



# Cultural History Mystery

## Overview

Archaeologists use a variety of methods to figure out the date of a site. One method is to study an assemblage of artifacts. By examining groups of artifacts that were found together, archaeologists can gather clues to determine when people occupied the site. In this lesson, students examine four artifact assemblages, interpret the artifacts, and assign a time period to the site. Then the students use the artifacts to make interpretations about the cultures of the people who lived during particular periods of Vermont history.

## Objectives

Students will:

- examine artifacts representing four time periods in Vermont history
- list observations of artifacts in assemblages
- identify diagnostic artifacts
- date artifacts according to specific characteristics
- draw conclusions from observations about past inhabitants
- illustrate understanding of context through story writing

## Core Standards of Kit

- 2.2 Problem Solving Process
- 6.4 Historical Connections
- 6.6 Being a Historian

## Additional Standards

- 1.9 Narratives
- 2.6 Reasoning and Problem Solving/Application
- 4.5 Continuity and Change
- 6.5 Traditional and Social Histories

## Age Level

Grades 4-12/ Ages 9-18

## Time

3 hours

## Materials

- artifacts from four time periods - Boxes A & B (see chart)
- copies of "Cultural History Mystery" worksheet (4 for each student)
- Research Book with diagnostic information (4 copies in kit)
- colored pencils (not in kit)


## Background

If an archaeologist finds one artifact at a site, the archaeologist has one clue to study. If an archaeologist finds five artifacts, the archaeologist has five clues about the people who lived or worked at that site. When studied together, multiple artifacts from a single site can give the scientists much information about where people lived, what they did, and what they ate. The group of artifacts found together is called an artifact assemblage.

In this lesson, students investigate four artifact assemblages. Each group of artifacts represents a time period in Vermont prehistory or history. The goal is to study the artifacts, interpret the clues, and determine to which time period the artifacts belong. After the students examine the assemblage, they have the opportunity to research some of the artifact clues. Booklets included in the kit contain additional information to help the students make their interpretation.

Artifacts that are unique to a certain time period or have a narrow time of manufacture are considered diagnostic artifacts. For example, ceramics can provide important clues because makers' marks can indicate when and where a plate was made. Projectile points can also help archaeologists date sites because the points changed in size, shape, and style over time. Combining additional research with examination of the artifacts allows the students to

<b>Orange</b>  Late Archaic (4000 B.C.E. - 300 A.D.)	soapstone spear point antler flake bones
<b>Blue</b>  Woodland (300 - 1600 A.D.)	pottery arrow head flake corn & seeds chunkey stone
<b>Red</b>  1820s	horse shoe gunflint nails glass bottle base crockery
<b>Green</b>  1890s	train spike glass bottle doorknob ceramic piece coin



make more precise interpretations about the assemblages and the time periods represented.

### Procedure

1. Carefully remove the artifacts and set up the four assemblages in four separate areas of the room. (The stations do not need to be arranged in any particular order.) Identify each station by its color. Divide the class into four groups. Give each student a packet of worksheets. (Each student will need 4 copies of the worksheet, one copy for each artifact assemblage.) The observations and conclusions will serve as notes for the concluding activity.
2. Explain to students that they will be examining four assemblages of artifacts and trying to determine the time period for each group. Remind the students that these artifacts are fragile and irreplaceable. In addition, some of the artifacts, like the projectile points, glass bottles and nails, have moderately sharp edges. The students should handle the artifacts carefully and respectfully.
3. One group starts at each station, which they should indicate on the worksheet. The students should examine each artifact and make observations. (If necessary, review how to read an artifact before beginning.) The students should fill in the first column on the worksheet, "Describe the artifact." Encourage the students to describe the size, shape, feel, smell, weight, color, and any other distinguishing features. It should be evident from the description which artifact the student is describing. From their observations, the students should try to fill in the second column, "What do you think it is?" It does not matter if their first interpretation is accurate or not.
4. After the students have described all the artifacts in one assemblage and have made an attempt to identify the artifacts, pass out the Research Books, one copy to each group. These booklets contain diagnostic information about the artifacts. The artifacts are arranged in alphabetical order. The students can also use the photographs to match their artifacts. Using this additional information, the students should go back to their notes and fill in the third column on the worksheet, "Research the artifact." After students have read the entire research

entry carefully, they should fill in the last column, "When was it made or used?" (Some entries have extra dates and information so it is not advisable for the students just to locate dates in the text.) Certain artifacts in each group will provide clues to the time period for the entire selection. When the students have filled in the fourth column, they should use colored pencils to mark the appropriate timeline at the bottom of the chart. Some of the artifacts, which are not diagnostic artifacts, will only provide a general time period like "prehistoric" or "after 1400." Using their notes and timelines, the students should make a group decision about the time period represented by the assemblage of artifacts.


Describe the artifact	What do you think it is?	Research the artifact	When was it made or used?
light gray stone feels slippery thick chunk triangular but not sharp	<u>not</u> a spear point- maybe part of a stone plate	soapstone (or steatite) soft rock used for bowls Native Americans switched to pottery in Woodland period	late Archaic period only (4000 B.C.E. - 300 A.D.)

For example:

Use the timelines to pinpoint the time period.



- After the students have finished researching the first artifact assemblage and have agreed on a time period, *collect the Research Books*. Have the groups rotate to a new assemblage of artifacts. Repeat steps 2-4 at each station. Encourage the students to describe each artifact, even if they know what it is, or if they have heard other students discussing the artifact.
- When students have examined all artifacts and have made their interpretations, ask the class to compare conclusions about time periods. The class should make a final determination about the time periods. Make sure the interpretations can be supported by evidence from the artifact



assemblages. Discuss which artifacts gave the best clues for each assemblage. Introduce the term diagnostic artifact.

7. In addition to the time period, what other interpretations can the students make about the people who used these artifacts? Give each of the four groups one of the assemblages of artifacts. Ask them to write a list of interpretations they can make using the artifacts. For example, who used the artifacts? What did they eat? What did they wear? What did they use for shelter? What kind of transportation did they use? What other information would help the students learn about the people in these times? Have each group share their interpretations with the rest of the class.

### **Evaluation**

Individually, have the students write a story that incorporates one of the groups of artifacts and their previous knowledge about Vermont history. The story should indicate that the students have identified the artifacts and understand how each was used. Encourage the students to imagine the real people who lived here before them.

### **What Next?**

Proceed to the "Excavating Vermont Game." The students will use their interpretation skills to determine what happened at an archaeological site.




## Research Book Text

**antler** - Native Americans used antlers as tools for making projectile points. First, a flintknapper (point maker) used a hammerstone to remove large flakes of rock. When the rock was almost the right shape and size, the flintknapper used an antler to remove small chips of rock. This made the projectile point very sharp. This is a new deer antler. Archaeologists do find antlers from prehistoric sites. But prehistoric antlers are very fragile and need to be handled very carefully. Native Americans used antlers as tools for sharpening projectile points.

**bone** - Archaeologists often find animal bones in prehistoric and historic sites. Archaeologists study bones to determine what people ate in different places and at different times. Native Americans used bones as tools. A sharpened bone could poke a hole in an animal hide for easier sewing. These are animal bones. Human bones are sacred and should be treated respectfully at all times.

**ceramics** - Ceramic pieces are common finds at archaeological sites. Ceramics are objects made from fired clay. Like today, people in the past threw away broken plates, bowls and cups. Archaeologists sometimes can date a site by examining these pieces. Some ceramic pieces have a maker's mark. This important clue can show when and where a dish was made. The factory of Thomas Elsmore & Son made earthenware dishes from 1872 to 1887. The T&R Boote factory made ceramic dishes from 1842 to 1906. They added the word "England" to their mark in 1891.

**chunkey stone** - Flat, round rolling stones have been found at a few Native American sites in Vermont. Archaeologists think that these might be game pieces, similar to stones the Cherokee used to play the game Chunkey. The game started with one player rolling the stone on the ground. The other players threw spears at the place where they thought the stone would stop rolling. This activity was a game, but also a way to practice throwing a spear at a moving object. Chunkey stones have been found at Woodland period sites (300 A.D. - 1600 A.D.). These game pieces are reproductions because relatively few chunkey stones have been found in Vermont.



**coins** - Artifacts with dates, like coins, provide archaeologists with some helpful clues. A coin dated 1995 was made in 1995. It could not have been dropped on the ground **before** 1995. However, it could have been dropped in 1996, 1997, 1998 or any year **after** the year it was made. The United States Mint makes different amounts of coins each year. Every coin must be marked with the year it is made. These coins are old, but common. They are not very valuable to collectors.

**crockery** - Crockery is a general term for stoneware dishes. Often crockery was made from gray-colored clay and decorated with blue designs. From the 1400s until now, people have used crockery to hold everything from pickles to cider. Many households had different sizes and shapes of crocks to store food and drink. Bennington, Vermont was famous for its production of crockery.

**doorknob** - Like coins, some doorknobs can be dated from when they were made.

Mineral (or swirly) doorknobs became available around 1850.


White porcelain doorknobs were popular after 1860 or so.

Black porcelain doorknobs were available starting around 1880.

Doorknobs give archaeologists a beginning date but not an ending date. The mineral doorknob in the picture suggests that the house was built or remodeled in the 1850s or later. But this house, like many others, still has old doorknobs today.

**flake** - Flakes are the extra pieces left over from producing stone tools or projectile points. Flakes are produced when a flintknapper removes layers of stone from a large rock to make a smaller useable shape. Archaeologists sometime find many flakes together. This clue suggests a site where Native Americans worked to make projectile points or tools. Depending on the size and shape, flakes could be sharpened into tools like scrapers. Scrapers were used to work with wood or hides.

**glass bottle** - Archaeologists often find broken pieces of glass bottles at historic archaeological sites. People used and reused glass bottles to hold liquids like milk, medicine and perfume. Although glass bottles are often found broken, archaeologists can look at the bottom and the sides of the bottle to figure out when the bottle was made.



**Before 1850** or so, glass blowers used an iron rod, called a pontil, to hold the bottom of the bottle. Removing the pontil left a scar in the middle of the bottom. **After 1860**, glass blowers used clamps that did not leave a mark. **Between 1860 and 1903**, bottle makers had to apply the lip, or top, of the bottle by hand. Tops that are uneven or lopsided were probably handmade. Also, the seams where the molds came together made lines that stopped along the neck of the bottle. **After 1903**, molds left seam marks that went all the way over the top of the lip.

**gunflint** - Flint is a type of stone that creates a spark when struck with iron or steel. Gunflints were used in flintlock muskets. When the flint struck the metal frizzen, it made a spark that ignited the gunpowder and shot the bullet. The flintlock was in popular use after the 1630s. The percussion lock was invented in 1807. It used a cap instead of a flint. The percussion lock became more popular than the flintlock after the 1830s.

**horseshoe** - Horseshoes are metal shoes that protect the horse's hooves. Horses became important in Vermont in the late 1700s as people built new roads and cleared more land for farms. Justin Morgan brought his horse Figure to Vermont in 1791. The breed that developed was the Morgan Horse. Vermont farmers liked these strong, hard-working horses. Tractors and cars have taken over the jobs of horses. But horses are still raised all over Vermont.

**nails** - Nails are common artifacts at many historic archaeological sites. Nails might be found even if the wood has rotted or burned. The process for making nails has changed over the years. Figuring out how a nail was made can provide clues about when the nail was made and first used. **Before 1800** or so, blacksmiths made nails by hand. Each nail would be a little different. The sides of the nails were usually flat. Heads of the nails were often rounded but uneven. **Between 1800 and 1890**, most nails were machine-made but still square. These nails were more uniform in size and shape than hand-made nails. **After 1890**, round, machine-made wire nails became common. These look like the round nails used today.






**pottery** - Pottery is an important artifact for dating prehistoric sites.

After about 300 A.D., Native Americans in the Northeast started making bowls from clay instead of from soapstone or birch bark. This new way of cooking and storing food happened about the same time that Native Americans started growing beans and squash.

Archaeologists consider the use of pottery and the farming of beans, squash, and then corn as the start of a new period in history. This period is called the Woodland period (300 A.D. - 1600 A.D.). The shape of the pottery and the decorations on the sides give more clues about when the pottery was made.

**projectile point** - Projectile point is a general name for the stone tips that Native Americans used on hunting tools. During the **Archaic period** (7500 B.C.E. - 300 A.D.), hunters used spears. The points on spears tended to be large and long. Over the years, Native Americans adapted the size and shape of the points to best match their needs. During the **Woodland period** (300 A.D. - 1600 A.D.), Native Americans started using bows and arrows instead of spears. Hunters could be more accurate with the arrows. The arrowheads tended to be smaller and triangular. Archaeologists have developed the chart to help date Vermont projectile points. By comparing a point to the points on the chart, archaeologists can estimate when a projectile point was made and used.

**seeds** - These squash seeds and corn kernels are similar to seeds planted by Native Americans in the Woodland period (300 A.D. - 1600 A.D.). In the Archaic period (7500 B.C.E. - 300 A.D.), Native Americans mainly relied on hunting and gathering for their food. Over time, they started growing squash, beans and then corn. The farmers had to stay near their crops. This led to the development of more permanent settlements during the Woodland period. These seeds are modern seeds because organic materials usually rot over time. Depending on the soil and conditions, archaeologists sometimes find remains of preserved plant matter. Archaeologists found a small, burned corncob at a Woodland period site near the Winooski River.



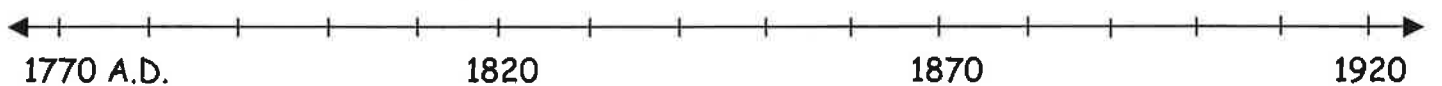
**soapstone** - Soapstone is the common name for a type of rock, steatite, which feels slippery to the touch. The rock is soft and easy to carve with other harder stone tools. During the late Archaic period (4000 B.C.E. - 300 A.D.), Native Americans started using soapstone to make bowls. Native Americans stopped making soapstone bowls when they started making pottery during the Woodland Period (300 A.D. - 1600 A.D.).

**train spike** - Railroads use spikes like these to hold the metal rails to the wooden ties. Railroad service first came to Vermont in 1848. By 1880, railroad tracks connected many of Vermont's larger cities. The railroads allowed farmers and manufacturers to ship their goods to cities in New England and beyond. The trains also brought many tourists to Vermont. Once built, the rails and ties needed constant maintenance to keep the tracks safe. Some of the railroad tracks are still maintained and used today.

# Cultural History Mystery Worksheet

Describe the artifact	What do you think it is?	Research the artifact	When was it made or used?

Use the timelines to pinpoint the time period.



Station \_\_\_\_\_ What time period do these artifacts represent? \_\_\_\_\_

