Indigenous NH Harvest Calendar

Summer Season
Niban
About blueberries

True wild blueberries (not cultivated) grow in abundance in the Northeast. Blueberries grow on bushes that grow up to three feet high. They can be found sitting on land near water or can be found in the woodlands. Many lakes and mountains in New Hampshire are ringed by wild blueberries.

In New Hampshire, there are two common species of blueberries. The most common species are “low sweet” blueberries that are especially prevalent in southern counties. Low sweet blueberries have smooth leaves and stems. The other species, “sour top” blueberries, are found in mountainous regions and in the North Country. Their leaves and stems are covered in fine white hairs. All blueberries have a system of underground stems (rhizomes) that expand through the soil and comprise 70% of the plant - the shrub that we see is only 30%! Mowing or burning bushes is an important method of cultivation because it encourages these rhizomes to produce even more.

Blueberries are ready to harvest during the peak summer season, usually at the end of July to early August. The wild blueberry will be ripe and ready to pick when it is a deep blue.

Resources:
“Wild Blueberries: Sweet Survivors or Cranky Yankees?” by Brenda Charpentier
“Growing Fruits: Wild Lowbush Blueberries” by UNH Cooperative Extension

Nutritional benefits of blueberries

Blueberries are often considered a “superfood” because they are extremely high in antioxidants, which makes them very beneficial to white blood cell quality and count. Additionally, the USDA Food Composition Database states that blueberries are a good source of fiber, calcium and vitamin C.
Blueberries as a traditional food

Blueberries have been growing natively in the Northeast well before colonization. The state of Maine is well known for their native blueberry bushes – blueberries are even the state fruit! However, wild blueberries are commonly found in New Hampshire as well.

Many Native American tribes described blueberries as “star berries” due to their 5-pointed star calyx (blossom ends), and told stories about how the Great Spirit sent these berries to relieve famine. New England Indigenous groups showed European colonists how to cultivate wild blueberries, and the berries may have shown up in the first Thanksgiving as a cornmeal pudding called *sautauthig* by the Wampanoag.

Besides being eaten fresh as a nutritious snack, these fruits were used as tonics and teas to help strengthen immunity and improve overall health. Blueberries are also easily dried, which is one of the most common ways the Abenaki preserved food.

Blueberries were a symbol of warm seasons. They have their own month in the 13 Moons calendar. It is Moon 8, Zataikas (the blueberry maker moon).

Resource:
“*The Blueberry: An American Native*” by Berkeley Horticultural Nursery
Wild Blueberry Sauce

Ingredients
- 3 cups wild blueberries, fresh or frozen
- 1 cup sugar
- 1 cup water
- Juice and zest of 1 orange
- 1 teaspoon ground cloves
- 1 teaspoon ground cinnamon

Instructions
1. In a large saucepan, heat the blueberries, sugar, water, orange juice, and spices on high.
2. Bring to a boil, then reduce the heat and simmer 15 minutes.
3. Add orange zest to the mixture and cool.

Recipe by Wyman’s of Maine on The Daily Table

Blueberries were sometimes called “star berries” by different Native American groups

Blueberry Crisp

Ingredients
- 1 tablespoon unsalted butter, softened
- 12 oz fresh blueberries
- 1/3 cup granulated sugar
- 1 tablespoon all-purpose flour
- 1/2 teaspoon cinnamon
- 3/4 cup all-purpose flour
- 1/4 cup light brown sugar
- 1/2 teaspoon salt
- 1/4 cup unsalted butter, melted
- 1 tablespoon granulated sugar

Instructions
1. Preheat the oven to 350°F. Spread the 1 tablespoon of softened butter on the bottom of a 1 quart baking dish.
2. Combine the blueberries, sugar, flour and cinnamon in a large bowl. Pour the berry mixture into the prepared pan.
3. In the same bowl, combine the flour, brown sugar and salt. Add the melted butter and use your fingers to mix the mixture so that it resembles coarse sand. Sprinkle the mixture evenly over the top of the berries. Sprinkle the tablespoon of sugar over the top.
4. Bake in the preheated oven for 40-45 minutes until the filling is bubbling and the crisp topping is browned.

Recipe by Lei Shishak for Farm-to-Table Desserts
Drying Blueberries

This activity introduces social studies through the discussion of how Abenaki ate blueberries. Questions can be posed as to why they ate blueberries dried and students are encouraged to think about why they ate them differently than we do today. This is also a great way to encourage group cooperation and develop basic cooking skills.

Blueberry Oat Smoothie

Ingredients
- ½ cup old-fashioned rolled oats
- 2 cups frozen blueberries
- 1 container (5.3 ounces) non-fat blueberry Greek yogurt
- 1 banana
- ½ cup coconut water
- 2 tablespoons honey

Instructions
1. In blender, process oats for 30 seconds. Add remaining ingredients and purée until blended.

Recipe by The U.S. Highbush Blueberry Council

Activities
Materials Needed:
- Baking sheets (one per group or one per class)
- Blueberries
- Oven
- Parchment paper
- Plates for serving

The Abenaki used to dry blueberries as a means of preservation. This activity allows students to try this on their own.

First, preheat oven to 220 degrees. Students will split into groups and each group gets a container of blueberries. Each group is also given a baking sheet and piece of parchment paper. The students will assemble the pan by placing the parchment paper over the baking sheet and spreading the berries on the baking sheet.

After preparing their pans, each group will place their pan into the oven. Bake for approximately three hours. After three hours has passed, students and the teacher can go retrieve their blueberries and set them somewhere safe to cool. Students may eat the blueberries after they’ve cooled, and discuss (or record in their food/gardener’s notebook) their opinions and observations.

This activity is referencing a write up of post-contact agricultural ways of the Abenaki. The activity uses a descriptive write up to help illustrate ways that the Abenaki would have harvested the gardens that they created.

This activity brings literacy into an Indigenous context. It allows students to explore more thoroughly the 13 Moons calendar of the Abenaki. Reading the description aloud helps develop listening and comprehension skills, and by drawing the images after the reading students are able to practice creative interpretation.
Materials Needed:
• Descriptive excerpt
• Discussion questions
• Paper
• Drawing utensils

The following references the 13 Moons description of the 8th moon, Zataikas, derived from a 2017 exhibit at the Children’s Museum in Dover, New Hampshire. This is taken from exhibition at the Children’s Museum about an Abenaki Child’s Year and was done in collaboration with Denise and Paul Pouliot and is credited to them and the museum curators. Read the paragraph below to your students:

“As Summer days grow long, the women and children continue to battle the weeds and the creatures that threaten the garden. The women carry their babies on cradle boards as they work the field. The children scare away birds using sticks, but care is taken not to harm the crows as they are believed to be messengers of the spirit world.”

Once this description has been read out loud, discuss it with the students. Ask some of the following questions:
• What image did this description give you? What were you imagining as it was being read?
• Did you notice any messages or morals in the description?
• This brief description mentions some foraging techniques. Can you identify any of them?

After the discussion, encourage students to create an image inspired by the reading! They can create an illustration of what they have read for the 8th Moon.

Making Blueberry Fritters

This activity helps develop group work and collaboration skills. By reviewing the recipe and identifying what is and isn’t traditionally Indigenous, students can see how tradition can change over time and can start to become familiar with modernization. Additionally, literacy skills are developed through reading the recipe and students and teachers start to create a positive environment surrounding food within the classroom.
Materials Needed:

- Ingredients
- Skillet
- Recipe printout
- Napkins
- Plates
- Forks
- Stove/hotplate
- Mixing bowls

Review the recipe first before starting any of the cooking process and identify with the students what ingredients are not traditionally Indigenous (white cornmeal, eggs, baking powder). While these are not traditional ingredients, they fit modern convenience and are used in Indigenous recipes today. Each group of students get a copy of the following recipe:

**Blueberry Fritters:**

Ingredients (serves 4-8)

- 2 cups of blueberries
- 3 cups of white cornmeal
- ¼ cup of maple syrup
- 1 ¼ teaspoon of baking powder
- 2 eggs
- ½ cup water
- 1-2 cups of corn or sunflower oil

Instructions:

1. Wash and drain the berries before using and allow to dry. Blend all of the dry ingredients into a mixing bowl.
2. Beat eggs with water until it has a foamy texture, then add to the dry mixture and gently add berries.
3. Heat oil in a skillet and put a small amount of batter into the skillet until it turns golden brown.
4. Repeatedly drop tablespoons of batter into the skillet and turn the fritters to brown both sides.
5. Drain on a napkin once cooked and let cool (add additional maple syrup if desired).

After the students have made the recipe, allow for a community taste testing! The entire class eats the fritters together and discusses their opinions and can evaluate the cooking process.

Additional Resources:

- “Growing Fruits: Wild Lowbush Blueberries” by UNH Cooperative Extension
- “Wild Blueberry History & Geography” by Teach ME Food & Farms
- Pick Your Own (PYO) Blueberry Farms in NH
- 13 Moons Exhibition at the Children’s Museum of Dover, New Hampshire
- “Educational Resources” by the Indigenous NH Collaborative Collective
About sunflowers

The Abenaki cultivated sunflowers and did not consider them wildflowers, although they are frequently found growing in pastures and fields. Wild sunflowers are native plants to North America, and the earliest signs of domestication show that they were carefully bred by Native Americans in the Eastern US about 4,000 years ago. Native Americans transformed the sunflower from a branched plant with many flower heads and small seeds to the single-headed flower with large oilseeds we are familiar with. Sunflowers are a very popular garden flower today for their bright blooms and ease of care.

Sunflowers bloom most intensely during the peak summer season with hot temperatures. The flower gets its name because the head of the flower grows towards the sun. Some sunflowers reach their peak height at around 72 inches - that’s six feet tall!

Resource:
“History of the Domestication of Sunflowers” by K. Kris Hurst

Nutritional benefits of sunflowers

The USDA Food Composition Database shows that sunflower seeds are a good source of protein and vitamins. For 100 grams of sunflower seeds, there are 20.78 grams of protein, 78 grams of calcium, 645 grams of potassium and 1.4 grams of Vitamin C. Sunflower seeds are also high in magnesium and healthy fats - one serving has about 14 grams of both mono and poly unsaturated fats.
Sunflowers traditionally

As mentioned before, sunflowers were cultivated by Indigenous populations. The name for sunflower, *Gizosk8gan*, is the same name used for the sunchoke (Jerusalem artichoke), another Indigenous food. Sunflower seeds are a common snack today, but the Abenaki and other Native American tribes used sunflowers mostly for oil and for medicinal benefits.

Most of the minerals that are found naturally in sunflowers are concentrated in the complex root system of the flower. A tonic was often made from the roots to help treat and relieve symptoms of rheumatism and inflammation. Hair treatments could have also been created by extracting the oil from the sunflower head. Other potential medicinal uses could have been for bronchitis, coughs, pulmonary difficulties, and eye inflammation. Sunflower oil was also used for roasting various foods, and sunflower seeds were probably used to create blue or purple dyes.

Sunflowers are at their peak during the end of the Summer season. In the 13 Moons calendar this would most likely be during the eighth or ninth moon, Zataikas (the blueberry maker moon) or the Temez8was (gathering and harvesting moon).

Resource:
“Sunflowers” by Kurt Nolte
Sunflower Seed Cakes

*This recipe is pulled from the Cowasuck Cookbook and has been adapted from traditional cooking methods.

Ingredients (makes 15 cakes)
- 3 cups shelled sunflower seeds (can be fresh or dried)
- 3 cups water
- 6 tablespoons fine cornmeal
- 2 tablespoons maple syrup
- ½ cup oil

Instructions
1. Fill a heavy saucepan with water and fill with sunflower seeds and let simmer and cover for 1 hour
2. After cooked, drain and grind and mix cornmeal and syrup 1 tablespoon at a time to make a stiff dough
3. After dough is made, shape into firm and flat cakes about 3 inches in diameter.
4. Brown the cakes in hot oil in a heavy skillet on both sides, drain on paper and serve hot.

Recipe by Fawn A. on Food.com

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Sun Butter

Ingredients (Serves 8)
- 2 cups roasted sunflower seeds
- 2 teaspoons pure maple syrup
- 1 teaspoon vanilla
- 1 teaspoon sea salt (only if using unsalted seeds)

Instructions
1. Place sunflower seeds in your food processor (affiliate link) and process for 9-10 minutes.
2. If the mixture is still dry and thick after 10 minutes of processing, process a little longer. It may take an additional 5-6 minutes for the sunflower seed oil to release and thin out.
3. Once the sunbutter has reached your desired consistency, add in maple syrup, vanilla and sea salt. Give the processor a few more pulses to combine, then turn machine off and remove the sunbutter with a spatula.
4. Store in an airtight container at room temp for up to a week. Keep in the fridge for longer storage.

Recipe by Brittany Mullins on Eating Bird Food
Growing Sunflowers

Prior to planting, the students may taste or explore the texture of the sunflower seeds and discuss their observations. Plant the sunflower seeds in the pot or container ½ inch deep into the soil.

These discussion questions may be helpful to better understand sunflower planting:
- What is a cultivated versus wild flower?
- How tall do you think this flower will grow?
- What do you think Abenaki use sunflowers for?
- What are the different parts of the sunflower?

Once the sunflowers reach 12-18 inches, transplant them to a sunny location outdoors. Each day, the students will record the height, appearance and progress of their sunflower in a gardener’s notebook.

This activity is a great introduction to plant growth, and lets students see the stages of plant development over time. They are also asked to think ahead and hypothesize what their sunflowers might look like. Students are asked to keep an observation notebook and you can ask them to chart or graph results, too.
Making Sunflower Flour

The Abenaki used to grind up sunflower seeds to extract flour. This is a very easy activity to do with students. Prior to beginning the activity, introduce the idea of sunflower flour and how it was made by Indigenous populations.

This activity allows students to see various plants and food resources in different ways. One of the central questions during this activity is how to utilize these plants differently to create different ingredients. It also gives students a new perspective on the time and effort put into making food prior to modern technology.

Materials:
- Mortar and pestle
- Food processor, blender or spice grinder
- Sunflower seeds

Before putting the seeds into the processor, using a mortar and pestle, allow the students to try grinding the seeds by hand so they can feel the physical effort of grinding the seeds.

Once each child has tried grinding the seeds by hand, place them in the food processor or spice grinder and grind until a flour-like consistency. After the flour has been made, discuss the various ways it can be used and what it can substitute for in cooking.

Resource:
Sunflower Seed Flour for Grain-Free Baking by Katie Wells at Wellness Mama

Additional Resources:
“Educational Resources” by the Indigenous NH Collaborative Collective
“Sunflower Life Cycles” by National Ag. in the Classroom
“No Task is Too Tall for Sunflowers” by Christian Science Monitor
“Making sunlight liquid – a brief history of sunflowers” by Stephen Harris
NH Sunflower Festival at Coppal House Farm (Lee, NH)

Each yellow “petal” and center parts of sunflowers are actually tiny flowers call florets.
About Atlantic salmon

There are six species of salmon found in North American waters, but only the Atlantic salmon is found on the East Coast, including New England. Because of their migration habits, salmon are considered both a freshwater and a saltwater fish. Atlantic salmon begin their lives in freshwater, later migrating to saltwater oceans to feed and grow exponentially, then return to their native freshwater rivers to spawn. Atlantic salmon do not require saltwater to grow or reproduce, and there are many populations of landlocked salmon in New Hampshire and beyond.

Currently only landlocked Atlantic salmon are found in New Hampshire. Native populations of migrating salmon have been extinct from New Hampshire since the 1800’s due to dam construction on the Merrimack and Connecticut rivers. Restoration of native salmon has been attempted through hatcheries, fish ladders, and other methods, but programs have been discontinued since 2013.

Salmon runs most often occurred during peak Summer season and were overall not a difficult catch. Landlocked Atlantic salmon remain extremely popular fishing, and are annually stocked in 15 New Hampshire bodies of water.

Resources:
“Atlantic Salmon (Salmo salar)” by NH Fish and Game
“Landlocked Salmon (Salmo salar)” by NH Fish and Game
Salmon traditionally

Fish were often caught using spearing methods, or using weirs. Weirs were stone formations built by the Abenaki in the shape of a “W” that spanned across the river. Multiple weirs were often used in one area to trap salmon and prevent them from passing during their migration.

Salmon were usually caught during peak Summer months. According to the Abenaki 13 Moons calendar this would have most likely been during the fifth Moon, Bird and Fish Returning Moon.

Resource:
“Salmon: Traditional Animal Foods of Indigenous Peoples of North America” by H.V. Kuhlein and M.M. Humphries

Nutritional benefits of salmon

Salmon is a heart healthy choice and contains high levels of amino acids and protein. Salmon is also known for being a great source of omega-3 fatty acids, which are considered an essential fat (this is why fish oil supplements are sold!) Additionally, it has high levels of many B vitamins, potassium, and calcium according to the USDA Food Composition Database.

Salmon traditionally

Salmon was a very popular fish to hunt among Indigenous populations. Due to the proximity of the coast, the Abenaki had a lot of seafood resources and salmon provided an abundant harvest. Salmon has a strong and flavorful taste and for that reason was a sought-after fish. Salmon were found throughout New Hampshire waterways prior to colonial contact. They are thought to have been mostly in the Connecticut River, Kennebec River and Merrimack River watersheds.

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Salmon Burgers

Ingredients (makes 4-6 burgers)

- 1 pound canned salmon, drained and flaked
- 1 egg, lightly beaten
- 1 cup corn meal
- ½ cup green onion, finely chopped
- ¼ cup corn or vegetable oil
- Salt and pepper to taste

Instructions

1. Add the salmon, corn meal, and green onions into the beaten eggs. Add salt and pepper.
2. Work the mixture by hand and form into firm patties. If it is too dry, add some of the drained salmon juices. If it is too loose, add more corn meal.
3. Use a large fry pan or skillet to heat the oil over medium heat. Adjust the amount of oil as needed to cover the bottom of the pan with about ¼ inch of oil.
4. Fry the salmon patties for about 10 minutes, turning once to brown on both sides. Serve on a bun with the toppings of your choice.

Recipe by the Indigenous NH Collaborative Collective

Smoked Salmon Dip

Ingredients (makes about 2 cups)

- 4 oz hot-smoked salmon
- ½ teaspoon lemon pepper
- 8 ounces cream cheese softened
- 1/2 cup plain Greek yogurt
- 1 Tablespoon lemon juice
- 1 Tablespoon dill weed minced
- 1 clove garlic minced
- 1/2 teaspoon smoked paprika
- 1/2 teaspoon Kosher salt
- 1/4 teaspoon freshly ground black pepper
- 1/4 teaspoon crushed red pepper flakes
- 1 teaspoon lemon zest

Instructions

1. Flake the smoked salmon. In a medium mixing bowl, combine all ingredients except the salmon. Stir thoroughly.
2. When well combined, gently fold in the flaked salmon. Garnish with the fresh lemon zest and additional dill (if desired) before serving.

Recipe by Susie Bullock from Hey Grill Hey
Understanding fish migration patterns was critical to hunting fish for the Abenaki. By truly understanding migration patterns hunting and harvesting an abundant supply of fish became an easier task.

This activity allows students to see how fish migration patterns work. It introduces the difficulties associated with hunting and the knowledge that is necessary to harvest fish. This addresses some key scientific topics associated with food resources. It also helps introduce the native fish that are present in New Hampshire waters.

Materials:
- Fishing migration table (next page)
- Fish identification cards (next page)
- Pencils

Prior to the start of this activity, define the different fishing migration patterns that helped Abenaki hunt more precisely for their fish:
- Anadromous: When fish are born in freshwater, migrate towards the ocean and finally migrate back to freshwater once they have reached adulthood.
- Catadromous: Fish are born in saltwater, migrate into freshwater and travel back to saltwater after reaching adulthood.

Using the migration table and fish cards, have students work in groups to try to match which fish falls under which migration category. After the students have finished, bring the class back together and identify the correct fish and their migrations together.
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<th>Anadromous</th>
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This activity, adapted from the NH State Council of the Arts, will introduce students to the ancient craft of building birch bark canoes. The Abenaki used birch bark canoes to travel the waterways they lived near, and they were also used for fishing. These vessels were unique to specific regions of North America, especially New England and the Northeast provinces of Canada.

Materials:
- Strips of birch bark*
- Raffia or waxed thread
- Sturdy needles
- Scissors
- Swall twigs
- Clothespins or binder clips

The entire unit (linked below) is designed to both expose students to the craft of building the canoes as well as developing the historical knowledge of the geography, economy and history of New Hampshire and the central role the canoes played in the trade networks of the region. The process of building the canoes changed over time as a result of colonial contact but the knowledge of the old ways of building the canoes has been passed down through the generations.

First, show students how birch bark canoes were traditionally made and used by following along with this Powerpoint presentation. The slideshow highlights the steps taken to build the canoes, how the canoes were used, and the differences between a birch bark canoe and a dugout canoe.

Students can then try to build their own mini-canoes! Using the materials listed above, follow these instructions with your students to build a mini-canoe. You can make these any size you want, or use thick cardstock if students have difficulty with the bark. Discuss with students what they think about making their canoes and how the process might have been different or more difficult to make a full size canoe.

*Peeling the birch bark off trees requires use of a sharp knife and should only be done with adult supervision. The best times of year to harvest the bark are Spring and early summer. Bark can be removed without killing the trees.

Resources
“Birchbark Canoe Lessons” by the NH State Council of the Arts
“Tiny Birch Bark Canoe Tutorial” by Lisa Jordan

Salmon change their color while migrating to the ocean and may even grow a hump or sharp teeth!
For Indigenous people dependent on inland water bodies for food, fish weirs were used to catch large quantities of migratory fish such as salmon. This activity, adapted from the linked resource below, will challenge students to engineer a fish weir that is adapted to the conditions of the landscape, waterway and fish species to be caught.

Making a Fish Weir

- Pictures or photos of examples of different weirs
- Understanding of how weirs work
- Paper to diagram their weir
- Building materials such as stones, twigs, craft sticks, twine, toothpicks, pipe cleaners etc.

Fishing weirs were built from rocks, pilings or wooden posts and were designed to direct movement of fish in streams or tidal waters. Weirs were also constructed with gaps to allow some fish to escape. This practice allowed some salmon or other fish to spawn or reproduce ensuring species survival and food for the people the following year. Generally, the use of fish weirs in NH has declined as streams and rivers have been dammed and are obstructing fish migration routes.

Before designing their weir, students will need to decide what kind of fish they want to catch and where they will catch the fish (river, stream, lake). These decisions will help determine materials to use, size and height of the weir. The models could be tested by constructing or using a model stream table (see linked resource for ideas).

Resource:
“Making a Fish Weir: A Culturally Relevant STEM Activity” by Anne Kern, Melinda A. Howard, Aimee Navickis Brasch, Fritz Fiedler, and Jillian Cadwell
There are many species of shellfish that can be found in New Hampshire’s coast. Clams, oysters, and mussels are all an excellent and popular ocean food source. They are found on beaches, bays and estuaries, and can often be found burrowing under sand or in shallow ocean water. They are an easy food to find in a coastal environment.

You can find both soft and hard shell clams living in mud, sand, and gravel in intertidal areas. Clams are harvested in the peak season of May through October. Hard shell clams are most often sold in stores as little neck, quahog, or cherry stone clams. Soft shell clams are mostly referred to as steamers. Blue mussels are native bivalves to New England and are frequently found clinging to rocky shorelines. The oysters most often eaten here are American oysters native to New England. They grow on oyster reefs naturally, but many that are commercially sold are now grown using aquaculture.

Shellfish like these are filter feeders and help clean up ocean waters from excess nitrogen. The shellfish use nitrogen in water to grow their shells and tissues. In the fall, shellfish will filter more nitrogen from the water to use during the winter.
Nutritional benefits of clams, oysters, & mussels

Clams, oysters, and mussels are very sustainable sources of protein. Oysters are low fat, have five grams of protein for every 100 grams, and they are very mineral rich. They contain high levels of calcium, phosphorus, magnesium, potassium and zinc. Clams and mussels are similar, however, they hold less minerals and have higher sodium content. These shellfish all have excellent nutritional value.

Clams, oysters, and mussels traditionally

The Abenaki are an indigenous tribe that lived in close proximity to the coast. This gave the Abenaki a very unique food source that is not attainable in other parts of the country. The coastline was very resourceful in that it offered ample and unique food sources that were both high in protein and high in minerals.

Clams and oysters and other varieties of shellfish were considered to be a primary source of food during the Summer season. Traditionally, they were eaten by being partially cooked to open the shell before shucking and finally the meat of the shellfish would be taken out of the shell to be smoked for preservation. The smoked meat could often last throughout the Winter.

Clams, oysters, and mussels weren't just used for food but their shells were put to use as well. The shells were used as a scraping tool to help skin animals and make furs, clothing and other needs. Nothing was left or considered waste in terms of food and hunting. The harvesting of clams and oysters would most likely happen during the Moon, Bird and Fish Returning moon, which is the fifth moon.

Resource:
“Shellfish Identification” by Maine Department of Marine Resources
“Can Clams and Oysters Help Clean Up Waterways?” by Erin Koenig
Coconut Curry Mussels

Ingredients (Serves 2)
- 2.5 pounds mussels, scrubbed
- 2 tablespoons unsalted butter
- 1 tablespoon olive oil
- 1 sweet onion, diced
- 2 garlic cloves, minced
- 1/4 teaspoon salt
- 1/4 teaspoon pepper
- 2 tablespoons red curry paste
- 1 (14-ounce) can coconut milk
- 1/4 cup chicken or seafood stock
- 2 green onions, sliced

Instructions
1. Discard any mussels that have opened already. Keep the mussels in the ice water.
2. Heat a large skillet over medium heat and melt the butter and olive oil. Stir in the onions, garlic, salt and pepper, cook for 5 minutes. Stir in the curry paste and cook for 5 more minutes.
3. Stir in the coconut milk and stock, stirring until it’s smooth. Bring to a simmer, stirring continuously. Reduce heat to medium low. Add the mussels and toss. Cover the skillet and cook just until the mussels open, about 5 to 6 minutes. Discard any mussels that did not open.
4. Garnish with the sliced green onions. Stir the mussels well so the broth makes it into the shells.

Recipe by Jessica Merchant on The Pretty Dish

Grilled Shellfish with Spicy Lemon Butter

Ingredients (Serves 4-6)
- 24 hard-shelled clams, scrubbed
- 4 tablespoons unsalted butter
- 1 tablespoon hot sauce
- 1 teaspoon lemon juice
- ¼ teaspoon salt

Instructions
1. Melt 4 tablespoons unsalted butter in small saucepan over medium-low heat. Remove from heat, add 1 tablespoon hot sauce, 1 teaspoon lemon juice, and 1/4 teaspoon salt; cover to keep warm.
2. Grill clams, mussels, or oysters. For a gas grill: Turn all burners to high, cover, and heat grill until hot, about 15 minutes. Leave all burners on high.
3. Clean and oil cooking grate. Place clams on grill and cook, covered, without turning, until clams open, 6 to 10 minutes. Leave all burners on high.
4. Using tongs, carefully transfer clams to platter, trying to preserve juices.
5. Pour warm butter mixture into serving bowl; serve shellfish with lemon wedges and warm butter for dipping.

Recipe by America’s Test Kitchen on Splendid Table
This activity brings an outdoor and coastal environment into the classroom. It allows students to get hands-on experience digging for oysters and clams. The creation of mud and a coastal environment helps children understand the different animals living in different climates.

**Indoor Mudflats**

Materials Needed:
- Sand
- Water
- Oyster, Clam, Mussel shells
- Sensory bucket/table

This activity allows students to “hunt” for oysters and clams while still being in the classroom. The Abenaki used to dig in mudflats to find the oysters and clams, which were a very important part of the diet.

Prepare a sensory table with mud and cleaned out oyster, clam and mussel shells. The shells should be hidden and spread out in the table so that students can hunt for them.

Once the students have dug, ask them to respond to the following discussion questions:
- How did it feel to dig in the mud?
- Do you think it was difficult to find oysters or clams for the Abenaki?
- Have you ever found a shellfish shell on the beach?
This is a great activity for students to begin understanding fertilizer and natural animal deterrents in the garden. It introduces sustainable efforts to keep a garden healthy and thriving. This is a great science activity for students and poses central questions to introduce the idea of what is in soil and what helps make soil healthy.

**Materials Needed:**
- Oyster, clam or mussel shells
- Questions and Answers
- Paper for responses

Shells act as a really good fertilizer and animal deterrent because they have a high calcium content! Calcium is great for the garden and is an essential nutrient for plants. The sharp edges and pieces of the shell also aid in keeping animals at bay.

The students can start the activity by crushing up clam and oyster shells using a mortar and pestle until they are finely crushed. After this step, students can take them out to the school or community garden and deposit them into the soil. After this step is done ask the following questions and discuss correct responses with students:
- **How do the shells help the soil?**
  * The calcium in the shells of the oysters helps the soil to have more nutrients and strengthens the plant cells.
- **Why do you think oyster shells keep animals away?**
  * The sharp shards and the texture of the crushed up shells help to deter animals out of fear of getting cut.
- **How difficult was it to crush up the shells?**

After the questions have been discussed, sum up the activity by noting that this was not a method of Abenaki agricultural protection but follows the ideal of the Abenaki that nothing of the food source goes to waste.

**Resource:**
“Using Oyster Shell in Your Garden” by Growing Organic
Ground cherries are popular appearances at many New Hampshire farmers’ markets. The bushes are thorny with skinny branches, and produce a bright orange fruit surrounded by a papery husk. The taste of the fruit is often compared to pineapple, with a bit of tomato flavor. Ground cherries are a member of the Physalis genus - they are related to tomatillos. Many members of this genus, ground cherries included, are native to the Americas and well known among Indigenous populations before being introduced to Europeans after colonization.

Ground cherries are a Summer season harvest - they are intolerant of cold weather and are usually grown as an annual in the Northeast. They are extremely easy to grow and are very tolerant of poor soils. These fruits are ripe when the husk turns a light tan color and the berry turns from green to a yellow-orange. They should easily come off the bush when fully ripened, and may even fall off the plant on their own.

Resource: “Ground Cherries – a New World Treat” by Will Bonsall
Ground cherries traditionally

Being native to the Americas, ground cherries are a fruit that has been harvested in the Northeast for centuries. It is likely that ground cherries were most often harvested in what is now considered to be Northwest Vermont. Native ground cherries differ in taste and size, often smaller than their cultivated brethren. Ground cherries would have been harvested and eaten as a relish.

Ground cherries were likely harvested during the Summer season. This could have been during the eighth moon, Zataikas, the blueberry moon.

Nutritional benefits of ground cherries

Ground cherries have a very high Vitamin A and phosphorus content. Additionally, ground cherries have a high level of fiber. They are also full of many other minerals such as potassium, iron and magnesium. Ground cherries have high levels of carotenoids (which gives them their orange color), a type of phytochemical which may have anti-inflammatory and immune boosting properties.
**Ground Cherry Jam**

Ingredients (Makes 2 cups)

- 3 cups ground cherries, husked, (about 5 pints in husks, or 2 pounds)
- 1 cup sugar
- 2 tablespoons lemon juice

Instructions

1. Husk the ground cherries and add them to a saucepan.
2. Add the lemon juice and cook over low heat until the ground cherries have popped and released their juices. Give it a stir to break them up a bit.
3. Add the sugar and cook over medium heat until the jam thickens, about 15 minutes.
4. Pour into clean quarter pint mason jars, leaving 1/4 inch headspace and store in the refrigerator (or process in a water bath canner for 5 minutes).

Recipe by Ashley Adamant on Practical Self Reliance

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**Ground Cherry Salsa**

Ingredients (Makes 2 cups)

- 1 cup ground cherries, husk removed
- 1/2 cup red onion
- 1/3 cup roasted tomatoes (see step 1)
- 1 medium lime, juiced
- 1/4 cup finely chopped jalapeño seeds removed
- 1/4 cup fresh cilantro leaves
- 1/4 teaspoon sea salt

Instructions

1. Roast tomatoes by removing core, cut in half and de-seed. Place cut side down on a baking sheet with sides and broil for roughly 5-10 minutes or until the skins blacken slightly. Allow to cool, then remove skins. Use the tomato meat for the 1/3 cup roasted tomatoes in this recipe. Store extra roasted tomatoes in the freezer to use later.
2. Combine all ingredients in your food processor and pulse to combine.
3. Chill prior to serving for flavors to combine. Will keep for about a week in the fridge.

Recipe by Hayley Ryczek on Health Starts in the Kitchen
Ground Cherry Upside-Down Cake

Ingredients (Makes a 9” cake)
• 12 Tablespoons butter
• 1 cup turbinado or light brown sugar
• 1/4 cup dark rum (sub orange or pineapple juice)
• 4 cups husk cherries in the husk (equals 1 1/2 cups husked)
• 1/2 cup milk
• 1 egg
• 1 1/2 cups all-purpose flour
• 2 teaspoons baking powder
• 1/2 teaspoon salt
• 1/2 cup white sugar

Instructions
Preheat your oven to 400 degrees. Sift together the flour, baking powder, salt, and granulated sugar in a medium bowl, and set aside. Remove the husk cherries from their husks by squeezing at the stem end. Rinse the cherries and discard any that have split or are discolored.

Melt 4 tablespoons butter in a small saucepan over low heat, and add the turbinado sugar. Remove from the heat and add the rum. Return the pan to the stove and cook on low for 3-4 minutes. The sugar may not completely dissolve. Remove from the heat and pour the sugar mixture into the bottom of an ungreased 9 inch cake pan. Add the husk cherries and arrange them in a single layer in the bottom of the pan. Set the pan aside.

Over low heat, melt the remaining 8 tablespoons butter. In a small bowl, beat the egg with the milk, and slowly add in the melted butter, whisking to combine. Add the milk mixture to the flour mixture and stir until incorporated.

Pour the batter into the cake pan and smooth to the edges with a spatula. Bake the cake for 35 minutes or until a toothpick comes out clean. Let the cake rest ten minutes, then invert it carefully onto a large plate and let it cool an additional 20 minutes. Serve the cake with lightly whipped cream.

Recipe adapted from the Fanny Farmer Cookbook on Denison Farm
This activity is a great cooperative activity as it involves the whole class. Students can start to understand food pairings and the difference taste of food when it is raw versus cooked. Cooking is a great way for students to really interact with food and take responsibility for food before eating it!

Making Ground Cherry Salsa

This recipe and activity is best done as a big group as it involves a lot of cooking over heat and teacher supervision. Each student can get a copy of the recipe listed above for Ground Cherry Relish and participate in one of the steps of the recipe!

The teacher works with the students to create the salsa and once the salsa is done, the students can decide collectively how they would like to eat it (plain, with cornbread, with tortilla chips, with vegetables, etc.). Here are some potential discussion questions to ask during the activity:

- What are the changes that occur in the pan when we add a new ingredient?
- What do ground cherries taste like raw? How do you think they will taste as a salsa?
- What other indigenous food could the relish be paired with?

Additional Resource:
“Ground Cherry” by Strawberry Banke in Portsmouth, New Hampshire School and Youth Garden Network and NH Master Gardener’s Association
“Ground Cherries” by Bobbi Luttjohann