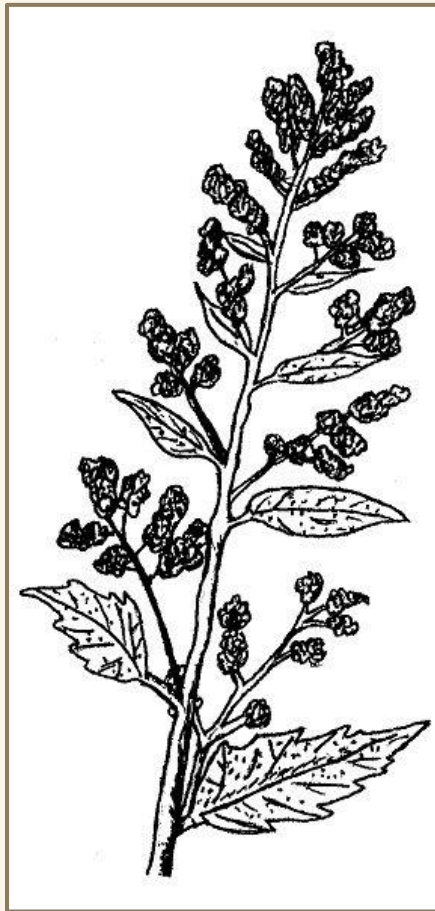


Welcome to the _____

[Name of your restaurant here]

Taste of Ancient Ohio



Goosefoot: a weed, a crop, and the main menu item for indigenous people of Eastern North America. Image: NPS.

Long before corn, beans, and squash reached Ohio, people here invented farming on their own. They were one of 11 places on the planet that *ever* invented agriculture.

The crops they made were called the Eastern Agricultural Complex. This activity introduces the plants they tamed, the wild foods they gathered, and the animals they hunted. Some of them are extinct. Others are still around today, but look very different. Others you can still find in your garden, as a weed *or* as a crop! It is your job to open a restaurant after learning how to prepare and cook each of these plants.

Your specials tonight will be based on these foods. Good luck!

A NOTE FROM THE MANAGEMENT

For The Teacher

WHAT THIS IS. This packet contains seventeen single-page food panels, a station worksheet, a tool panel display, and a blank restaurant menu. Students visit the panels like market stalls, take notes on their Chef's Shopping List, and then design tonight's specials for a restaurant that operates around 1000 BC in the Ohio country.

HOW TO RUN IT. Print the panels single-sided, including the tool display, and post them around the room. Students rotate with the Chef's Shopping List (about 30-40 minutes). Back at their seats, each student or pair completes the menu with one main course, one side dish, and one dessert (about 20 minutes). Close with a gallery walk or have chefs pitch their specials aloud.

THE KITCHEN RULES. Every dish must use *only* foods from the panels. Every dish must name how it is cooked and what tools the cooks need. Across the whole menu, students must use at least one food from the Garden, one from the Forest, and one from the Hunt or the River.

DIFFERENTIATION. Younger or striving readers can work in pairs and visit eight panels instead of all seventeen. Early finishers can add a fourth special, a drink, or a dish for a season you assign them, such as a winter menu. The seasonality tags on each panel make the challenges visible.

FROM THE GARDEN ♦ PLANTED SPRING, PICKED FALL



*Modern squash and pumpkins, the great-great-grandchildren of Ohio's first crop.
Photo: Peggy Greb, USDA Agricultural Research Service.*

SQUASH

Scientific Name: *Cucurbita pepo* · **How to say it:** kyoo-KER-bit-uh PEP-oh

WHAT IS IT?

The first squash was not a big orange pumpkin. It was a tiny, hard gourd about the size of your fist. It grew wild along rivers. People gathered it for thousands of years. Then, around 4000 years ago, they began planting it and saving seeds from the best plants. The seeds grew larger. The rinds grew thicker. Archaeologists found a piece of squash rind in a 3000-year-old cooking pit at the County Home site near Athens, Ohio. Every pumpkin in Ohio today is this plant's great-great-grandchild.

HOW DID PEOPLE COOK IT?

Early squash was mostly shell and seeds. Cooks roasted the seeds by the fire for a snack full of oil and protein. The flesh could be sliced and roasted on coals or dropped into a stew. People even ate the flowers! The hard shell may have been the best part. If you dried and cleaned it, it became a bowl, a dipper, or a rattle. At Salts Cave in Kentucky, people used squash and gourds mostly as containers. Your dinner *and* your dishes came from the same plant.

YOU WILL NEED *A stone knife, a fire or earth oven, and a drying rack for the shells.*

FROM THE GARDEN ♦ PLANTED SPRING, PICKED FALL



A wild-type sunflower, with many small heads instead of one giant one.

Photo: Eileen Hornbaker, US Fish and Wildlife Service.

SUNFLOWER

Scientific Name: *Helianthus annuus* • **How to say it:** hee-lee-AN-thus ANN-yoo-us

WHAT IS IT?

Wild sunflowers have many small heads with small seeds. Ancient gardeners kept planting the biggest seeds from the biggest heads. Over many lifetimes, the plant changed into the giant one-headed sunflower you know today. Seeds from a site in Tennessee show people may have grown sunflowers more than 4000 years ago. Scientists who study plant DNA found that every domesticated sunflower on Earth traces back to eastern North America.

HOW DID PEOPLE COOK IT?

Cooks toasted the seeds in a hot clay pot (a step called parching) and then pounded them into a fine meal. The meal thickened soups or was patted into cakes and dried in the sun. The Hidatsa people made parched sunflower meal into hard little balls, a power snack that hunters carried like a granola bar. Crushed seeds boiled in water gave up their oil, which people skimmed off and saved to cook with later.

YOU WILL NEED *A clay pot for parching, a mortar and pestle or two smooth stones, and a fire.*

FROM THE GARDEN ♦ PLANTED SPRING, PICKED FALL



Goosefoot, drawn for the National Park Service's guide to Ohio's ancient crops. Image: NPS.

GOOSEFOOT

Scientific Name: *Chenopodium berlandieri* • **How to say it:** keen-oh-POH-dee-um

WHAT IS IT?

Goosefoot is named for its leaves, which are shaped like a goose's footprint. It makes thousands of tiny dark seeds. It is a close cousin of quinoa. Farmers tamed it here in Ohio. Seeds from tamed plants grew thin, easy-to-cook coats. At Ash Cave in the Hocking Hills, archaeologists found a storage cache of 9,000,000 goosefoot seeds, the largest supply of ancient native grain ever discovered! Nobody saves that many seeds by accident.

HOW DID PEOPLE COOK IT?

Goosefoot seeds went into the pot. Cooks simmered them into a warm, filling porridge. They often mixed it with maygrass or knotweed seeds. A roiling boil breaks the seeds down. That is one big reason people started making clay pots in Ohio! In spring, the young leaves could be picked and cooked like spinach. Extra seeds were sealed in bags and gourds. They were hidden away in dry rockshelters for winter.

YOU WILL NEED A clay pot, a fire, a stirring paddle, and a dry place to store seeds.

FROM THE GARDEN ♦ PLANTED SPRING, PICKED FALL



A sumpweed plant collected in 1900, pressed and saved in the United States National Arboretum herbarium.

SUMPWEED

Scientific Name: *Iva annua* · **How to say it:** EYE-vuh ANN-yoo-uh

WHAT IS IT?

Sumpweed (also known as marshelder) is a scruffy, smelly plant from muddy riverbanks. It holds a secret, though: its seeds are as rich and oily as sunflower seeds. People began planting it about 4000 years ago. Under their care the seeds doubled in size. At the County Home site near Athens, Ohio, archaeologists found sumpweed seeds that are more than 3000 years old. Today, nobody farms sumpweed anywhere on Earth. It can sometimes still be found wild in the central United States.

HOW DID PEOPLE COOK IT?

Cooks cracked the small seeds with a stone and stirred them into soups and porridges along with other seeds and nuts, shells and all. Nobody picked out every tiny piece of shell. Archaeologists know this because bits of seed shell passed all the way through ancient eaters. Scientists have studied what they left behind. That is how we know exactly what was for dinner 3000 years ago!

YOU WILL NEED A nutting stone, a pestle, and a cooking pot.

FROM THE GARDEN ♦ PLANTED SPRING, PICKED FALL



*A pressed smartweed, a close cousin of erect knotweed,
From the Smithsonian's United States National Herbarium.*

ERECT KNOTWEED

Scientific Name: *Polygonum erectum* • **How to say it:** puh-LIG-uh-num ee-RECK-tum

WHAT IS IT?

Erect knotweed is a knee-high plant in the buckwheat family with little knots along its stem. For more than 2000 years it grew in gardens across the Midwest. This included the gardens of the Adena peoples in the Hocking Valley of Ohio. In 2017, a scientist named Natalie Mueller studied thousands of ancient seeds and proved that people had domesticated it. The tame kind is now extinct, and even the wild kind is very hard to find today. Crops can go extinct, just like animals.

HOW DID PEOPLE COOK IT?

Knotweed seeds are starchy, like tiny grains of rice. Cooks boiled them into porridge, usually blended with goosefoot and maygrass so that every bowl had a mix of flavors and was filling. Archaeologists find knotweed seeds in old hearths and storage pits. This means people cooked some right away and stored the rest for the cold months.

YOU WILL NEED *A clay pot, a fire, and a stirring paddle.*

FROM THE GARDEN ♦ PICKED LATE SPRING



Maygrass collected for the Smithsonian's United States National Herbarium (CCO, public domain).

MAYGRASS

Scientific Name: *Phalaris caroliniana* • **How to say it:** fuh-LAIR-iss

WHAT IS IT?

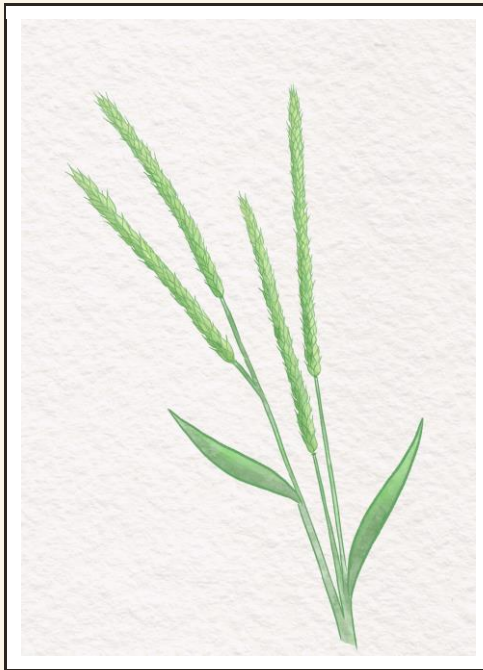
Maygrass is a small grass. It does not grow wild in Ohio. Its home is far to the south. But at the County Home site in Ohio, its seeds showed up in nine of eleven ancient cooking pits. The only way it could get here is if people carried the seeds north and planted them. That is proof of farming the food in Ohio! Maygrass packs more protein into each bite than almost any other seed or nut on this menu.

HOW DID PEOPLE COOK IT?

Maygrass ripens in late spring, when winter food was gone and everyone was hungry. That made it a welcome meal after the cold winters. People ate the fresh grains in early summer. They parched them in hot pots to store them. They also tied whole seed heads into bundles. In dry rockshelters in the Ozarks, archaeologists have found those stored bundles thousands of years later.

YOU WILL NEED *A clay pot or tray for parching, cord for tying bundles, and a dry storage spot.*

FROM THE GARDEN ♦ PICKED LATE SPRING



Little barley, painted for a National Park Service plant guide. Image: NPS, Bethany Dixon.

LITTLE BARLEY

Scientific Name: *Hordeum pusillum* · **How to say it:** HOR-dee-um pyoo-SILL-um

WHAT IS IT?

Little barley is the newest teammate in the Eastern Agricultural Complex. It joined the gardens about 2000 years ago, near the end of the Adena period. It is a wild cousin of the barley in barley soup. In the wild, each grain wears a prickly husk with sharp little bristles. But the ancient grains archaeologists dig up are already clean and husk-free. At some later villages, little barley made up nearly half the seeds found.

HOW DID PEOPLE COOK IT?

First, the bristly husks had to go. Cooks toasted the grains and tossed them in a tray so the wind carried the itchy parts away. This is called winnowing. The clean grains were ground on a stone slab or boiled whole. Like maygrass, little barley ripens in late spring, so it fed people during the hungry gap before the fall harvest.

YOU WILL NEED *A winnowing tray, a grinding slab and handstone, and a cooking pot.*

FROM THE FOREST ♦ GATHERED IN FALL



A red oak acorn. Photo: USGS Bee Inventory and Monitoring Lab

ACORNS

Scientific Name: *Quercus* · **How to say it:** KWER-kus

WHAT IS IT?

Acorns made you work for your dinner. Every fall, Ohio's oaks dropped a carpet of acorns. Everything in the forest wanted them! People raced deer, squirrels, and bears to the harvest. Some communities even burned away brush to keep oak groves open and sunny so the trees made more nuts. But acorns hold a trick. They are full of tannin, a bitter chemical that tastes terrible and blocks your body from using the food. Eating them raw was not an option.

HOW DID PEOPLE COOK IT?

Cooks shelled the acorns and pounded them into flour on a stone. Then, they would do rinse after rinse of clean water, until the bitterness washed away. This is called leaching. Sometimes the water was mixed with clean wood ashes. The sweet flour was then boiled into mush or patted into flat cakes and baked on hot stones.

YOU WILL NEED *A nutting stone, a mortar and pestle, baskets, plenty of water, and a pot or a hot flat rock.*

FROM THE FOREST ♦ GATHERED IN FALL



A hillside of hickory trees along a national park trail. Photo: NPS, Conrad Provan.

HICKORY NUTS

Scientific Name: *Carya ovata* · **How to say it:** CARE-ee-uh

WHAT IS IT?

If the ancient Ohio Valley had a favorite food, it was the hickory nut. At the County Home site, hickory and walnut shells make up more than 9 of every 10 pieces of nutshell found! Shagbark hickory is easy to spot because its bark peels off in long gray strips. Families collected nuts by the basketload each fall and stored them in pits lined with bark and grass. Those pits became their winter pantry.

HOW DID PEOPLE COOK IT?

The best hickory recipe is a soup the Cherokee call kanuchi. First, you smash the nuts, shells and all. Then, you squeeze the mash into balls. Pour hot water over a ball and stir, and the water turns into a rich, creamy nut milk. Serve it thick with dumplings or thin as a warm drink. Just remember, do not drink the very last swallow! That is where the shell bits hide.

YOU WILL NEED *A hammerstone, a nutting stone, a clay pot, and hot water.*

FROM THE FOREST ♦ GATHERED IN FALL



Black walnuts ripening on the branch. Photo: NPS, W. Kaselow.

BLACK WALNUT

Scientific Name: *Juglans nigra* • **How to say it:** JOO-glanz NY-gruh

WHAT IS IT?

The black walnut guards its food inside the toughest shell in the forest. It is wrapped in a green husk that stains your hands brown for days! But, the kernel inside has a bold, rich flavor. It is loaded with oil and protein. Walnut shells turn up at ancient camps all over the Ohio Valley. At one site in southwestern Ohio, cooks left behind more walnut shell than hickory shell.

HOW DID PEOPLE COOK IT?

Cracking walnuts was hard work. First, you set the nut in the dent of a pitted stone. Then, strike it with a hammerstone. Pick out the kernels with a splinter of bone. Be patient, because they hold on tight. Eat them by the handful, stir them into porridge, or boil the crushed nuts and skim the rich oil off the top.

YOU WILL NEED *A hammerstone, a pitted nutting stone, a bone pick, and a pot for oil.*

FROM THE FOREST ♦ RIPE IN EARLY FALL



A ripe pawpaw, small enough to hide in one hand. Photo: NPS, Brolis.

PAWPAW

Scientific Name: *Asimina triloba* · **How to say it:** *ah-SIM-in-uh*

WHAT IS IT?

The pawpaw is the biggest wild fruit in Ohio, and it hides in plain sight! It grows on small trees in the shady understory along streams, including the Hocking Valley, where it still grows today. The fruit looks like a lumpy green potato, but inside is soft yellow custard with big brown seeds. It ripens in early fall and does not last long. When the pawpaws came ripe, you spent most of your time picking.

HOW DID PEOPLE COOK IT?

Tear it open and eat it fresh, right there in the woods. To save the fruit for winter, cooks mashed the pulp, spread it out, and dried it into sheets of fruit leather. Early accounts also describe fruit baked into small breads. Yes, dessert existed 3000 years ago!

YOU WILL NEED *A drying mat or rack, and a sunny day.*

FROM THE FOREST ♦ SUMMER INTO FALL



American elderberries ripening in late summer. Photo: USDA Forest Service

WILD BERRIES & FRUITS

Names: strawberry, elderberry, mulberry, wild grape, and sumac

WHAT IS IT?

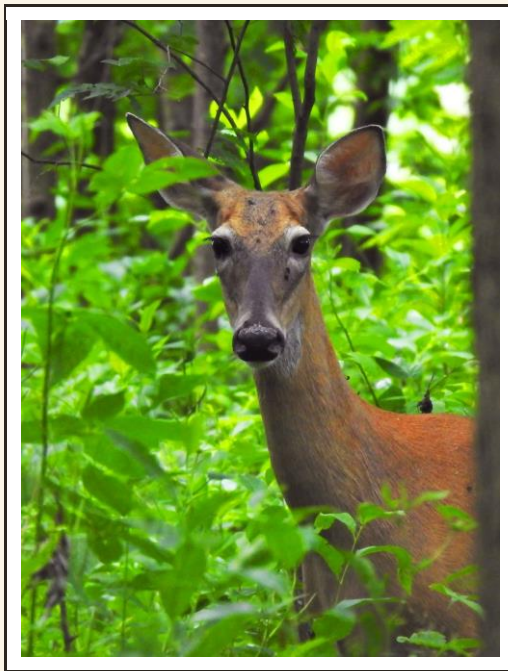
The berry harvest followed the sun across the year. Strawberries ripened in late spring, mulberries and elderberries in summer, and wild grapes and tart sumac in fall. Archaeologists found mulberry and elderberry seeds at an Adena farm hamlet in the Hocking Valley. They also found grape and sumac seeds in the cooking pits at County Home. Berry bushes love sunny openings, and gardens make sunny openings. When people cleared garden plots, they accidentally planted berry patches around the edges.

HOW DID PEOPLE COOK IT?

Fresh berries needed no cooking at all, which made them everyone's favorite chore! Whatever wasn't eaten immediately was spread on mats and dried in the sun like raisins, then stored for winter. Dried berries could sweeten a bowl of porridge or a seed cake on a snowy day.

YOU WILL NEED Baskets for picking, drying mats, and sunshine.

FROM THE HUNT ♦ HUNTED ALL YEAR



A white-tailed deer at Ohio River Islands National Wildlife Refuge. Photo: Michael Schraam, USFWS.

WHITE-TAILED DEER

Scientific Name: *Odocoileus virginianus* · **How to say it:** oh-doh-KOY-lee-us

WHAT IS IT?

Deer was the most important animal on the menu. It was much more than meat. One deer weighing 125 pounds carries about 80 pounds of food, plus a hide for clothing, antler for tools, bone for needles and hooks, and sinew for thread. Chemists have studied ancient bones from Ohio burial grounds. The results suggest meat filled well over half of some menus. Fall was hunting season, when deer were at their fattest.

HOW DID PEOPLE COOK IT?

Hunters brought deer down with a dart thrown from an atlatl, a wooden spear-thrower that turns your arm into a slingshot. Cooks roasted the meat over fire basins. At County Home they used cooking pits big enough to feed 60 people at once! Extra meat was cut into strips, then smoked or salted with salt from natural licks so it would keep all winter.

YOU WILL NEED *An atlatl and dart, a stone knife and scraper, a roasting pit, a drying rack, and salt.*

FROM THE HUNT ♦ HUNTED ALL YEAR



A wild turkey in tall grass. Photo: Anna Weyers Blades, USFWS.

WILD TURKEY

Scientific Name: *Meleagris gallopavo* · **How to say it:** mel-ee-AY-griss

WHAT IS IT?

Thanksgiving in Ohio is at least 3000 years older than you think! Wild turkeys strutted through the oak and hickory forests of the Hocking hills. They gobbled up (pun intended) the same acorns people wanted. Their bones show up in ancient camps across the region. These include the great Koster site in Illinois and the valleys of southern Ohio. Adena villages had round clay fire basins, 3-5 feet across. Animal bones piled near those basins show where many dinners ended.

HOW DID PEOPLE COOK IT?

A turkey went onto a wooden spit over the coals of a fire basin. You turned it slowly until it was cooked. Leftover meat could go into a stew with seeds and nuts. Nothing was wasted afterward. Strong wing and leg bones became awls for punching holes in leather. Other bones became beads.

YOU WILL NEED *A snare or a dart, a fire basin, a wooden spit, and a stone knife.*

FROM THE RIVER ♦ BEST IN SPRING & SUMMER



A channel catfish. Photo: Sam Stukel, USFWS.

FISH

Names: *catfish, drum, gar, perch, and suckers*

WHAT IS IT?

Ohio's rivers were a pantry that restocked itself. The Hocking River held catfish, freshwater drum, gar, and perch. Every spring, schools of suckers swam upstream to spawn, arriving on schedule. People caught fish with hooks carved from bone. They also used nets sunk by stone weights called plummets. The biggest were fish weirs, which are fences built in the river to funnel fish into a trap. Scientists studying ancient skeletons from the Maumee Valley found clues that fish was one of the biggest items on the northern Ohio menu. Fishing was so good there that the chemistry of those people's *bones* changed!

HOW DID PEOPLE COOK IT?

A fresh fish roasted right on the coals. The rest of the catch was split open and smoke-dried on racks, or salted, so that summer's river could feed winter's camp.

YOU WILL NEED *A bone fishhook and line, a net with stone weights, a fish weir, and a drying rack.*

FROM THE RIVER ♦ SPRING THROUGH FALL



Freshwater mussels from the Allegheny River, in the Ohio River system. Photo: Ryan Hagerty, USFWS.

FRESHWATER MUSSELS

Names: *river clams*

WHAT IS IT?

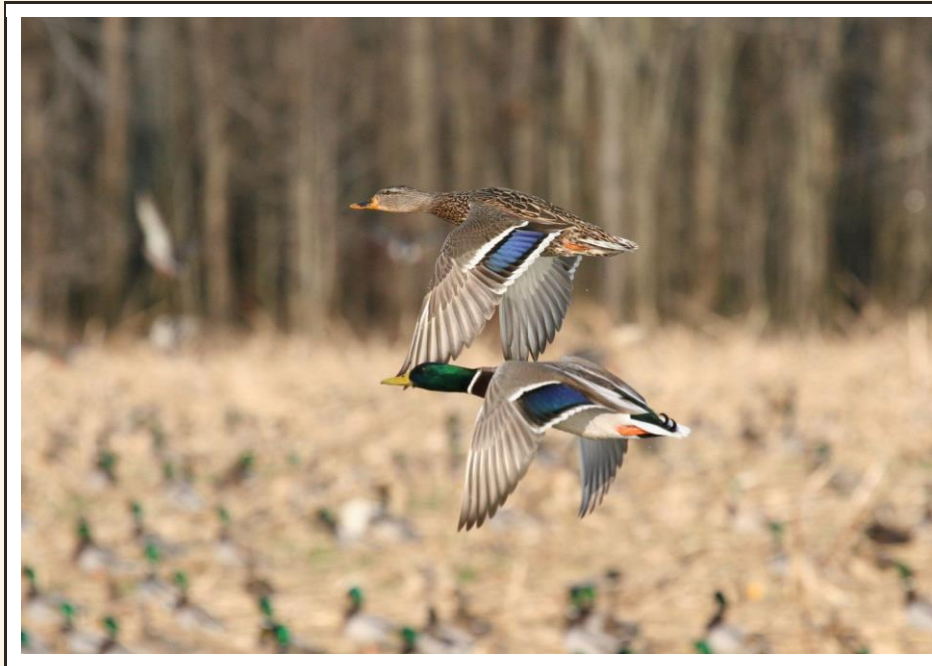
Freshwater mussels are river clams. They carpeted the shallow riffles of Ohio country rivers by the thousands. They were the easiest protein on the menu. You waded in and picked them up. Along rivers like Kentucky's Green River, people ate so many that the discarded shells piled into hills archaeologists can still climb today! At the Koster site, the main meals were deer, hickory nuts, and mussels.

HOW DID PEOPLE COOK IT?

Pile the mussels into a pit of coals, cover them, and steam them until the shells pop open. Pull out the meat and eat it, or drop it into a bubbling stew. Then, keep the shell. A mussel shell is a ready-made spoon. Archaeologists have found mussel-shell spoons carefully placed in Adena burial mounds. It's dinner with its own silverware!

YOU WILL NEED *A gathering basket, a cooking pit, and a fire.*

FROM THE HUNT ♦ SPRING & FALL MIGRATIONS



A pair of mallards in flight. Photo: Clayton Ferrell, USFWS.

WATERFOWL

Names: *ducks and geese*

WHAT IS IT?

Twice a year, the sky delivered dinner. Every spring and fall, rivers of ducks and geese poured along Ohio's waterways on their long migrations. They crowded into marshes and backwater lakes to rest. Ancient hunters knew this schedule by heart. At the Koster site, archaeologists found piles of migratory bird bones next to teardrop-shaped stones called plummets. Plummets weighted the edges of casting nets. Communities on Lake Erie set up their fall camps right beside the marshes where the flocks landed.

HOW DID PEOPLE COOK IT?

A duck or goose is a rich, fatty bird, so roasting is all it asks for. Cooks turned them over the coals of a fire basin until the skin crackled, or simmered the meat into a stew with goosefoot and knotweed seeds.

YOU WILL NEED *A casting net with stone plummets, a fire basin, and a wooden spit.*

Chef's Shopping List

Visit each stall of the ancient market. For every food, jot where it comes from, when you can get it, and how it is cooked. Then give it your chef's rating: circle 1 star for "not on my menu" up to 5 stars for "tonight's special." Keep a list of ideas in your head or on paper for a recipe!

FOOD	FROM WHERE?	WHAT SEASON?	HOW IS IT COOKED?	MY STARS
SQUASH				1 2 3 4 5
SUNFLOWER				1 2 3 4 5
GOOSEFOOT				1 2 3 4 5
SUMPWEED				1 2 3 4 5
ERECT KNOTWEED				1 2 3 4 5
MAYGRASS				1 2 3 4 5
LITTLE BARLEY				1 2 3 4 5
ACORNS				1 2 3 4 5
HICKORY NUTS				1 2 3 4 5
BLACK WALNUT				1 2 3 4 5
PAWPAW				1 2 3 4 5
WILD BERRIES & FRUITS				1 2 3 4 5
WHITE-TAILED DEER				1 2 3 4 5
WILD TURKEY				1 2 3 4 5
FISH				1 2 3 4 5
FRESHWATER MUSSELS				1 2 3 4 5
DUCKS & GEESE				1 2 3 4 5

EST. 1000 BC • OHIO COUNTRY

write your restaurant's name above

Tonight's Specials

Every ingredient must come from the panels. These are all cooked, gathered, and hunted in Ohio country. Our kitchen serves only what can be grown, gathered, hunted, or fished within one day's walk. Also, across the whole menu, you must use at least one food from the Garden, one from the Forest, and one from the Hunt or the River.



MAIN COURSE

Something hearty from the hunt, the river, or the garden

Dish name: _____

What is in it: _____

How our cooks make it: _____

Tools our cooks need: _____

How it should taste: _____



SIDE DISH

a bowl, a bread, or a handful to share

Dish name: _____

What is in it: _____

How our cooks make it: _____

Tools our cooks need: _____

How it should taste: _____



DESSERT

sweetness from the forest, no sugar required

Dish name: _____

What is in it: _____

How our cooks make it: _____

Tools our cooks need: _____

How it should taste: _____

Chef's Comment: why will everyone love this meal?

No money exists here. What should a happy customer trade you for this meal?

The Tool Wall

Our kitchen on display



An Archaic hunter takes aim at a white-tailed deer with an atlatl and dart. Image: National Park Service, Harpers Ferry Center.

Half of the ancient kitchen was wood, fiber, and hide. Ohio's damp soil ate nearly all of it: nets and cords (only their stone weights survive), fish weirs, baskets and winnowing trays, drying racks, wooden spits and paddles, gourd bowls, and digging sticks. Archaeologists still catch their shadows in the record. Pots from the County Home earth ovens carry the woven print of the baskets that shaped them. And sometimes the soil makes an exception. A dugout canoe from Savannah Lake in Ashland County, Ohio spent about 3,500 years sealed in peat, and survived!



ATLATL AND DART

Real atlatl parts from Russell Cave, Alabama (top), a recreation (middle), and a loaded atlatl (bottom). Photo: NPS.



DART POINT, FOUND IN OHIO

A notched chert point from Everett village, Cuyahoga Valley, Ohio. It tipped an atlatl dart, not an arrow. Photo: NPS Midwest Archeological Center, Karin Roberts.



ADENA POINT

The Adena point, the signature blade shape of Ohio's first farmers. It worked as a spear tip and as a knife. Drawing: NPS, S. Patrick, Hopewell Culture National Historical Park.



BONE FISHHOOKS AND AWLS

Fishhooks, awls, and needles carved from bone, found at Russell Cave. Hooks caught fish while awls punched holes in hides. Photo: NPS.



BOW DRILL (FIRE STARTER)

Bow, cord, drill sticks, and a hearth board with burned sockets. Spinning the drill makes a hot coal, and can start a fire. Photo: NPS, Russell Cave NM.



COOKING JAR (IN PIECES)

A clay jar piece from the Scioto Valley near Chillicothe (a later era than Adena). Pots reach archaeologists in pieces, called sherds. Photo: NPS, Hopewell Culture NHP.

