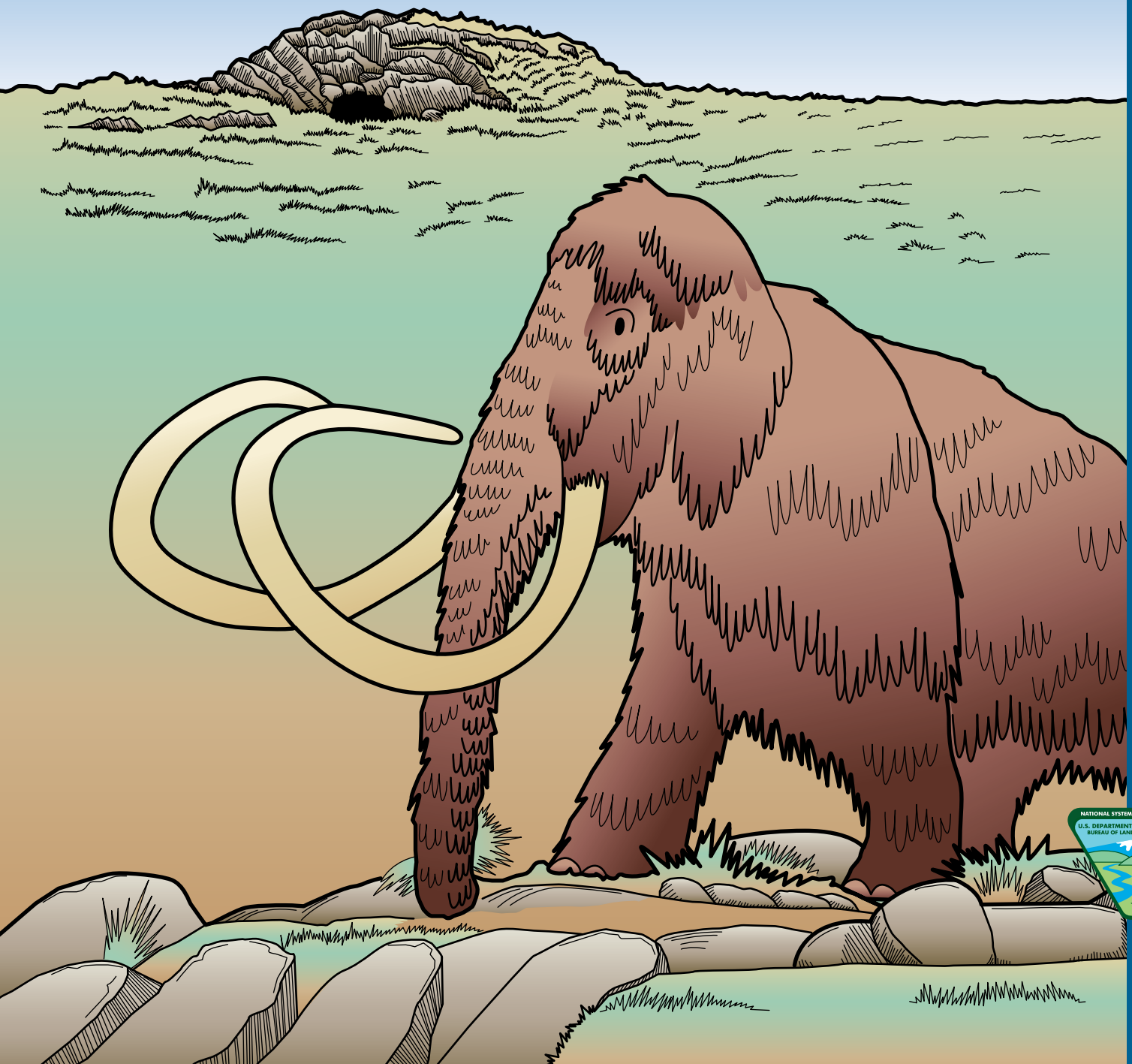
U.S. Department of the Interior • Bureau of Land Management

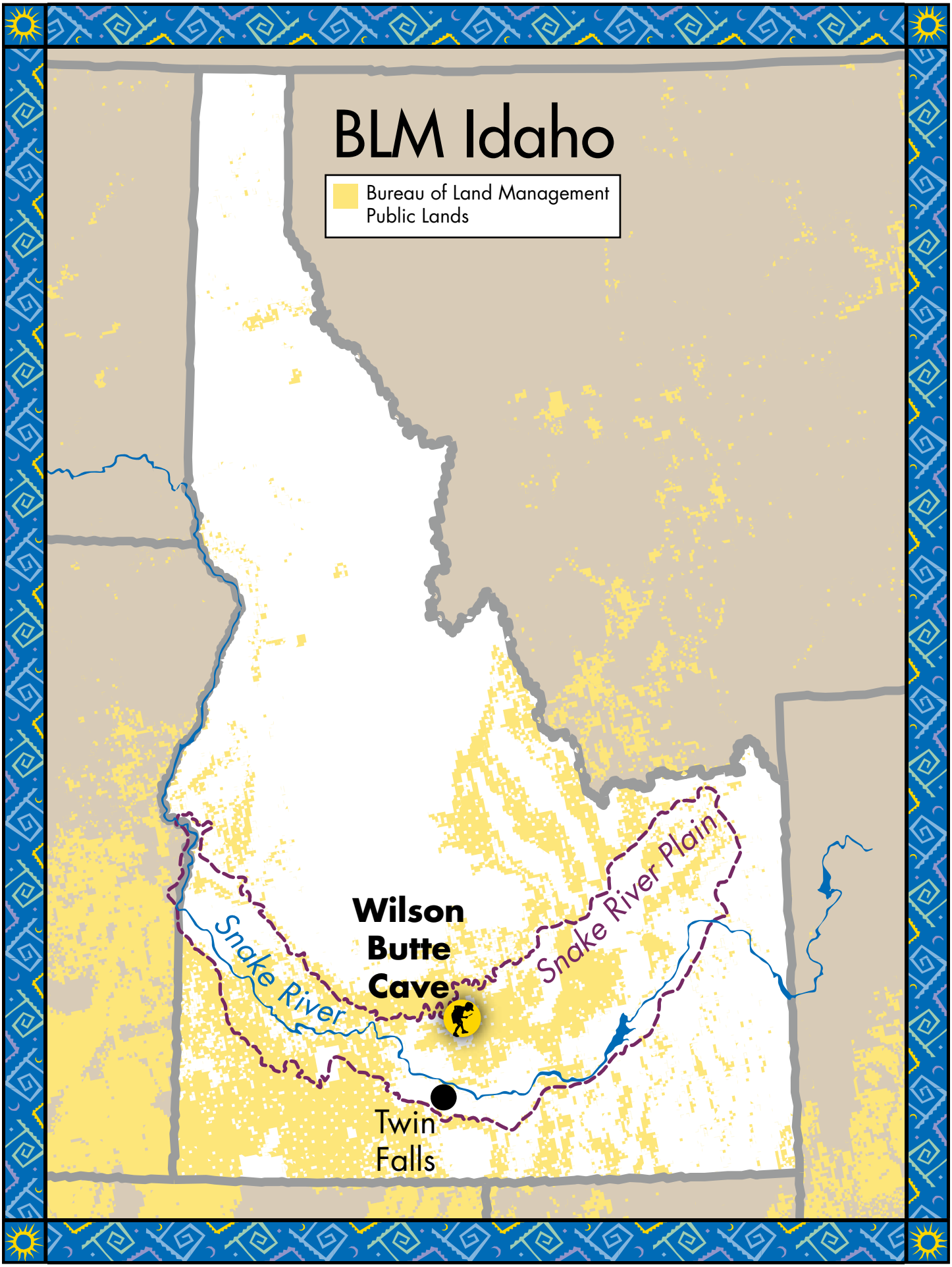
BLM

JOIN THE ADVENTURE

# Junior Explorer
# Adventures in Wilson Butte Cave



NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT


BLM Idaho
Bureau of Land Management Public Lands
Wilson Butte Cave
Snake River
Snake River Plain
Twin Falls

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# Welcome

## Hello Junior Explorer!

Are you ready for some adventure? In this activity book, you will explore the Wilson Butte Cave. It is located on Idaho's volcanic Snake River Plain near present-day Twin Falls. Early people found this cave 10,000 to 15,000 years ago. They used it as a shelter while they hunted. You will learn more about what their lives were like as you do the activities in this book. Today, the Bureau of Land Management (BLM) Shoshone Field Office takes care of the cave.

Earn your Junior Explorer certificate by visiting Wilson Butte Cave or taking a virtual tour on your computer (www.blm.gov/dtld). Do this on a Saturday afternoon with your family or maybe on a field trip with your class. Once you have completed at least 9 of the 12 activities, you're on your way to protecting America's public lands and becoming a Junior Explorer for Wilson Butte Cave. Then, say the pledge at the end of this book. Sign the certificate, and bring or mail it to the BLM.

If sending the pledge by mail, send to the following address:

Bureau of Land Management
Idaho State Office
1387 S. Vinnell Way
Boise, ID 83709

Nature is a great place to learn
as long as you know how to be kind and safe.
During your adventure, remember the following tips.

### Be Kind to Nature:

If you see a wild animal, stay quiet,
and watch it from a distance.
If you see or have any trash,
pack it out in your backpack.
If possible, pick up trash that you find,
and remove it from the area.

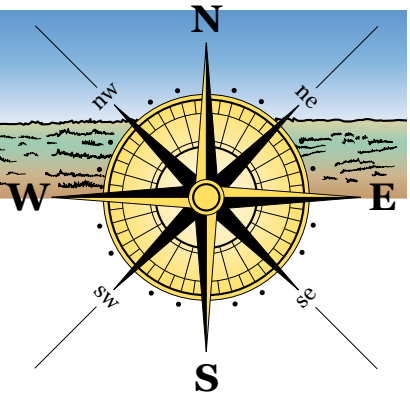
### Explore the Outdoors Safely:

Before setting off on your journey,
bring your water bottle with you.
Your adventure may be hot and dry at certain times of
the year, and there is no water onsite.
Also, watch your footing, as rocky trails are common
in this area. Lastly, look out for rattlesnakes.

### Leave What You Find:

The archaeological remains within the
Wilson Butte Cave can never be replaced.
Once they are taken or damaged, they are gone forever.
Enjoy looking at these treasures, but please be respectful
and leave everything as you find it for others to enjoy.
If you're careful now, more Junior Explorers like you can
see and learn about this cave.

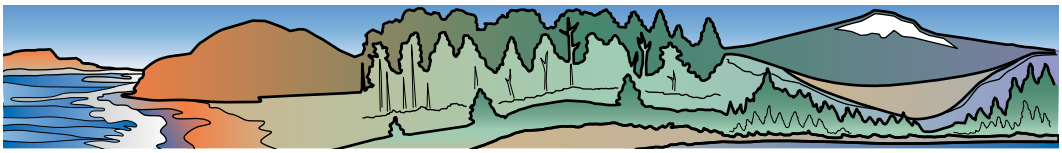
# What Are Public Lands?

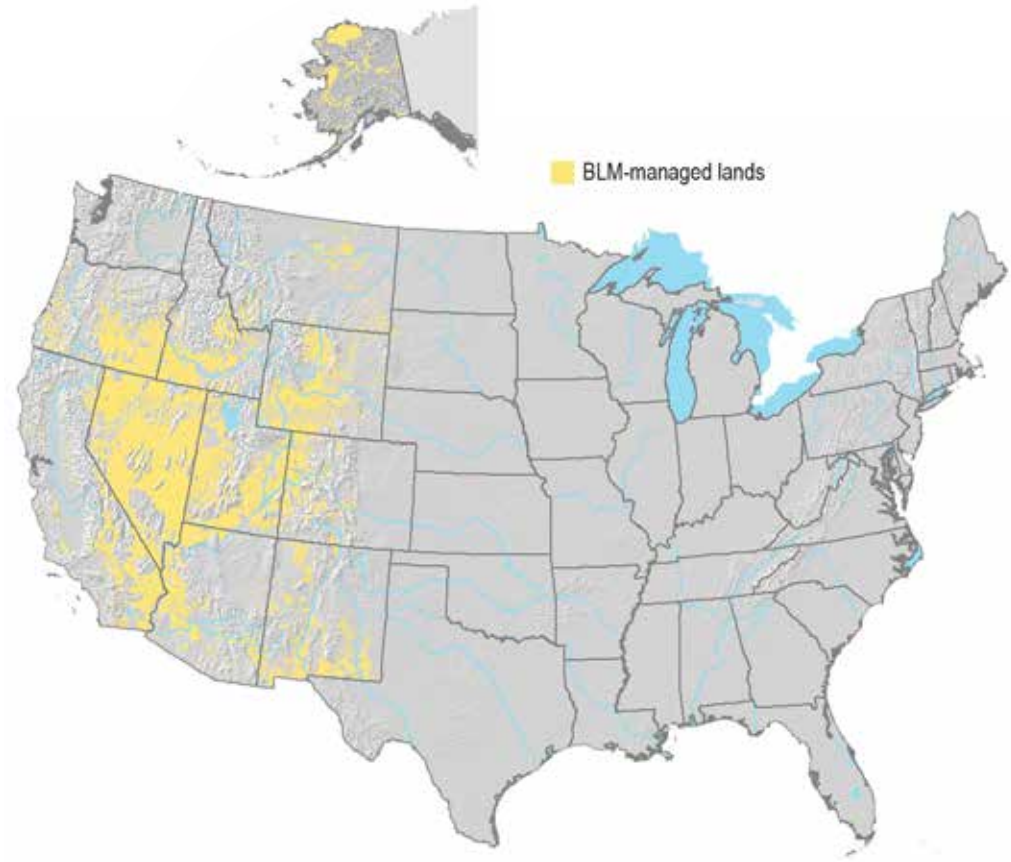


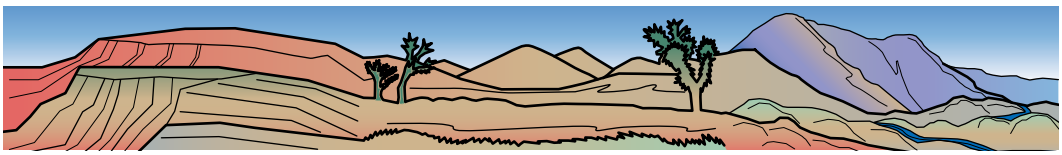

Public lands are set aside for everyone to use! The BLM manages more than 245 million acres of public land, mostly in the West. Public lands are in many types of environments, such as forests, mountains, deserts, grasslands, tundra, lakes, and rivers.

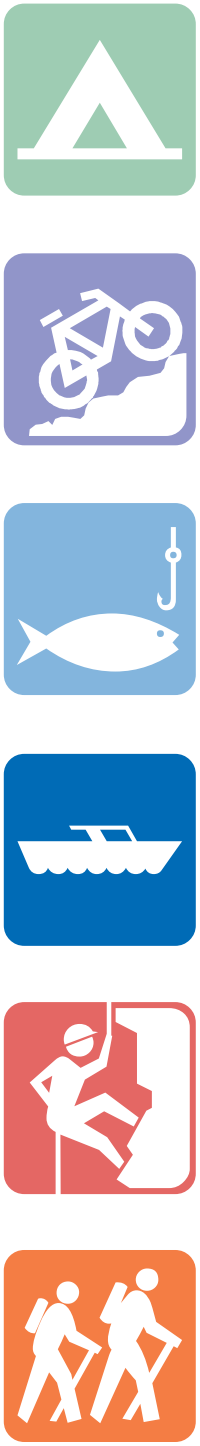
Many different activities happen on public lands. Sometimes wild horses live on these lands. Sometimes oil and coal come from these lands. Sometimes historical landmarks are taken care of on these lands. And often, people enjoy outdoor activities on these lands, such as camping, hiking, mountain biking, fishing, rock climbing, and boating.

Since public lands are available for everyone, everyone must use the lands responsibly and be good stewards. We all have to work together to take care of the land so that future Junior Explorers can enjoy it too.







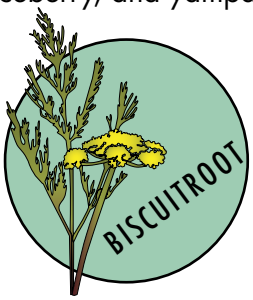
# Early Life on the Snake River Plain

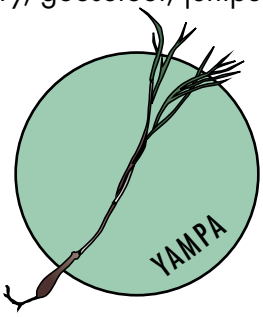
## Activity 1, Draw Detailed Cave Life

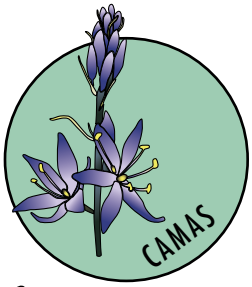
The Wilson Butte Cave provides some of the earliest proof of human presence in Idaho and North America. Volcanic rocks formed this domelike cave. The cave sits on ancient lava that flowed millions of years ago. About 10,000 years ago, native people used the cave as a shelter during bison hunting. The cave served as protection from wind, rain, and cold. Use your imagination to draw what you think life was like for these early people of what is now Idaho.

# Activity 2, Find the Healing Plants

Today, people visit the pharmacy to buy medicine when they feel sick. During prehistoric times, natives in present-day Idaho gathered various plants and nuts when they felt sick. The plants contained many vitamins, minerals, and medicinal properties. In the puzzle, find the following plants used by early people: biscuitroot, bitterroot, camas, chokecherry, currant, elderberry, goosefoot, juniper berry, pigweed, pinon, plantains, sagebrush, saltbush, serviceberry, and yampa.



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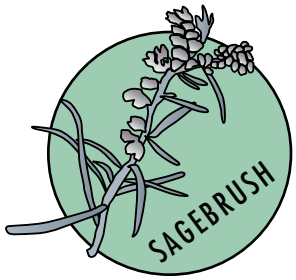
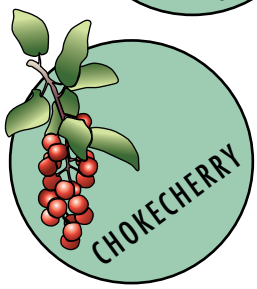
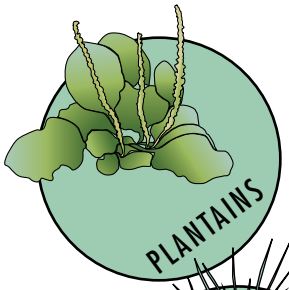
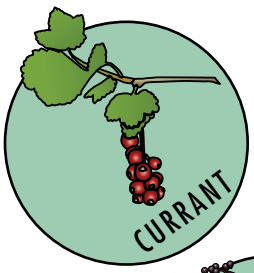
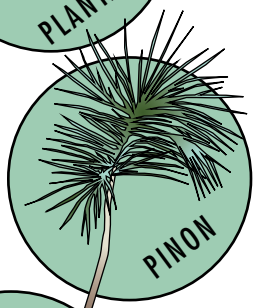
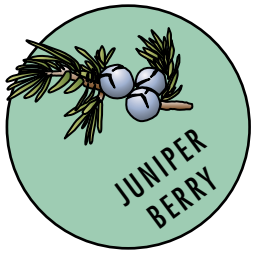


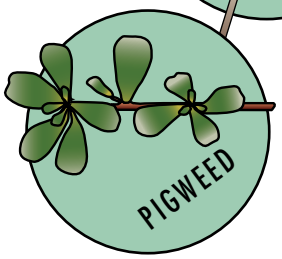



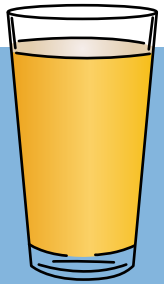





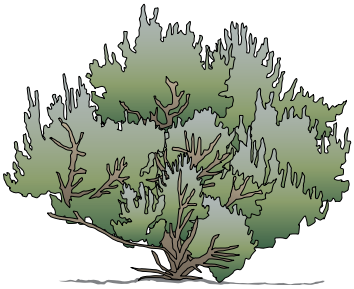
## Did You Know?

The goosefoot plant is high in Vitamin C
just like orange juice.
It was used to treat stomach aches.



# Activity 3, What Am I?

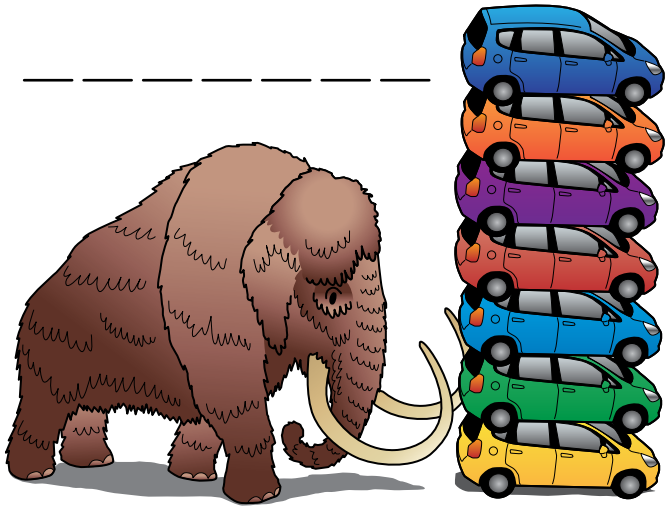
Ice sheets and glaciers once covered large areas of the earth. People often refer to the most recent glacial period as the "ice age." It ended about 14,000 years ago. As the weather grew warmer and drier, the types of plants and animals near Wilson Butte Cave changed. For example, sagebrush grew in the area back then but in a much smaller amount. Some animals common to the area during the ice age included wooly mammoths, saber-toothed cats, and giant ground sloths. The area became better suited for bison, antelope, elk, and deer. Unscramble the words below to learn more about what life was like for people near Wilson Butte Cave thousands of years ago.



1. G R S A U B H E S ___ ___ ___ ___ ___ ___ ___ ___ ___

I was used by early people as a ceremonial plant.

I was used as an incense to carry prayers and to treat colds.



2. O W L O Y  M M M O H T A ___ ___ ___ ___ ___  ___ ___ ___ ___ ___ ___ ___

I lived during the ice age.

I am the same size as a modern African elephant.

I weighed almost 7 tons. That's the same size as about seven small cars.

3. L A L T A T ___ ___ ___ ___ ___ ___

I am a fast-moving tool used to throw spears.

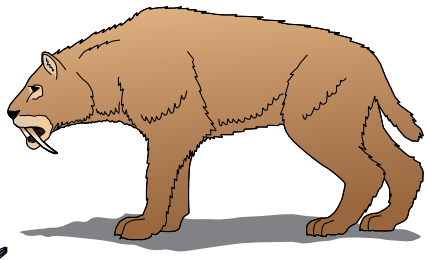
I was used by early people to hunt.

4. R S B A E - O H T T O D E  A C T ___ ___ ___ ___ ___ - ___ ___ ___ ___ ___ ___ ___  ___ ___ ___

I am characterized by my long teeth.

I lived during the ice age.

I was a carnivore that hunted sloths, mammoths, and other large prey.

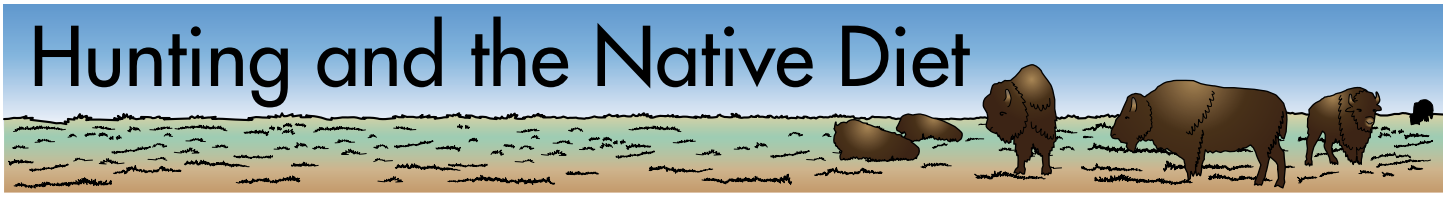


5. A A M C S ___ ___ ___ ___ ___

I am a plant that blooms with bright blue flowers.

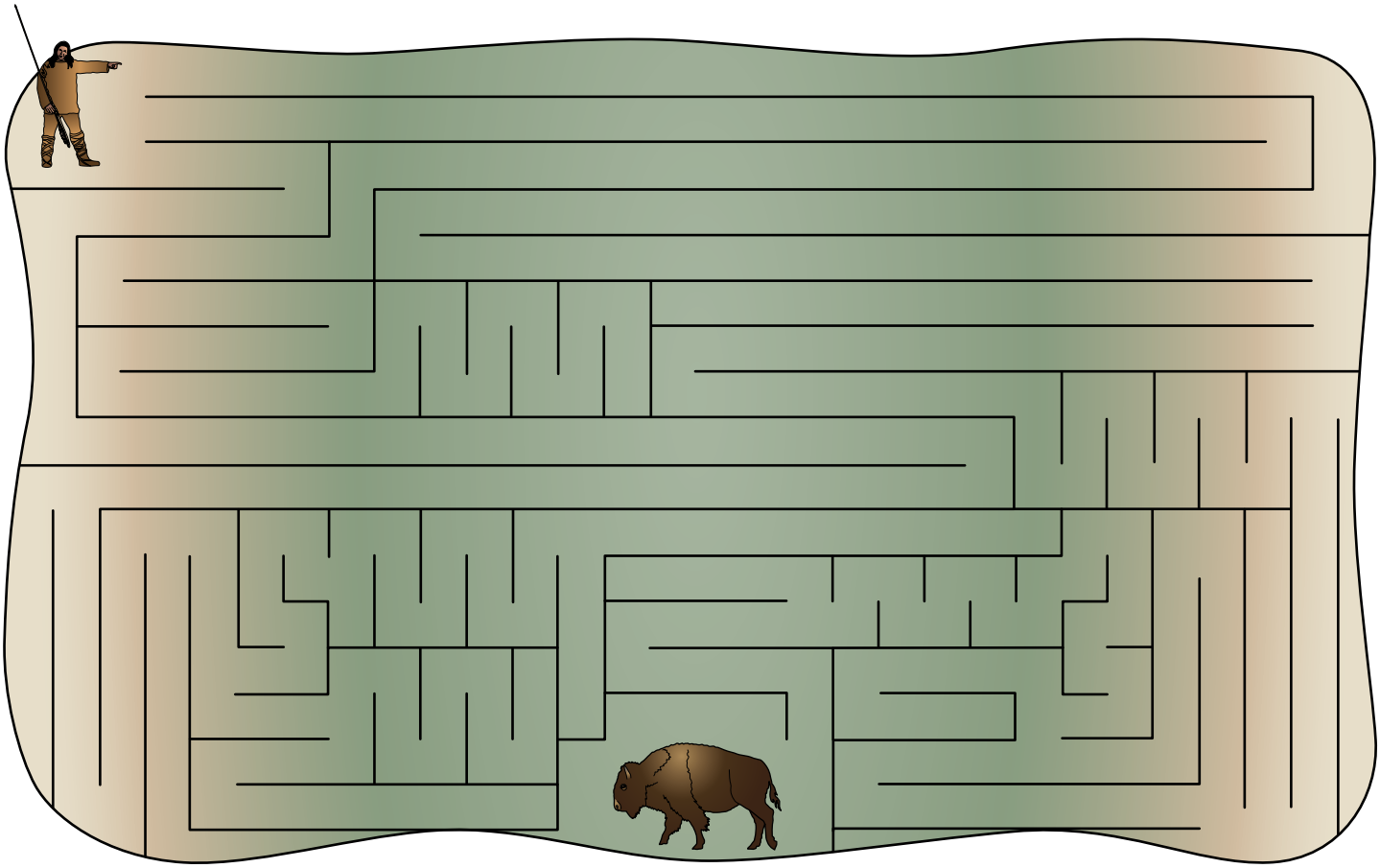
My roots were gathered in early spring or summer and then harvested, boiled, and roasted in pits with hot rocks. I am poisonous if eaten raw.

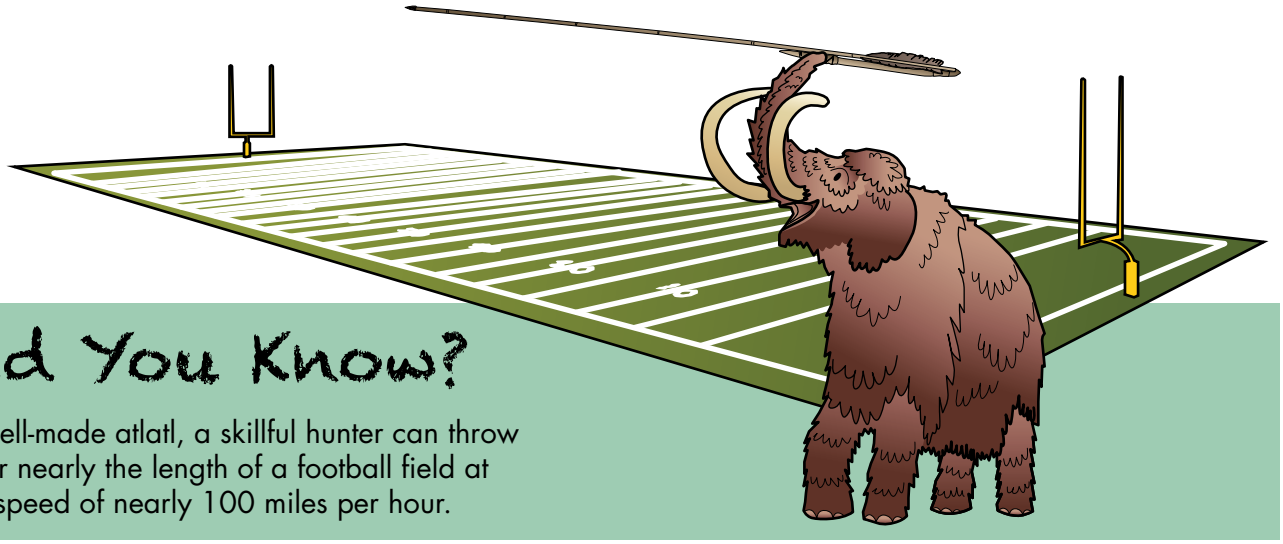
# Hunting and the Native Diet



## Activity 1, Help the Hunter Hit the Target

Early people hunted bison that grazed on the grasslands surrounding Wilson Butte Cave. Before the invention of the bow and arrow, people all over the world used a spear-thrower called an atlatl for hunting. The atlatl allowed the hunter to throw a spear very fast and far. Dinnertime is soon, and your family is hungry. Help this early native hunter find the bison. Which path should the hunter take to get a good aim?



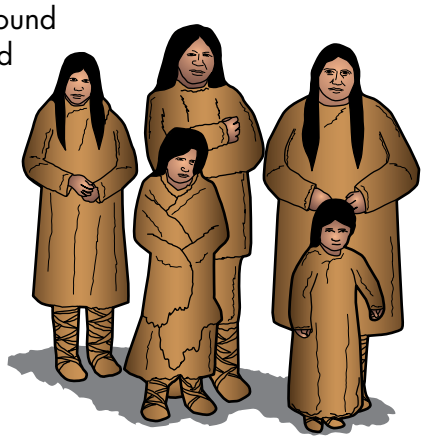


### Did You Know?

With a well-made atlatl, a skillful hunter can throw a spear nearly the length of a football field at the speed of nearly 100 miles per hour.

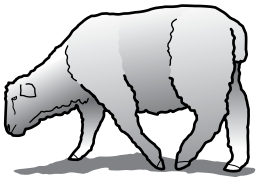
# Activity 2, Calculating Food Collection

Early people survived on and had a connection to the plants and animals they found in their environment. Everyone helped out. The women and girls usually gathered and cleaned roots, seeds, and plants, and the men usually hunted and fished.



In this activity, a family lives in Wilson Butte Cave thousands of years ago. Help this family figure out how much food they need for the week. The family will collect, hunt, or trade to get the right amount of food. The family can use the back of the cave to keep the meat cold so it doesn't get spoiled.

1. If each person eats approximately 3 pounds (lb) of food each day, how many total pounds of food will this family of 5 need for 7 days?
   5 people x 3 lb of food/day = ____ lb/day x 7 days = ____ total lb of food/week

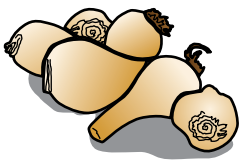


2. The family needs 35 lb of lamb. If each lamb provides about 50 lb of food, how many lambs will the family need? _____
   How many extra pounds of meat will the family have? _____ lb
   Maybe they can trade the extra meat with their neighbors in exchange for another type of food.

3. Currants are a type of grape and taste similar to raisins when dried. If each plant provides about 5 lb of currants, how many plants will the family need to pick to collect 20 lb? _____ plants

4. Pinon nuts are small and come from the pine cones of the tree. They can be roasted and have a slightly buttery flavor. If 30 cones provide 1 lb of pinon nuts, how many cones does the family have to gather to get 5 lb of nuts? _____ cones

5. Camas bulbs come from the camas plant, which has small blue flowers during certain times of the year. When baked, the bulbs become tender and sweet. If 6 bulbs equal 1 lb, how many bulbs of camas must the family find to collect 30 lb? _____ bulbs



6. Goosefoot plants are bright green and taste similar to spinach. The family needs 15 lb of goosefoot. If 30 plants equal 1 lb, how many plants does the family need to collect? _____ plants

**35 lb of lamb + 20 lb of currants + 5 lb of pinon nuts + 30 lb of camas bulbs +15 lb of goosefoot plant = 105 lb of food**

Native families probably did not collect their food by the pound like this, but this activity shows how much food had to be collected to survive. It was a busy job! It's easy for us to go to the grocery store these days to buy our food. By doing this activity, we can also understand better why our grocery bags are so heavy each week!

# Activity 3, Make a Match

Toward the end of the ice age, early natives used various hunting tools to kill mammoths and other mammals. In addition to hunting tools made from bone, ivory, antler, and wood, hunters commonly made spear points from stone for hunting. Hunters made spear points in a variety of sizes and shapes. The following types of spear points range in age, from up to 13,000 years old: Besant, Clovis, Eden, Folsom, McKean, Pelican, Scotts, and Yonkee.

Use your memory! Invite a friend or family member to join you. Cut out the squares, mix them up, and flip them all over so the picture side is facing down. Flip any two cards over so you can see the spear points. If the two spear points match, pull the pair out of the mix. If the cards do not match, flip them back over. Whoever has the most matches at the end wins.

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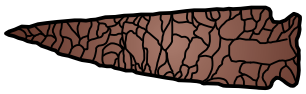
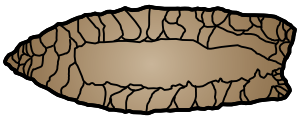
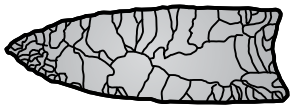
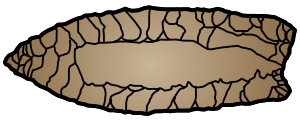
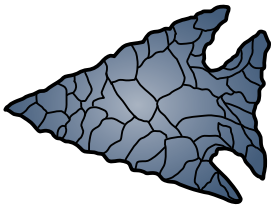
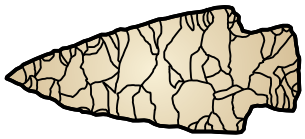
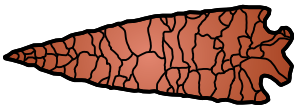
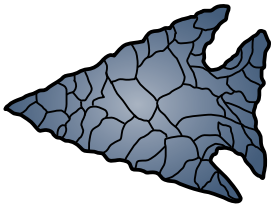
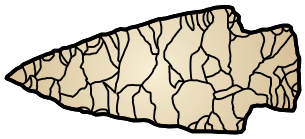
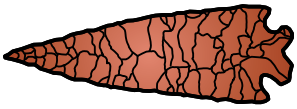
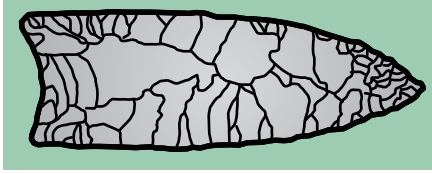
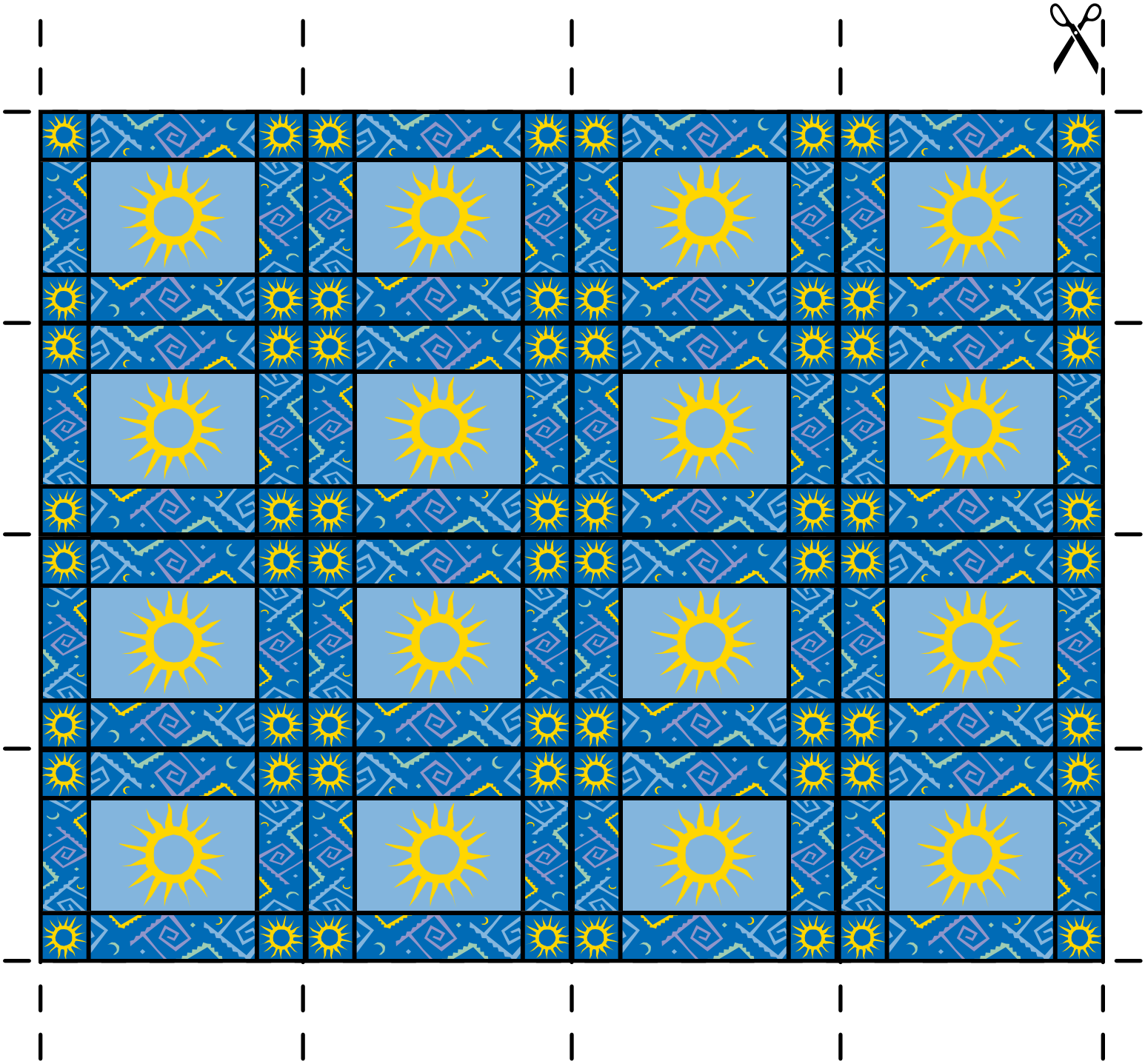
|  Besant | Clovis | Eden |  Folsom |
| Besant |  Clovis | Eden |  Folsom |
| McKean |  Pelican |  Scotts |  Yonkee |
| McKean |  Pelican |  Scotts |  Yonkee |



## Did You Know?

Clovis points are about 12,000 years old.

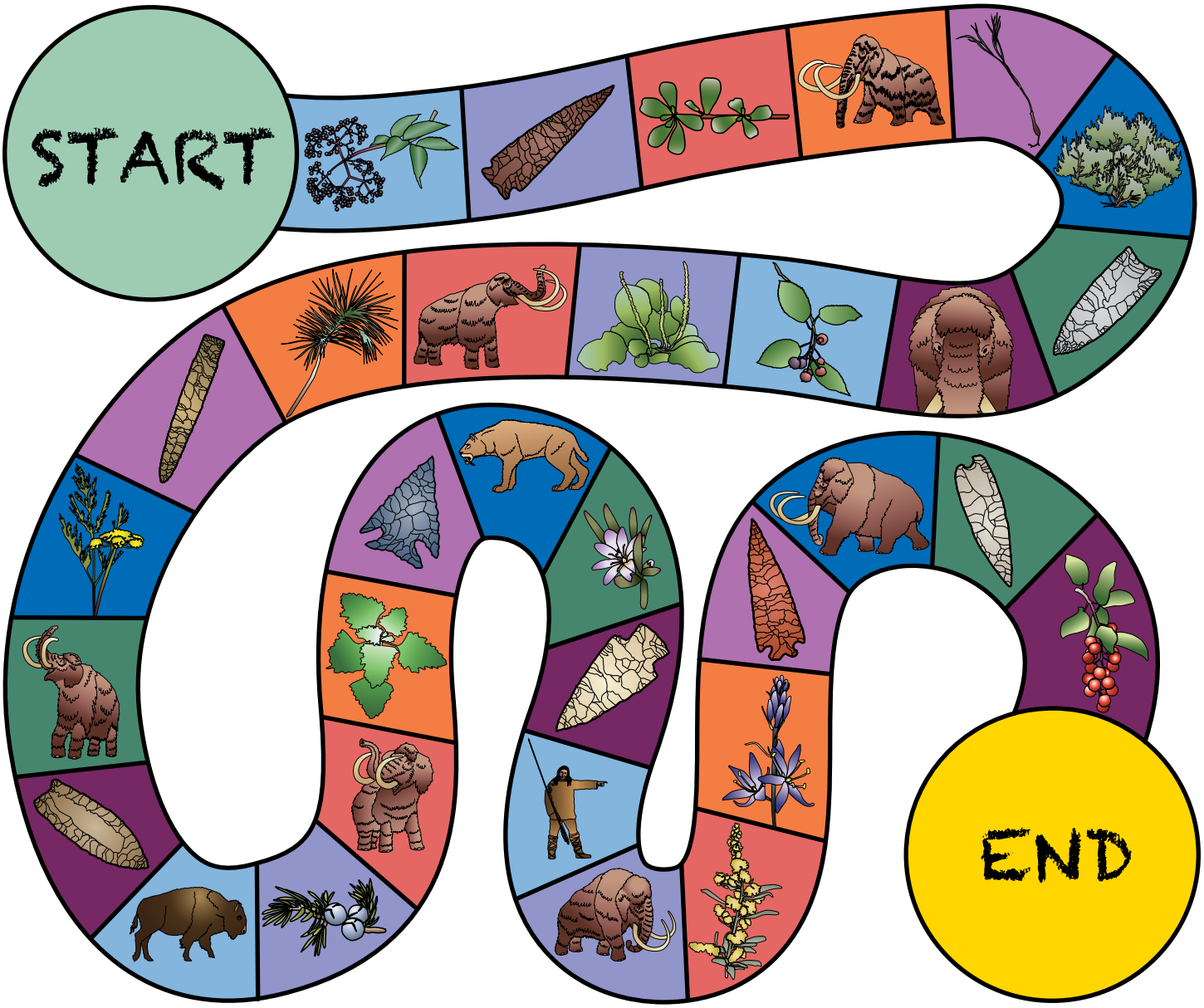


# Archaeology in Action

## Activity 1, Dice Game

Archaeology is the study of history and prehistory (before people wrote down stories or information). Archaeologists analyze sites, artifacts, and other physical remains to find out how people used to live. Archaeologists have learned that early native people entertained themselves with storytelling, singing, dancing, and playing games. Archaeologists have led studies at Wilson Butte Cave and found many artifacts. They think natives used some of the bone artifacts as dice or game pieces.

Use your own dice to play this game with your friends and family. Every player starts at the first space on the board. Roll a dice to find out how many spaces you can advance. As you navigate through the plains of sagebrush, whoever finds (lands on) the most mammoths is the winner.




Activity adapted from and used courtesy of www.gsseser.com.

# Activity 2, People in the Future Learning About the Past

Hello future archaeologist! Artifacts are the remains of objects that people made and used. Over time, natives left artifacts behind when they moved away, or they threw artifacts in the trash, which are called middens by archaeologists. By studying artifacts, archaeologists try to figure out how people lived long ago. What do you think someone from the future could learn about your family based on what you throw away or leave behind? Write a story about this.

# Activity 3, Ascertain the Age of Artifacts

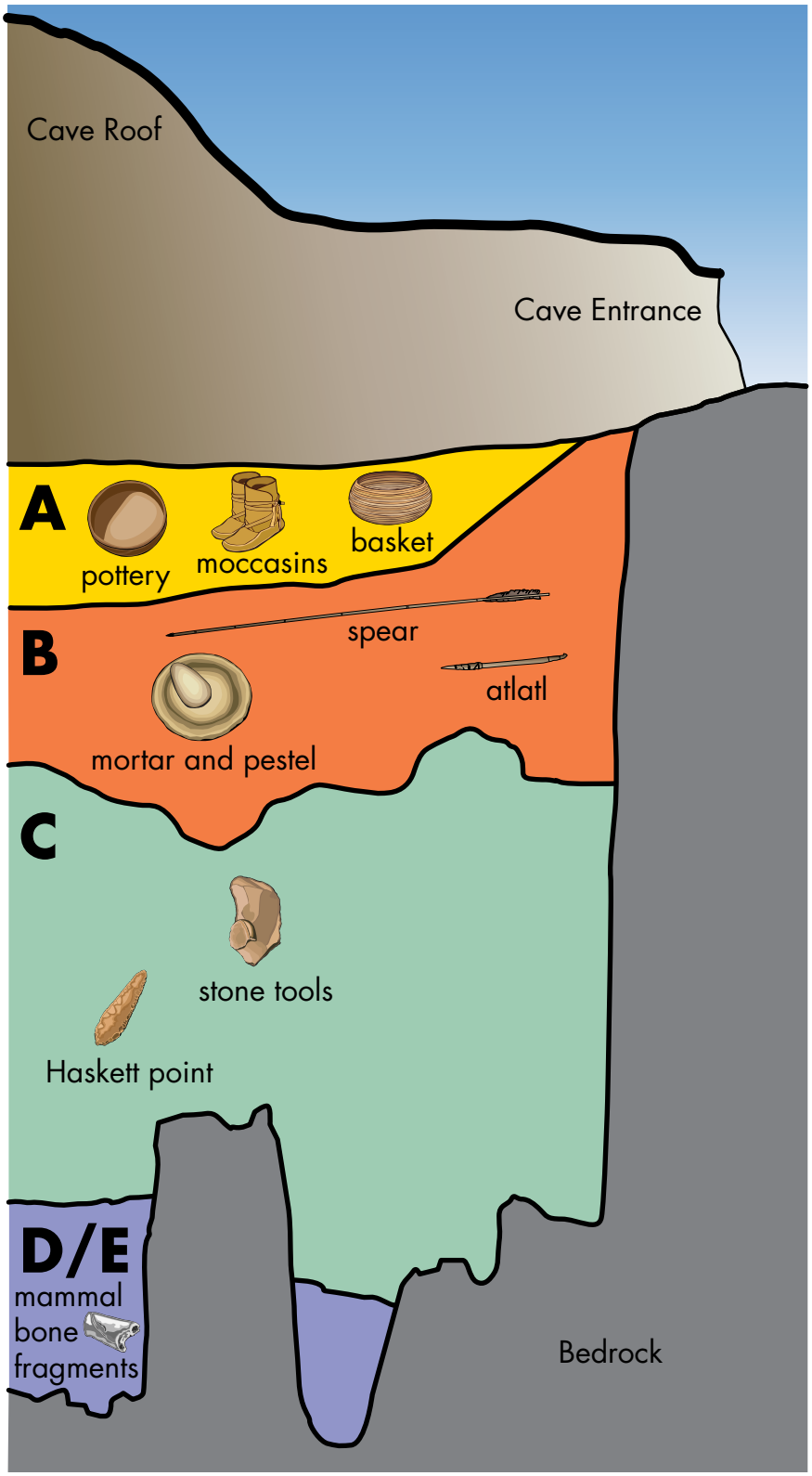
Archaeologists determine the age of artifacts by studying the layer of earth (or strata) in which they are found. The top layers of earth are usually the youngest. The deepest layers are usually the oldest. Based on artifacts from Wilson Butte Cave, native hunters used the cave as a temporary shelter. Natives mostly used the cave while hunting bison during the spring and summer. Draw a line to match the time period to the letter that represents the strata.

10,000 – 14,000 years ago

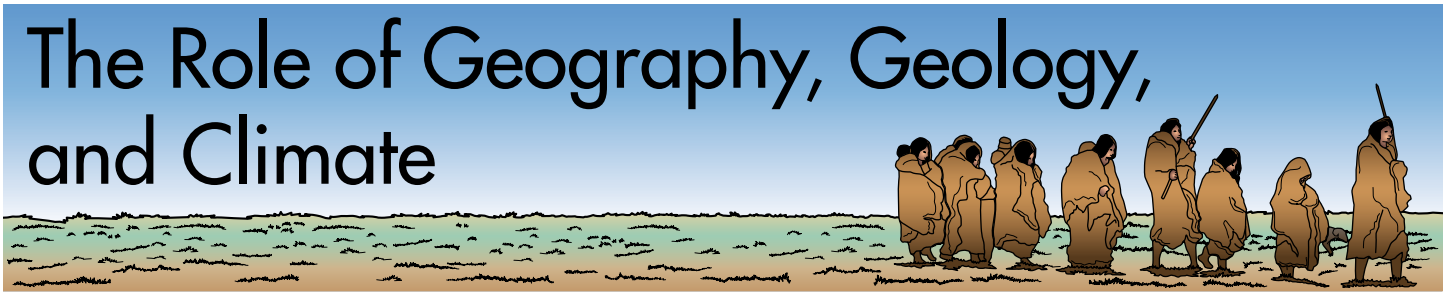
2,500 – 4,000 years ago

400 – 700 years ago

6,000 – 10,000 years ago



# The Role of Geography, Geology, and Climate



## Activity 1, Decipher the Geographic Code

Thousands of years ago, people and animals were able to travel by foot from Asia to North America. Scientists think this is how the early natives traveled to present-day Idaho. Today, people must travel from Asia to North America by boat or aircraft. Use your detective skills and the secret code to complete the story about the Bering Land Bridge, also known as Beringia.

1. Between 10,000 and 25,000 years ago, much of Earth's water was locked up in ice sheets.

   These ice sheets, called _____ were up to 2 miles thick!
   (4 – 20 – 21 – 23 – 8 – 25 – 10 – 27)

2. The glaciers were like huge buckets made of ice trapping a lot of Earth's water. Because of this, the amount of water in the oceans was less, and the land at the bottom of the ocean was uncovered creating the _____ _____
   (26 – 25 – 10 – 8 – 9 – 4) (20 – 21 – 9 – 16)
   _____, which connected Asia to Alaska. The land bridge gave animals,
   (26 – 10 – 8 – 16 – 4 – 25)
   plants, and humans a way to _____ to North America and further south
   (18 – 8 – 4 – 10 – 21 – 2 – 25)
   into Central and South America.

3. Toward the end of the _____ _____, as the climate warmed and the glaciers melted, the land bridge was flooded by water.
   (8 – 23 – 25) (21 – 4 – 25)

4. Many species of animals could not survive the change. When this happened, other animals used the food, shelter, water, and space (known as _____) left empty by the extinct animals.
   (12 – 21 – 26 – 8 – 2 – 21 – 2)

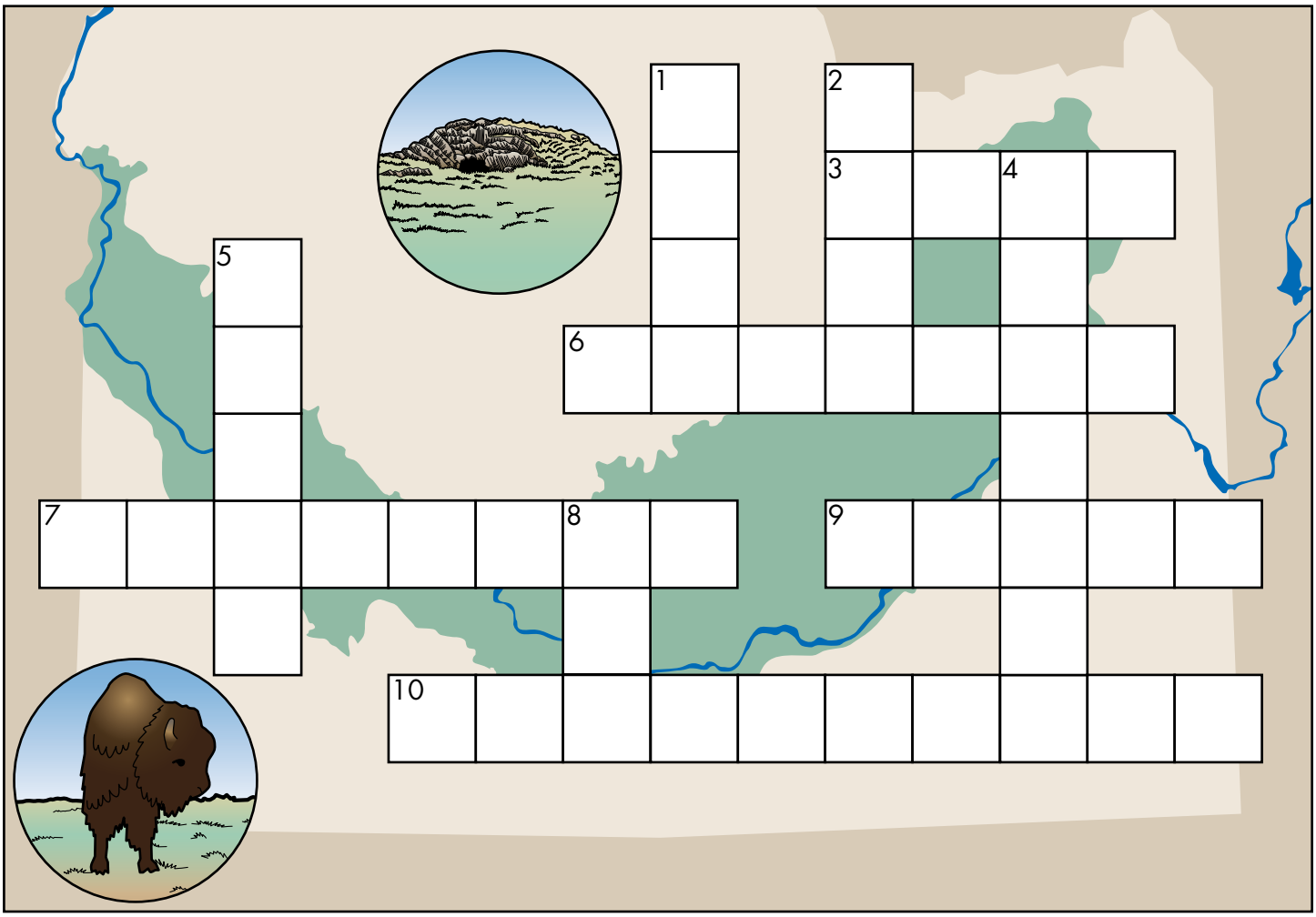
**Key Code**

2 = T
4 = G
8 = I
9 = N
10 = R
12 = H
16 = D
18 = M
20 = L
21 = A
23 = C
25 = E
26 = B
27 = S

Information adapted from and used courtesy of the Bering Land Bridge National Preserve.

# Activity 2, Complete the Crossword

The Snake River Plain is a unique **geologic** feature that extends across southern **Idaho**. **Lava** from volcanic activity formed this 400-mile feature. The Snake River Plain is bordered on the north and south by mountains and valleys. Most of Idaho's farming occurs within this feature. Plants grow easier here since the soil is so **fertile** from the ancient lava. The Wilson Butte **Cave** sits within this unique feature. Early natives probably traveled through the Snake River Plain because of its relatively **flat** terrain. Based on the highlighted words in this paragraph and previous knowledge you learned in this activity book, complete the crossword puzzle.




## Across

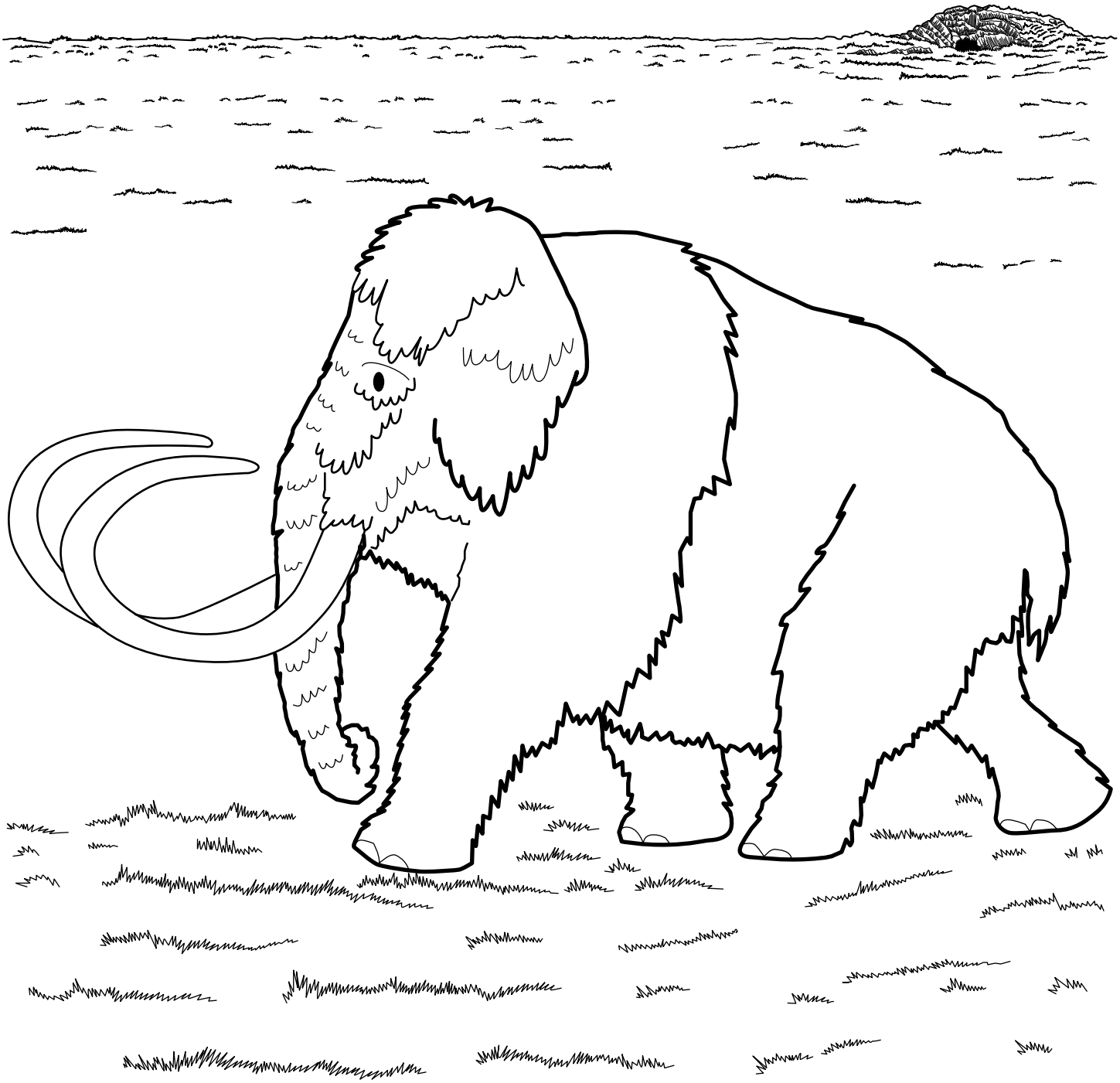
3. Similar to magma, except it is hardened and above the earth's surface.
6. Description of the soil used for farming in the Snake River Plain.
7. The Snake River Plain is a unique _____ feature.
9. The state where most of the Snake River Plain is located.
10. Things that happened before people wrote down stories or information.

## Down

1. Wilson Butte _____ can be found on the Snake River Plain.
2. Description of the surface of the terrain of the Snake River Plain.
4. Releases magma, which then hardens into lava.
5. One of the main large mammals hunted by the early natives.
8. The ____ age ended nearly 14,000 years ago.

# Activity 3, Create a Unique Coat

During the ice age, the landscape near Wilson Butte Cave supported a greater number and variety of large animals, including wooly mammoths. The weather was considerably cooler and wetter than it is now. Wooly mammoths had a two-layer coat. The fuzzy undercoat felt like wool and kept the mammoth warm. The outer coat was made of longer, rougher hairs that protected the undercoat, keeping it clean and dry. Make a coat for your wooly mammoth below. You can use cotton balls, yarn, felt, or different colors of crayons. Have fun and be creative!



# Junior Explorer Pledge

## As a Bureau of Land Management Junior Explorer, I promise to:

- Do all I can to help preserve and protect the natural and cultural resources of our public lands.
- Be aware of how my actions can affect other living things and the evidence of our past.
- Keep learning about the importance of nature and our heritage.
- Share what I have learned with others.

*Date* *Explorer Signature*

# Answer Key

## Early Life on the Snake River Plain

### Activity 2, Find the Healing Plants

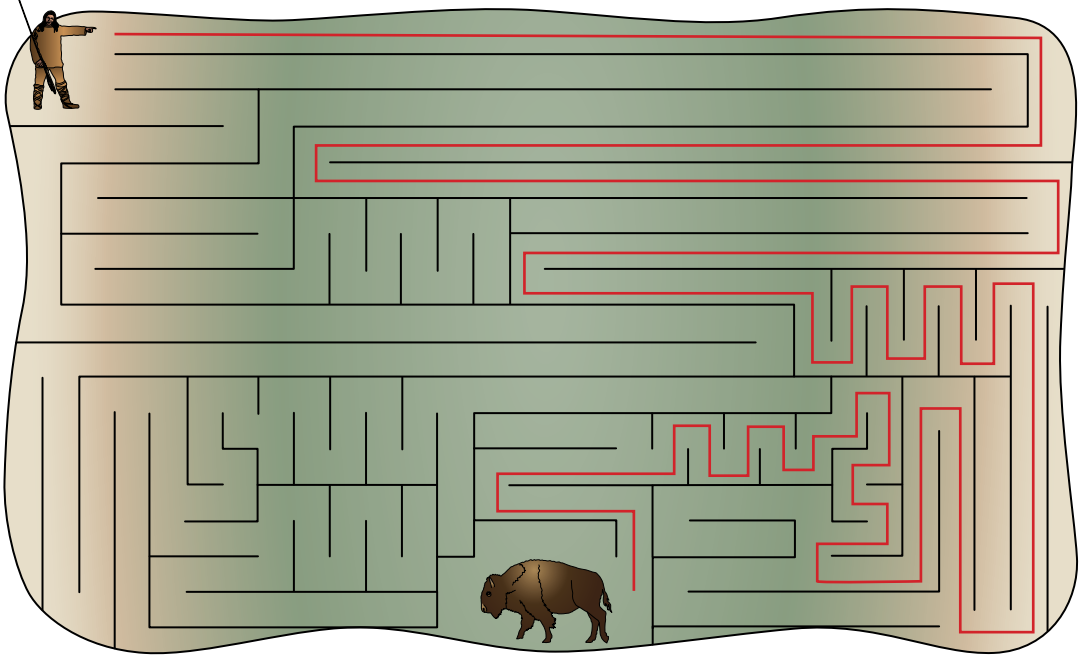
| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | N | A | J | D | Y | F | A | M | X | A | S | M | A | H |
| O | A | P | U | S | R | L | Z | S | C | E | B | C | S | Q |
| O | X | M | N | K | R | I | R | V | R | C | N | U | K | T |
| S | P | A | I | L | E | W | Z | V | A | S | B | N | O | M |
| E | I | Y | P | L | H | K | I | M | O | T | Q | O | O | H |
| F | G | M | E | Z | C | C | A | M | L | D | R | U | K | S |
| O | W | R | R | L | E | S | K | A | D | R | W | Y | B | U |
| O | E | Z | B | B | K | G | S | E | E | G | D | U | U | R |
| T | E | Y | E | T | O | O | R | T | I | U | C | S | I | B |
| O | D | R | R | D | H | C | T | I | N | E | Q | Z | E | E |
| V | R | A | R | A | C | I | C | U | R | R | A | N | T | G |
| Y | U | Y | Y | C | B | X | X | J | L | D | X | R | V | A |
| E | L | D | E | R | B | E | R | R | Y | H | S | Q | G | S |
| N | O | N | I | P | N | V | F | A | Y | Q | W | D | O | W |
| S | N | I | A | T | N | A | L | P | X | Z | K | L | F | E |

### Activity 3, What Am I?

1. SAGEBRUSH, 2. WOOLY MAMMOTH, 3. ATLATL, 4. SABER-TOOTHED CAT, 5. CAMAS

## Hunting and the Native Diet

### Activity 1, Help the Hunter Hit the Target



### Activity 2, Calculating Food Collection

1. 15, 105,  2. 1, 15,  3. 4,  4. 150,  5. 180,  6. 450

## Archaeology in Action

### Activity 3, Ascertain the Age of Artifacts

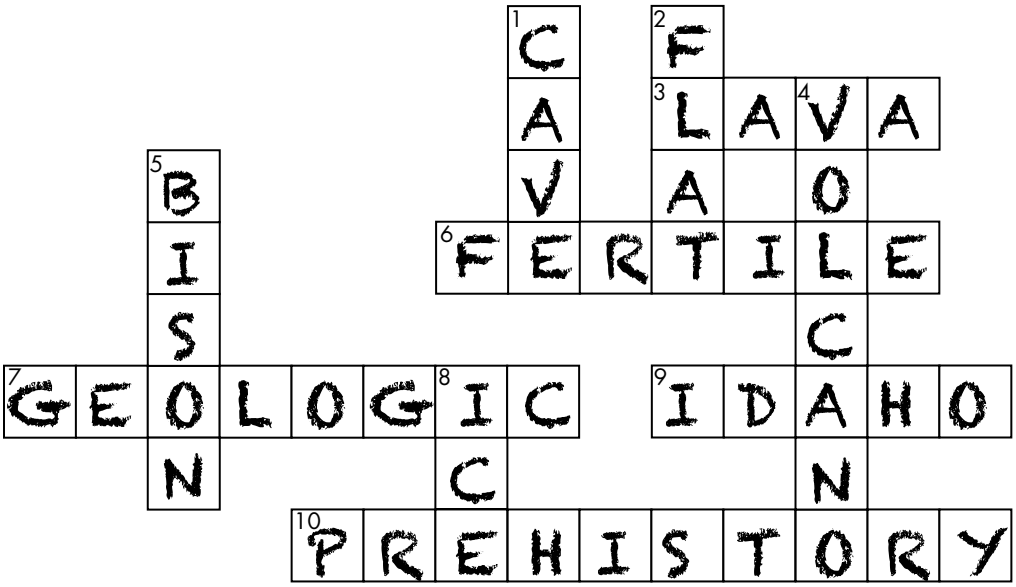
A = 400 – 700 years ago,  B = 2,500 – 4,000 years ago,  C = 6,000 – 10,000 years ago,
D/E = 10,000 – 14,000 years ago

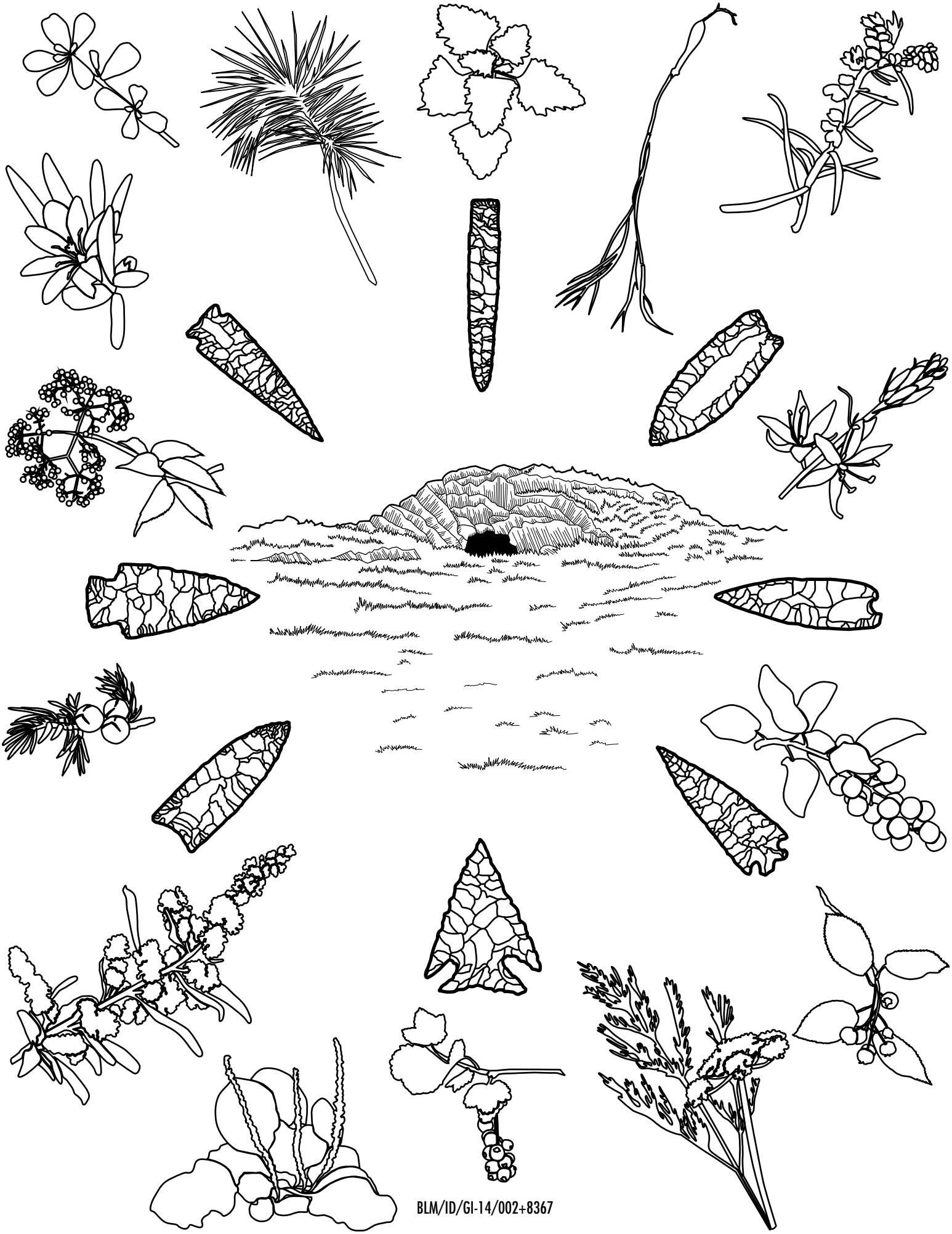
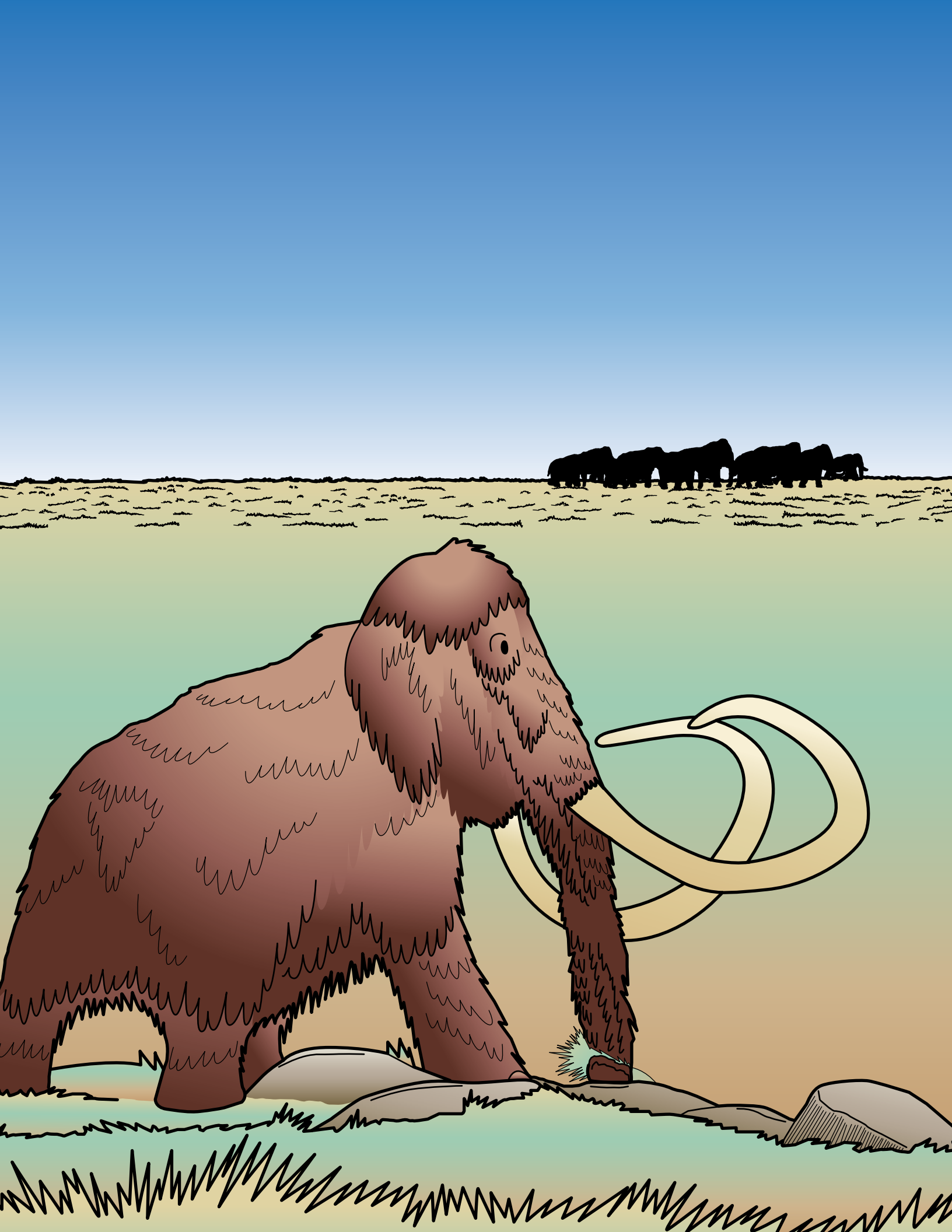
## The Role of Geography, Geology, and Climate

### Activity 1, Decipher the Geographic Code

1. GLACIERS,  2. BERING LAND BRIDGE, MIGRATE,  3. ICE AGE,  4. HABITAT

### Activity 2, Complete the Crossword

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