

PROJECT IDEA STARTER

Native American Artifacts: Arrowheads

by Paul Hothem, retired 4-H educator and arrowhead enthusiast



Arrowheads can be as much as 14,000 years old, and when someone today finds one, it's likely that he or she is the first person since the original maker to touch it! Holding your first arrowhead can be the beginning of an exciting, lifelong hobby of collecting and learning about a common Native American tool.



Actually, the term arrowhead is misleading. Many of these pointed flint tools were never used on spears, arrows or atlatls (a type of spear thrower, pronounced ät'-lä-tel). Depending on their size and thickness, most flint tools were used as hand-held or hafted blades (blades fitted with a handle), scrapers or knives. Use of the word arrowhead is commonplace though, so we'll use it here too.

Making and Fitting an Arrowhead

Native Americans made arrowheads using a chipping process called knapping. After the flint was removed from the quarry, the large piece was reduced by a blow to the edge with a piece of hard stone. This is called percussion chipping and was repeated until the piece was properly thinned and shaped. The piece was then pressure chipped using a sharpened deer or elk antler to finely chip the edge until sharp.

Fitting the arrowhead with a handle, or hafting, was the next step. The arrowhead was fastened to a spear shaft, an atlatl shaft, an arrow or a knife handle.

The shaft was usually split and the arrowhead was inserted. Then the end was wrapped tightly with animal tendon called sinew.

Arrowhead Hunting

Where should you choose to search for arrowheads on a farm? Put yourself in the shoes of a Native American living off the land and in need a reliable water source. Try to choose a field with a stream or flowing spring. Water was needed for survival and attracted animals to hunt.

You must obtain permission to hunt for arrowheads on a farmer's land. Once it is given, visit the fields after they have been tilled and after at least half an inch of rain has fallen. The rain washes the dirt off the flint making it easier to find.

As you hunt for arrowheads, you may find areas that have much more flint than elsewhere. This is called a worksite. You might not find many finished tools there, but the animal hunting areas would be nearby. Here is where most arrowheads are found.

PLAN YOUR PROJECT

Use this idea starter AND publication 4-H 365 *Self-Determined Project Guide* as the starting place for your 4-H self-determined project. The *Self-Determined Project Guide* is available from your county OSU Extension office or on the Web at ohio4h.org/selfdetermined. You may choose to do a little or a lot depending on your level of interest. Be sure to register your project with your county OSU Extension office.

Don't give up if you do not find anything on your first hunt. Continue to look after each new tilling and planting. Cornfields can be walked until the plants are knee high, as long as it is all right with the farmer. Don't walk on soybean fields after planting.

After you have found an arrowhead, take it home and wash it with cold water, dish soap and an old toothbrush. Clean gently until the dirt is off. Don't scrub! Scrubbing removes the old patina and reduces its value. Patina is a film that appears gradually on some surfaces when exposed to oxygen. For safe-keeping, place your finds in an inexpensive tray with a glass top.

Cataloging

Like other collectors, you may find it useful to keep a record, or catalog, of your items. Here is one way to list your finds:

Number	Type	Finder	Location	Length
01	Adena	J. Doe	Knox Co., OH	2.5"

Include as much detail as possible when listing the location, such as, "NE part of John Smith's field." Adding latitude and longitude coordinates from a GPS device is ideal.

Marking is done with a fine-tip black marking pen on all pieces but dark flint. Use a pen with white ink on dark pieces. The number

is all you need to put on the piece, but location is sometimes included. The photo below shows two examples. The piece on the left shows the county (Franklin) where it was found. The piece on the right shows the owner's code (HP) with the piece's number (865) and the location (Seneca Co.).

Cultures and Time Periods

The lifestyles and tools of Native Americans evolved over 8,000 to 10,000 years. Archeological evidence tells us how they might have lived and what tools they needed for survival.

Early Paleoindian cultures: 14,000–10,500 B.P. (Before Present)

These people, who were of Asian descent, crossed the land bridge into the Alaska-Canada area of North America. They moved in small family groups sometimes following animal herds to obtain meat for food and hides for clothing. They are best known for their fluted points, which are fluted on one or both sides.

Late Paleoindian Plano culture: 10,500–9,000 B.P.

Plano were the descendants of the early Paleoindians and lived a less nomadic lifestyle. Their arrowheads changed slightly from the Paleoindian, most notably on the bases, which were no longer fluted.

Archaic: 9,000–4,500 B.P.

These cultures lived more settled lifestyles with bigger populations in villages and made many different types of arrowheads. They were the first cultures to make stone tools such as axes, celts, adzes and gouges.

Woodland: 3,000–1,400 B.P.

This culture includes the Adena and Hopewell cultures and was the first to make pottery. They are noted for their mounds, enclosures and several other types of earthen works. Each group made mainly one type of arrowhead with very few variations.

Fort Ancient: 1,000–500 B.P.

These people lived in large communities and raised crops like corn, pumpkins and squash. They hunted animals with bows and arrows, so their arrowheads were actually used as tips for arrows. All of their flint tools were triangle shaped.

Historic

400 B.P.

Native peoples in the Ohio Valley were ravaged by European-introduced diseases. Iroquois tribes drove out survivors and claimed the region as their territory.

300 B.P.

Many Native American groups moved in from other areas. Some flint was still used, but as the settlers moved in, the groups traded for guns and ammunition.

Weapons for Hunting Game

Spear

The first weapon was the spear. Early people probably found a straight sapling or limb; removed the bark, twigs, knots, etc.; then placed a spear point (large arrowhead) on the end. This weapon was thrown, usually when hunters were very close to their prey. This was very dangerous.



Atlatl (spear thrower)

The atlatl was a wooden handle about two feet long. At the back end, a bone hook was attached. The wooden handle was used to throw darts (spears) with much more force than a spear used alone, which was in use prior to the atlatl by cultures outside North America. The first Americans arrived with atlatls.

The dart (an oversized arrow) was five or six feet long with the back end hollowed out to fit the bone hook on the atlatl.

The dart was held with the thumb and first finger. The other fingers held the atlatl. At the end of the spear was a small insert with the arrowhead attached. This allowed the thrower to reload a new insert. The thrower's arm moved back and then forward. When the atlatl reached about the halfway point, the arrow sprang off the hook and flew through the air. This weapon could be accurate up to 100 yards.

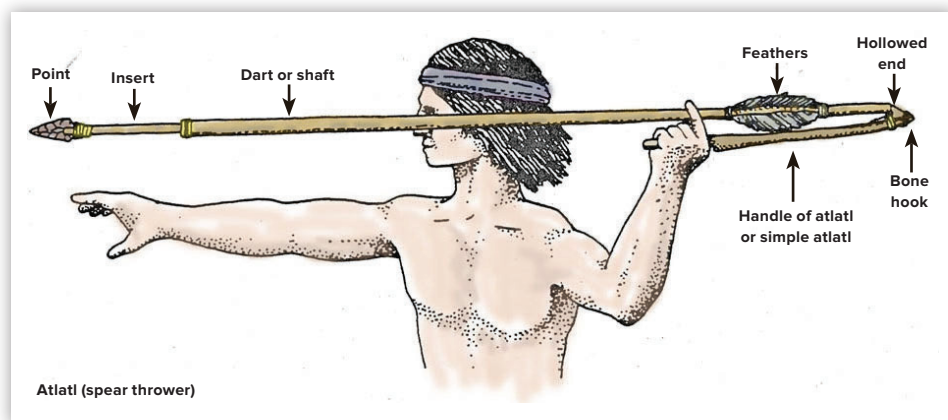
Bow and Arrow

You are probably familiar with the working of this weapon. It was more accurate and could be used at longer distances. They were also easier to carry and use than other weapons. Best evidence suggests that bows and arrows were introduced during the Late Woodland period, 1,400 years ago.

All of these weapons were phased out as traders and settlers entered the New World.

Flint Types

The five most commonly used flint types in Ohio are Flint Ridge, Coshocton, Nellie Chert, Zaleski and Indiana Hornstone. Others include Delaware Chert, Logan County Chert, Carter Cave,



Source: associations.missouristate.edu/mas/macquest/desk/atlatlindex.htm

Pipe Creek Chert, Sonora and many more.

Flint Ridge

This flint is the best known flint in North America and compares to the best in the world. Flint Ridge is located just outside of Newark, Ohio. The finest Flint Ridge flint is called Flint Ridge Chalcedony, and most cultures used this type. Flint Ridge flint is Ohio's official gemstone!

Coshocton

This flint is found in Coshocton County, Ohio, near Warsaw. Its colors are commonly black or gray. Some blacks have streaks of white quartz running through them, which resemble lightning bolts. Most Coshocton gray flint appears waxy with darker or lighter striations.

Nellie Chert

Nellie Chert is also from Coshocton County, near the small town of Nellie. It is dull gray in color. Most cultures used it but the Paleoindians particularly liked it.

Zaleski

This flint is found in Vinton County, Ohio. It is a beautiful, glossy black material. Zaleski may be the finest black flint in the United States.

Indiana Hornstone

This flint is from the Indiana-Kentucky line. It was heavily used in eastern and central Ohio. It is light gray in color with tan and/or yellow tinges.

AREAS OF INTEREST AND THINGS TO DO

Every self-determined 4-H project can be broken down into areas of interest. These are the specific things members want to address during their project adventures. Using *4-H 365 Self-Determined Project Guide*, identify at least three areas of interest with at least three activities per area to explore. Take your ideas from the list below or make up your own.

Learning about Native American History and Culture

- ☐ Find pictures of various atlatls, and find out how darts can be thrown using them. Then report your findings to your club.
- ☐ Research the Native American cultures that lived in Ohio, and the types of arrowheads they used.
- ☐ Look into how arrowheads benefited the Native American lifestyle, and if they used other methods to feed their tribes.



Identification Table				
Top row	#1	#2	#3	#4
Culture	Paleoindian	Paleoindian	Paleoindian	Paleoindian
Arrowhead name	Fluted	Plano	Plano	Stringtown
Flint type	Zaleski	Zaleski	Coshocton Gray	Nellie Chert
2nd row	#5	#6	#7	#8
Culture	Archaic	Archaic	Archaic	Archaic
Arrowhead name	Thebes	Kirk Corner Notch	Side Notch	Bifurcate
Flint type	Flint Ridge	Indiana Hornstone	Coshocton Gray	Coshocton Black
3rd row	#9	#10	#11	#12
Culture	Archaic	Archaic	Archaic	Archaic
Arrowhead name	Transitional	Side notch	Dovetail	Broad blade
Flint type	Coshocton Gray	Indiana Hornstone	Flint Ridge	Flint Ridge
4th row	#13	#14	#15	#16
Culture	Early Woodland	Middle Woodland	Late Woodland	Fort Ancient
Arrowhead name	Adena	Hopewell	Intrusive Mound	Fort Ancient
Flint type	Flint Ridge	Flint Ridge	Coshocton Gray	Indiana Hornstone

- ☐ Find out if there are any tribes still using arrowheads today, and share your research with your project helper.
- ☐ Make a timeline of inhabitants in North America and Ohio from 14,000 years ago to the 1600s for your project display. Include details about how they provided food for themselves, the tools they used in daily life and when they entered Ohio.

Exploring Types of Flint Tools

- ☐ Research the wide variety of arrowhead shapes that were made. Share pictures of what you found as you explain the differences to your club members.

- ☐ Learn the purposes of different types of flint tools, and how they were used.
- ☐ Find pictures of different types of Ohio flint, and where they are found in the state.
- ☐ Determine the type of points you have found. If they are not listed in this project, use the Related Resources listed at the bottom of this page for more information.
- ☐ Research the most likely time period for arrowheads to be used in Ohio.

Field Work

- ☐ Determine the best place to find arrowheads in your area. Always be sure to ask

property owners in that area for permission to look for arrowheads on their land.

- ☐ Make a map of the fields you hunted, and mark your finds on it.
- ☐ Contact the Archaeological Society of Ohio (ohioarch.org or 800-736-7815) to find the chapter nearest to you, and attend a meeting.
- ☐ See if you can view the collection of an experienced collector. Share your experience with your project helper.
- ☐ Go to the Ohio Historical Society or a similar organization to gain perspective on Native American life in Ohio.

- ❑ With safety glasses on, use a rock or a hammer to strike the edge of a large piece of flint and practice chipping small pieces off. Make sure to do this in an area that is ventilated, or work on this outside. Ask your project helper to help you with this.
- ❑ Go online and compare how arrowheads from a different region of the country differ from those found in Ohio.
- ❑ Research flint and how it was formed. Write a report. Share it with your project helper and your science teacher.
- ❑ Invite a friend or 4-H member to go arrowhead hunting with you and share what you have learned.
- ❑ Find a hobbyist who polishes flint and ask if he or she will polish some of your unworked flint.

Cataloging Your Collection

- ❑ Label your arrowheads as described in this Idea Starter.
- ❑ Keep a record of your arrowheads in a notebook. (See the example in this Idea Starter.) Show your project helper the system you created.
- ❑ Make a display of your finds. Be sure your collection is in a protected space such as a wood and glass display box.
- ❑ Check online or a library book for other arrowheads you would like to find. See if you and your family can make a trip to a new location to look for arrowheads different from the ones you have found.

Extend Your Knowledge

- ❑ Plan to attend an event where a flint knapper is working and watch the process.
- ❑ Give a demonstration at a club meeting about what you have learned so far.

RELATED RESOURCES

The Archaeological Society of Ohio, ohioarch.org

What's the Point? Identifying Flint Artifacts, oplin.org/point

Ohio History Connection, Virtual First Ohioans, ohsweb.ohiohistory.org/gallery2/main.php?g2_itemId=25

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ohio4h.org/selfdetermined



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