



Curriculum Units by Fellows of the National Initiative
2026 Volume V: Chemistry of Cooking

The Chemistry of Indigenous Cooking

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This unit is designed for Special Needs students at the high school levels that are in grades ninth to twelfth with academic levels ranging from kindergarten to fourth grade. Lessons are aligned to the Arizona Science Academic Standards and the Dine' Philosophy of Education Standards. The students will cook an Indigenous recipe, tailored to their cultural heritage. Chemistry at the first-grade level focuses on physical change and chemical change. The standard is obtaining, evaluating and communicating information about the properties of Earth's materials and investigating how humans use natural resources in everyday life. A Juniper tree branch will be used to demonstrate chemical change through combustion. Blue corn kernels will be ground to demonstrate physical change. Students stay engaged in lessons when kinesthetic activities are involved. Three activities will take place: Sifting, grinding, and making a pot of blue corn mush. Resources for the cooking lesson will be collected from the land in the local area.

Navajos have long been agriculturalists. Growing vegetables such as corn, squash, beans and fruits such as melons and apricots. Raising livestock: cattle, horses and sheep on the vast open lands. Wild animals continue to roam the lands and wild berries, herbs, and tea grow throughout the reservation. Family past down traditional recipes and skills are taught at home on ways to prepare for meals.

(Developed for Science, grades 9-12; recommended for Elementary Science, grade 2)

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