

Objective: Students and teachers will understand the spiritual, cultural, and environmental importance of the tule in the Stillwater Marshes.

Essential Question: What are the spiritual, cultural, and environmental significance of the Stillwater Marshes?

5-PS1-3 Matter and Its Interactions Make observations and measurements to identify materials based on their properties. Performance Expectation Grade: 3-5, 5

MS-LS2-1 Ecosystems: Interactions, Energy, and Dynamics Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem. Performance Expectation Grade: Middle School (6-8)

HS-ESS3-1 Earth and Human Activity Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity. Performance Expectation Grade: High School (9-12)

Identifying the TEK	Incorporating the TEK	Reflection	Additional/Extended
Traditional Oral Stories: Ask students to share their prior knowledge Seek knowledge from a knowledge keeper, invite them to share the traditional stories related to the native tule reeds. If a storyteller can not join you, select a pre recorded version of the stories. A key emphasis on the respect needed when interacting with the environment and the sacred knowledge and practices. Identify current environmental issues that the topic is related to based on western and traditional paradigm. For instance the belief that the tule is a natural filter that protects the	Field trip/hands-on learning: Hands-on-learning: Needed learning tools, sunscreen, hats, bug spray, water shoes, towels, storage containers, transportation, camera to document student learning Knowledge Keepers/native guides are essential to the success of this lesson. Contact the tribal offices for assistance. Make arrangements for the trip to access lands with the tule reeds. Invite a guide and/or knowledge keeper to extend the knowledge of the area. The knowledge keeper can demonstrate how to gather the tule or show students how to safely	Have a back-up plan for incidents of poor knowledge. After the lesson, students will need to properly thank their knowledge keeps: Some suggestions: • An honorarium • Students can make a gift • Students can prepare a meal (such as a traditional tule soup or a pot luck to share their traditional foods) • Post a thank you letter in the local paper Have a discussion with students about the knowledge they've gained.	Reach out to tribal entities/ environmental/ governmental agencies for additional knowledge. Invite them to speak and share their knowledge orally. This lesson is meant to be extended when possible. Links that can be made: Food chains Culinary Uses Monetary systems Ceremonial Uses Shelter Building: where/why Preservation Environmental impact: erosion, invasive species, ect Plant life Cycle

water. Additionally, it was food, shelter, clothing, a spiritual tool, and protected the wildlife in the area. Teachers should guide students to these understandings: • Allow student discourse • If students are not seeing the connections, ask guiding questions. Examples: How was the tule plant used? What benefits did it provide the natives? What impact did it have on the surrounding environment?	gather them. Once reeds have been gathered, students will process the reeds in the traditional methods, as taught by your knowledge keeper. Ideas for extensions: • Students eat the tule • Students create clothing • Students build a shelter • Students investigate other species that live in the reeds • Students can create a water system to investigate how the tule reeds clarify and detoxify the water		Birding Tourism/Economic impact Create an event and invite parent/community members
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