**Class Activity:** Split the class into five stations (shrub steppe, riparian, marine shorelines/ Estuaries, and Westside prairies). Provide photos and informative books about each ecosystem and what can be found within it.	Within their groups, students should work together to search through the Washington Counties PuzzleMap, read some of the available books. and write a description of what their ecosystem is and what can be found within it. They should include drawings, 2 fun facts, and write about what animals live there and what plants can be found.
10 min	**Regroup & Share:** "What did you learn? What were your two fun facts? What animals live and what plants can be found within your ecosystem?"	The students will contribute their ideas and information they found about their ecosystem.
5 min	**Wrap Up:** **Ask:** "What differences and similarities do these ecosystems have?" **Ask Again:** "Why is biodiversity important?"	Students share their answers out loud. They share their ideas about the similarities and differences between each ecosystem.

VI. Learning Activity Review

How will you differentiate instruction and outcomes to meet specific student needs? *(Include if appropriate: Universal design, grouping, ELL Strategies, IEP or 504 accommodations, student interests, culturally responsive supports, etc.)*

I will differentiate instruction and outcomes to meet specific student needs by providing pictures and videos for visual support for ELL strategies as well as those who respond better to visuals. This lesson is for group work for peer learning. The students will learn from one another and gain different perspectives and ideas from one another. The lesson itself allows for creativity when drawing and allows for oral responses.

What are your supporting theories or principles? (Why are you doing what you are doing?)

Constructivist learning: this is where the students will build a knowledge through their observations and discussions based on what they were learning about the ecosystems in Washington

How does this lesson connect with what students have previously learned and a progression of future learning?

This lesson connects with students and what they have previously learned because it builds on the knowledge that they might already have of animals and habitats that surround their community or what they've learned within 2nd grade, first grade, and kindergarten. For their progression of future learning this lesson prepares students for future lessons on ecosystems and environmental challenges that we can face within our community and worldwide.

VII. Inclusive Design Highlights

UDL Multiple Means for Representation
Photos, real world examples, and videos that help students understand biodiversity and the different ecosystems in Washington.
UDL Multiple Means of Engagement
The students are in small groups each of them taking ownership on their loaning and exit
UDL Multiple Means of Action/Expression
This lesson is useful because it allows for verbal discussions, for students to express themselves creatively by drawing and it allows students to get out of their seats and move.
Culturally Responsive Learning Supports
When learning about the ecosystems around Washington, I can allow students to share examples from places they visited with their families or even elaborate on what they see in our ecosystems within our community.
Explicit Anti-Oppressive/Anti-Racist Content or Skills
We can incorporate local indigenous perspectives and the importance of respecting these ecosystems because of the history behind them.