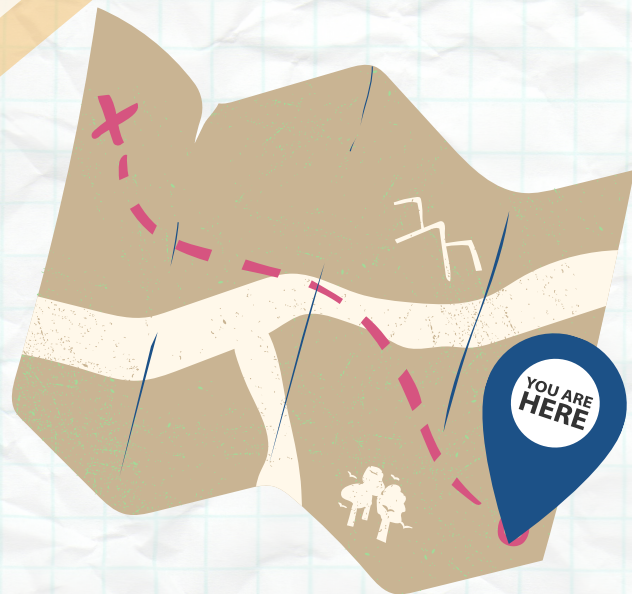




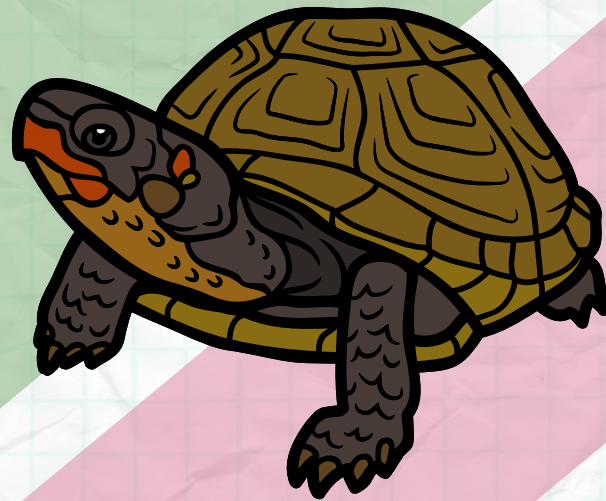
Ohio Valley
Museum of Discovery



STEAM PACK TEACHER GUIDE



athens
COUNTY FOUNDATION





WELCOME!

Welcome to your 1st Grade STEAM Pack for Teachers! STEAM stands for Science, Technology, Engineering, Arts & Humanities, and Math. Since field trips were still limited this year, we are excited to be able to deliver this “traveling” field trip to your school.

Your STEAM Pack is full of the types of activities that we would do in person, divided into a series of 3 lessons.

You can also visit us at

[www.ovmod.org/
athenscosteampacks](http://www.ovmod.org/athenscosteampacks)

to access more resources, watch how-to videos, fill out our survey, and contact us with any questions or comments.

Thank you!

Carolyn, Education
Coordinator
(carolyn@ovmod.org)

Jen, Executive Director
(director@ovmod.org)

BACKGROUND INFORMATION

When we began designing this STEAM Pack, we got excited about the idea of mapping. Not just mapping to find our way around, but mapping as in the way maps can be used to tell stories about people now and people in the past, as well as the ways we can use maps to learn about natural resources, animal and plant habitats, and so much more. Maps can be used to tell stories that help us learn about our world in many different ways.

In this STEAM Pack, we want to share maps and their stories with your students and then expand those stories to the people and animals who have lived in this same place throughout history. We’ve included connections about the resources that we use today, resources that people used in the past, and even resources that animals need to survive.

This STEAM Pack includes three lessons, each with a variety of activities. Woven throughout each of them are concepts relating to maps, time, and natural resources. We hope that you enjoy implementing your STEAM Pack as much as we’ve enjoyed preparing it! We look forward to hearing any feedback you may have for us, and to bringing field trips to your classroom in person once again in the future.

ABOUT US

The Ohio Valley Museum of Discovery (OVMoD) was founded with a mission to inspire confidence in people of all ages to discover the world. The museum provides STEAM - based interactive, interdisciplinary exhibits, programming, and educational events throughout our communities. OVMoD seeks to be a transformative hub for discovery-based, hands-on education, increasing access to and equity in informal learning opportunities by fostering collaborative educational partnerships in Southeast Ohio.

For more information, visit us at www.ovmod.org.

SUMMARY

Your STEAM Pack contains three lessons that follow the 5Es instructional model. Each lesson is aligned to Ohio's Learning Standards for Social Studies (1st Grade), the Next Generation Science Standards, and the Social Justice Standards. Listed in the table below are the 5Es for each lesson, along with a time estimate for the 5E activity. These lessons are designed for flexible implementation. We've also included a script that you can use at your discretion - feel free to use the script as is, build on it, or discard it altogether.

Lesson 1: Here and Now	Time (minutes)	Supplies
ENGAGE: Introduce maps	5-10	ODOT map of the state of Ohio for each student
EXPLORE: Google Earth: Neighborhood Zoom!	10-15	Flash drive or web access
EXPLAIN: Read-aloud of <i>Mattland</i>	15-20	<i>Mattland</i> and toy car
ELABORATE: Create a model of the classroom or playground	35-40	Posterboard, tape, and bag of craft supplies for each group of 4-5 students. Students may find they need scissors, which are not included in the pack.
EVALUATE: Create a map from your model	20-25	Pencil, crayon, and paper for each student.
Lesson 2: The Recent Past	Time (minutes)	Supplies
ENGAGE: Read-aloud of <i>Box Turtle</i>	10-15	<i>Box Turtle</i> picture book
EXPLORE: Discussion of time and place	5-10	Historical images of Athens County on flash drive/website
EXPLAIN: Play "Who Am I?"	15-25	"Who Am I?" game cards, tape, list of animals
ELABORATE: Play "Rabbit Resources"	20-30	Large open space to play, preferably outdoors
EVALUATE: Explore natural resources	20-25	Resource map, brick
Lesson 3: Long long ago	Time (minutes)	Supplies
ENGAGE: Discuss "Long, long ago"	5-15	Binder, flash drive
EXPLORE: Hopewell mounds and artifacts	10-15	Binder, flash drive
EXPLAIN: Resources map and artifacts	10-15	Binder, flash drive, resources map
ELABORATE: Create model artifacts	30-40	Binder, flash drive, air-dry clay, art metal foil sheets, pencil
EVALUATE: Gallery Walk	30-35	Completed artifacts, artifact tags, pencil

LESSON ONE

HERE AND NOW

Content standards:

Ohio's Learning Standards for Social Studies

- Geography strand: 4. Maps can be used to locate and identify places.
- Geography Strand: 5. Places are distinctive because of their physical characteristics (landforms and bodies of water) and human characteristics (structures built by people).

Next Generation Science Standards

- K-2-ETS1-2 Engineering Design: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Learning objectives:

- Students will be able to explain that maps are models of real places that we can see today.
- Students will be able to use a map to tell a story.

Lesson Description:

- Students will begin by exploring what maps are and finding their location in the world. Then, through a connection to literature, students will create their own classroom or playground model and map to share with one another.

Preparation:

- You may wish to go on a nature walk before building your models to add to your supplies. Look for things like sticks, pine cones, seeds, pieces of bark, maybe small interesting rocks. If children accompany you on this part, please encourage them to leave living plants and animals undisturbed.

Lesson 1: Here and Now	Time	Supplies	Preparation
ENGAGE: Introduce maps	5-10 minutes	ODOT map of the state of Ohio for each student	Distribute Ohio maps to all students.
EXPLORE: Google Earth: Neighborhood Zoom!	10-15 minutes	Flash drive or web access	Computer and smartboard/projector set up.
EXPLAIN: Read-aloud of <i>Mattland</i>	15-20 minutes	<i>Mattland</i> and toy car	Prepare for the read-aloud.
ELABORATE: Create a model of the classroom or playground	35-40 minutes	Posterboard, tape, and bag of craft supplies for each group of 4-5 students. Students may find they need scissors, which are not included in the pack.	<ul style="list-style-type: none">• Allow children to make a model of their classroom or playground.• Plan for groups of 3-4 students to work together on a model of the classroom or playground.• Decide where the student groups should work on their models. Tape down 1 posterboard per group in these locations.• Be prepared to take photos of the models.• Keep crayons out for the next activity.
EVALUATE: Create a map from your model	20-25 minutes	Crayon and paper for each student.	Distribute paper to students. Prepare an area to display finished 2D maps.

LESSON ONE

HERE AND NOW

ENGAGE: Introduce maps
(time: 5-10 minutes)

Distribute an Ohio road map to each student and have them open them up. Introduce the topic:
We're going to be talking about, looking at, and making maps.

Discussion questions:

1. ***What are maps? What do you think of when you hear the word "map"?***
 - a. ***Maps show what the Earth's surface looks like. In this map, we're only looking at a small piece of the Earth's surface, the part we call Ohio. On it, you can see things that you might see if you look around outside - rivers and lakes, roads, cities. There are also things you can see on a map that you can't see when you look around - the borders and boundaries of our town, our county, our state, and so on.***
2. ***What places can a map represent? How can we use maps? What stories might maps tell?***
 - a. ***There are lots of ways to use maps, and it's fun to think about them as little stories. We can use them to find our way to or from school - which you can tell a story about. We can use maps to find out where people used to live, or where we can find natural resources - things that people or animals need to survive. These are some of the things we'll be looking at later on in the field trip activities. Maps can be made that represent any place, any time, and anything, and it's this way that we can think of maps as a way to tell a story through images. We will make a map of our classroom or playground, you can map your home, your neighborhood. You can also make maps that represent the places something or someone travels, like following a treasure map. There are so many different things you can tell stories about, just by making or looking at a map.***
3. ***Finally, who makes maps?***
 - a. ***People who make maps are called map-makers or cartographers. A cartographer might draw a map with a pencil and paper, or use computer programs to make maps. They can make maps like this one of Ohio and all its roads, cities, and rivers; or of where different animals and plants live; or of things like how to find buried treasure. There are lots of ways to make maps, and lots of different kinds of maps that can be made.***

In this activity, we're going to spend a little time looking at some maps, then we'll read a story and create our own maps. First, let's think about what a map is. It's a model of where we live. Just like a toy car is a model of a real car: It looks like something we know and see and maybe use a lot, but it's not actually a car. It represents a real car. It's a model of a car. How is a toy car like a real car? How is it different from a real car? Just like you can think of the toy car as representing a real car, the map itself represents a real place.

Introduce the next section: ***Now let's take a few minutes and explore a map of the world and where we live on Google Earth.***

LESSON ONE

HERE AND NOW

EXPLORE: Google Earth: Neighborhood Zoom!
(time: 10-15 minutes)

Share the Google Earth Edpuzzle from our website (www.ovmod.org/athenscosteampacks) or the video on your flash drive to your smartboard or projection screen. There are stops for engagement along the way.

EXPLAIN: Read-aloud of *Mattland*
(time: 15-20 minutes)

Introduce the activity: ***Now that we've looked at some maps of the world, and we've looked at where we live, we can also think about making our own maps. Let's read this story about children who do just that. This is Mattland by Gail Herbert and Hazel Hutchins, and illustrated by Dusan Petricic.***

Read *Mattland*. Discussion questions:

1. Before reading: ***Have you ever moved homes, or traveled to a new place, even something like going to a new park, or a part of town you haven't been to before? I want you to think about how it felt, and think about what it was like to get to know the area and find your way around.***
2. During (in the story, Matt's parents show Matt a map each time they move): ***Have you looked at maps of where you live, or places you've been to? What did you notice? What did you wonder?***
3. During: ***Pay close attention to the illustrations. Do you notice anything changing in them? (Answer - They get more colorful as the book progresses). Why do you think this change is happening?***
4. During: Point out the views of Mattland from above and the naming of certain places.
5. After reading: ***In the story, Matt makes a model of a world he named Mattland. Is this a world he can walk around in? Why not? It's too small. Like a toy car is too small for us to ride in, the model of Mattland is too small to walk around in. It's a model of a world. It can be used to represent something real, as you tell through the names given to different places in Mattland. He started out giving real names to some of the places, like Snake River, and Turtle Lake, but when he got to the Rocky Mountains, Matt decided to name them the Dogtooth mountains, and from then on, he gave everything his own names, as the world became more and more his own.***

Introduce the next section: ***Next, we're going to make our own models of our [classroom or playground].***

LESSON ONE

HERE AND NOW

ELABORATE: Create a model of the classroom or playground
(time: 35-40 minutes total with an optional break after 20 minutes)

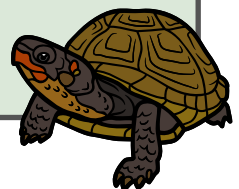
In addition to the bag of craft supplies provided for each group, you may wish to provide some natural supplies or take your class on a nature walk to collect some natural supplies to use in their models, as in *Mattland*. Items such as small sticks, rocks, fuzzy seeds, pine needles, pebbles, pine cones, and so on would be appropriate. Students should be encouraged to not collect any living plants or animals.

If possible, it can be helpful to allow an initial 20 or so minutes to create the basic models, take a break, and then have an opportunity to come back to the project and make changes and updates for another 10-15 minutes. This opportunity to revisit and review what has been worked on is part of the mindset of discovery, and is used in the engineering design process, the writing process, and many other areas of learning.

Introduce the activity: ***Just like the children in Mattland did, we're going to make a model of a place. Our models will be of our [classroom, playground, or other location at school]. Close your eyes, and imagine for a moment that you can fly like a butterfly and look at our [location] from above. What do you see? What are some of the large shapes you see? And now, what details do you notice? What are some of the [location] resources, the things we use in the [location] for our work, play, arts and crafts, games, and so on? Visualize what everything looks like while you're flying like a butterfly, then slowly flutter back down and open your eyes.***

Just like in Mattland, our model is going to be a view of the [location] from above. Your model will be created on one piece of posterboard per group of 3-4 students, so you'll be working together. We have several arts and crafts supplies to create our models in the space of a piece of posterboard. You'll be able to take your time to explore what you create and make changes to it as you develop your finished product. When we're done, we'll share our models with the other groups, and point out some of the places and resources represented in our models.

Divide the students into groups of 3-4, give each group their packet of craft supplies (and nature supplies, if you've collected them), and tape the group's posterboard down on the surface where the model will be built.



LESSON ONE

HERE AND NOW

Provide criteria and constraints for model creation:

- The model should be contained within the boundaries of the posterboard
- Include items to represent the resources in the location being modeled:
 - classroom resources such as tables, chairs, cubbies, art supplies, whiteboard, carpet, books, pencils, markers, etc.
 - playground resources such as play equipment, jump ropes, balls, benches, grassy field, asphalt area, etc.

As the groups begin working on their models, offer prompts if they need some creative assistance: ***Remember what you saw when you were imagining being a butterfly? Think about the different shapes of some of the larger things in our [location]. From your craft supplies, what can you use to represent those larger items? Once you have those items in place, think about the resources we use in our [location]. Where can you find books, art supplies, pencils, balls, jump ropes, lunch bins, or the other things we use every day in our [location]?***

Model ideas

- Popsicle sticks or straws can be boundaries, pathways, or tables
- Pompoms or cotton balls can become people, cushions, or beanbag chairs
- Use an upturned cup and poke a hole in the bottom of it to create a base for a tree or swingset
- Yarn can be balled up to represent shrubs, or stretched out to indicate play area borders

After the initial 20 minutes of work on the models, the students may take a break and return to revisit their designs, and compare them to the real thing:

What needs to change to make your model more like what we see? Take some time to tweak and re-tweak your design. Remember that in Mattland, the different areas on the model are named. Would you like to name the locations on your model?

Once the models are complete, they can be shared and photographed: ***Now we'll walk through and take turns sharing our models with the rest of the class. Each group will give us a short walk-through tour of your model. Tell us the space you're representing with your model, share two or three resources that are represented in your model (and what you used to represent them), and why you chose to include them.***

Take photos of each of the models, and keep the models out for the last part of this activity. After that, supplies used in the models can be returned to the zip top bag, and the posterboards and supplies can be stored and reused for the same activity in the future or repurposed for something else.

LESSON ONE

HERE AND NOW

EVALUATE: Create a map from your model
(time: 20-25 minutes)

Students can find a crayon in their model-making supplies. Give each student a piece of paper and pencil from your pack and introduce the activity: ***Now that we have made these models, each of you will take some time to draw your model. You're going to draw it as you look at it from above, from a butterfly's view. Again, take your time to tweak & re-tweak as needed, and at the end, we'll share our drawings of our models with the class.***

Give the students 5-10 minutes to draw. Encourage them to include as many of the details in the model as they can. When everyone has completed their drawing, provide time to share the drawings: ***Your drawing is not just a drawing of your model, it's also a map of your [location]. Remember the maps we looked at of Ohio, and on Google Earth with the video? You just made your very own map. You are a map-maker, a cartographer! What story does your map tell?***

Allow time for sharing. Stories that maps tell can be as simple as “everyone is sitting at their tables working on drawing their maps” or “all the kids are on the carpet listening to a story.”

Wrap up the mapping activity with connections to the next activity in the STEAMpack: ***You just finished making a map of our [location]. The map you made today does not represent what has always been here.***

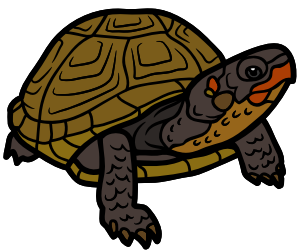
How do you think your playground map could change if. . .

- *We planted a lot of trees in our playground?*
- *We built a new playground, with new equipment?*
- *Our school building was made bigger, and took over the playground?*
- *What about when the playground equipment changes?*

How do you think your classroom map could change if/when. . .

- *A different teacher were in this classroom?*
- *You go on to 2nd grade?*
- *If your classroom were in the gym?*

This is where we live and go to school now. But, people also lived here long ago. What was this spot like then? Was our school here? What was here before your school? We'll think more about that in the next STEAM Pack lesson.



THE RECENT PAST

Content standards:

Ohio's Learning Standards for Social Studies

- History strand: 1. Time can be divided into categories (e.g., months of the year, past, present and future).

Next Generation Science Standards

- K-ESS3-1 Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.

Learning objectives:

- Students will be able to describe that humans and other animals occupied this location in the recent past.
- Students will be able to articulate that animals make use of natural resources for survival.
- Students will be able to explain that humans make use of natural resources for survival and other activities.

Lesson Description:

- After reading a picture book, students will make connections to use of natural resources now and in the recent past. They will engage in two gross-motor activities to explore animals' needs for survival and use of resources.

Preparation:

- You may wish to take your class outdoors or into a large indoor space for the Rabbit Resources game.
- Determine the boundaries of your game play area for Rabbit Resources.

Lesson 2: The Recent Past	Time	Supplies	Preparation
ENGAGE: Read-aloud of <i>Box Turtle</i>	15-20 minutes	<i>Box Turtle</i> picture book	Prepare for the read-aloud.
EXPLORE: Discussion of time and place	10-15 minutes	Historical images of your school or neighborhood.	Computer and smartboard/projector set up.
EXPLAIN: Play "Who Am I?"	15-25 minutes for two rounds of game play	"Who Am I?" game cards, tape, list of animals	Computer and smartboard/projector set up.
ELABORATE: Play "Rabbit Resources"	20-30 minutes for several rounds of game play	Large open space to play, preferably outdoors	Define the boundaries of your play area.
EVALUATE: Explore natural resources	20-25 minutes	Resource map, brick, video about bricks on flash drive/website	Computer and smartboard/projector set up.

LESSON TWO

THE RECENT PAST

ENGAGE: Read-aloud of *Box Turtle*
(time: 15-20 minutes)

Introduce the story: ***We're going to read Box Turtle, written and illustrated by John Himmelman. While we read the story, we're going to notice some of the resources that are mentioned or used in the story or in the illustrations. We're also going to think about how long the turtle is living, so pay attention to those details.***

Begin reading the story, and stop to point out some time- or resource-specific notes in the story (find more in the author's read aloud: <https://www.meigspointnaturecenter.org/box-turtle-read-aloud-by-john-himmelman/>).

Discussion questions:

- 1. What technology - things built by humans - do you see in the background?**
 - a. Early on, there's a horse and buggy driving along a dirt road. Later in the story we see more houses, an electric street lamp, cars. Later, we see a couple of different airplanes. At the end, there's a more modern house with a satellite dish on it).**
- 2. What do you notice about the turtle's shell as it gets older? In the story, we see it side-by-side with a younger turtle (our star's granddaughter), whose shell looks different.**
 - a. The older turtle's shell is smooth, worn down, and the colors are duller. The younger turtle's shell is brighter.**
- 3. Here's something special the author added to the story just for fun: There's a cat near the end, and it's based on the author's cat, Chloe. Cats only live about 12-18 years, but box turtles can live much longer than that.**
- 4. What do you see that the turtle needs during its life?**
 - a. Food - leaves, moths, worms, mushrooms**
 - b. Shelter - its shell acts as protection from a car and from a cat. It also needs protected land to keep its forest from being cut down for more roads and buildings.**
 - c. Water - all living things need water. In the story, we see water in a rainy day puddle.**
- 5. Did you notice how the boy took the wild turtle in as a pet? That's something we shouldn't do - we need to let wild animals stay in the wild. That's their best place to live.**

Introduce the next activity: ***Now let's think a little more about how long the turtle lived.***



LESSON TWO

THE RECENT PAST

EXPLORE: Discussion of time and place
(time: 10-15 minutes)

Discussion questions to talk about time:

1. ***Did anyone figure out how long the turtle lived?***
 - a. ***The turtle has lived for over 100 years, about 130 years. We know this because it's mentioned that the turtle turned 100 in 1992. If it's still alive now, it would be 130 years old this year and would be nearly as old as the oldest box turtle that we have record of: 150 years! Most box turtles only live 30-50 years in the wild, so this one is pretty special.***
2. ***Do you know about how long most people live? Do you know anyone as old as the turtle? (Or almost as old as the turtle?)***
 - a. ***We know the turtle has lived for over 100 years and you have lived for a short part of that time. You know people who have lived for a longer part of that time. People you know might have known people who were alive when the turtle was born. That's pretty interesting! We're going to focus on this time period, the time when the turtle was alive and the time when people you know (and their people) have been alive.***

Share some historical images of our county and various towns and cities from within the last 100-200 years (from the binder or on the flash drive/website).

Let's take a look at some pictures of what Athens county, and some of the towns in our county, looked like when the turtle was young. This is a time before you were born, but there are still people alive who remember this time, or they knew people who remembered this time. It feels like it was such a long time ago! But the turtle was alive when this happened - there are people alive now who remember when this happened. What do you notice in the photos of our school neighborhood? What do you wonder about what you see?

Spend time exploring the historical images and seeing what you can identify. If you have time, encourage students to share stories they've heard from people who may have been alive at this time. Please note that these images were kindly provided by the Southeast Ohio History Center, and many more such images and maps may be found there.

When everyone is finished exploring the historical images, return to the reminder of resources to lead into the next activity: ***The turtle lived such a long time. Who remembers what resources it needed throughout its life to survive?*** The basic resources all living things need are food, shelter, and water.

LESSON TWO

THE RECENT PAST

EXPLAIN: Play "Who Am I?" Game
(time: 15-25 minutes)

Introduce the game with some reminders about resources that are used in the story:

When we read Box Turtle, do you remember what resources the turtle in the story needed? You saw it eating (what do turtles eat?), you saw it escaping danger because its shell protected it (where was it living?). What else do box turtles need to live? Box turtles, like all living things, need food, water, and shelter to survive.

Get out the "Who Am I?" animal cards from the STEAMpack. On the smartboard, share the graphic of all of the animals listed on the cards. Explain how the game will work:

We will begin with half of the class wearing one of these animal cards on their backs (hold up one card as an example). Anyone who is wearing an animal card has to figure out what animal they are. You can get clues about what animal you are by asking anyone who does not have an animal card. Ask questions about what food or shelter your animal uses. Use the list of all the animals and their needs on the smart board. When everyone has figured out their animal, we'll switch.




Split the class into 2 groups, A and B. You will play the game in two rounds - Group A will guess first, and Group B will guess in the second round. Shuffle the cards, and count out enough for Group A. Set the rest of the cards aside. Put a piece of tape on the back of each of the animal cards you counted out for Group A, and tape them to the backs of students in Group A.

When everyone is ready, tell them they may begin trying to guess what their animal is by asking questions about their animal. As students try to figure out their animal, encourage them to focus on resources, i.e., where does my animal live? What does it eat? For anyone who is stumped, they can ask yes or no questions like "Do I fly?" "Do I walk on two legs?" and so on.

Once everyone in Group A has guessed their animal, collect the cards, remove the tape, shuffle with the additional cards, and count out and tape enough for Group B. Repeat the guessing process.

LESSON TWO

THE RECENT PAST

 opossum	Shelter: Burrow Food: Dead animals, eggs, frogs, fruit, grain (including dog food, cat food, and human food)	 garden spider	Shelter: Webs, built in areas near open sunny fields, or in tall vegetation Food: Insects
 deer	Shelter: Forest and fields Food: Shoots, leaves, grasses, fruit, acorns, corn	 ladybug	Shelter: In cracks in trees, or buildings Food: Aphids, moth larvae and eggs
 squirrel	Shelter: Nest in a tree Food: Nuts and seeds	 monarch butterfly	Shelter: Adults - trees. Larvae (caterpillars) - milkweed Food: Milkweed
 bat	Shelter: Cave Food: Insects, nectar, pollen	 honey bee	Shelter: Hive Food: Pollen and nectar
 box turtle	Shelter: Open woods, near fresh water Food: Insects, worms, fruits, vegetables, leaves	 cardinal	Shelter: Nest in a tree Food: Fruits and seeds
 frog	Shelter: Ponds, or trees, depending on the species Food: Insects, worms, snails, slugs	 bluegill	Shelter: Shallow water of a lake or pond, with lots of plants or fallen logs Food: Aquatic (water) insect larvae, shrimp, crawdads, worms, snail
 salamander	Shelter: Under logs or bark, in damp leaves, under rocks in creeks Food: Insects, worms	 chickadee	Shelter: Nest in a hole in a tree Food: Insects (especially caterpillars), seeds, and berries
 hognose snake	Shelter: Woods with sandy soil, fields, and farmland Food: Rodents and lizards	 bass	Shelter: Nest at the bottom of a lake or pond, where there is sand or muck Food: Small fish, worms, crawdads, frogs, salamanders

THE RECENT PAST

When both rounds of the game are complete, ask, ***“Were you surprised to learn about what resources your animal uses? What did you notice? What did you wonder?”*** and introduce the next activity: ***We’re going to play another game about resources now.***

ELABORATE: Play “Rabbit Resources”
(time: 20-30 minutes)

This activity is best completed outdoors, but a large indoor space will also work well. It is a running and hopping game about rabbits and their resources, adapted from the Project Wild game “Oh Deer.” Be sure to define the boundaries of your play area before beginning the game.

Introduce the game and describe how it works, then assign your students’ roles and begin the game:

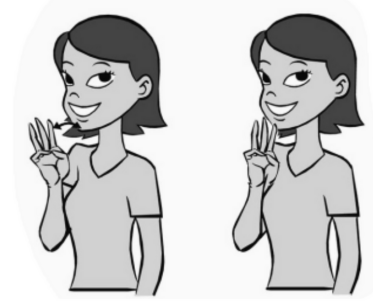
- 1. We’re going to play a game about animals and the resources they use. Based on the “Who Am I” game we just played, what resources do you think the rabbits will need?***
 - a. Rabbits, and all animals, including humans, need food, water, and shelter to survive.***
- 2. So for this game, we’re going to pretend to be rabbits or resources. Before we begin, I will assign who is a rabbit, and who is food, water, or shelter. We’ll play several rounds, so everyone will have a turn being a rabbit or a resource. When we start the game, I’ll count to ten while all of the resources find a place to be, here in our play area [define the boundaries]. You don’t have to hide; resources are often out in the open, but sometimes they can be a little tricky to find. Maybe you’re partly hidden, or maybe you’re with a group of similar resources (if you’re water, for example, maybe you group together with other “waters” as if you’re a pond). The “rabbits” will close their eyes while the resources find their places. When I reach my count of ten, I will tell all of the “rabbits” to open their eyes, and hop like a rabbit to find their resources. Now this is the tricky part: Each rabbit has to collect one of every resource. When the rabbits find water, you hold hands or link arms to take your water with you while you find your food, and your shelter. It doesn’t matter what order you find them in, you just have to try to find all three. Once you’ve found them all, bring them back to our starting point. If you can’t find all three and there are no more resources, come back to our starting point and we’ll start a new round of the game.***

Divide the students into two groups. Group A should consist of about one-third of your students. This group will be rabbits at the beginning of the game. Group B, about two-thirds of your students, will be the resources - water, food, or shelter. In Group B, count students off by 3s and assign the 1s to be **food**, the 2s to be **water**, and the 3s to be **shelter**. They will indicate which resource they are by using American Sign Language. They must remain in this role during the first round of game play.

LESSON TWO

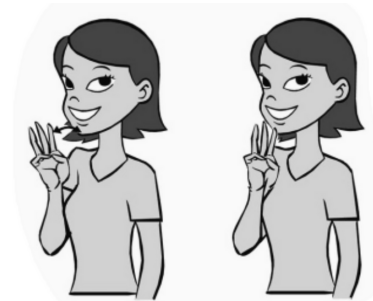
THE RECENT PAST

To start off our game, students in Group B will be our resources. All of the 1s will be the resource food. This is the sign for food or eat:

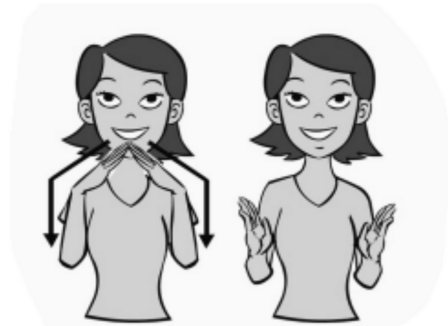


During the game, you'll use the sign for food for as long as you are pretending to be that resource.

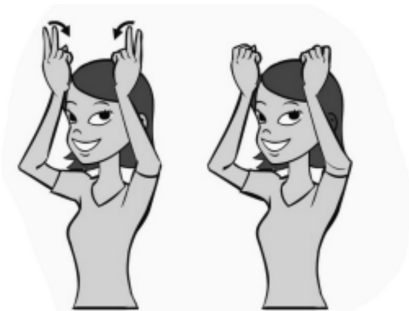
All 2s will be the resource water. This is the sign for water:



And all the 3s will be the resource shelter. This is the sign for house, which is a type of shelter, and a way you might describe many animal homes:



Everyone in Group A will be a rabbit to start us off. This is the sign for rabbit:



Remember to keep using your sign to show what resource you are during the whole game.

Now, all of the rabbits will come to the middle of our playing area and close their eyes. While their eyes are closed, I will count to ten, and the resources will scatter around this area [define the boundaries of your playing area]. When I get to ten, I will tell the rabbits to hop away to find their resources!

LESSON TWO

THE RECENT PAST

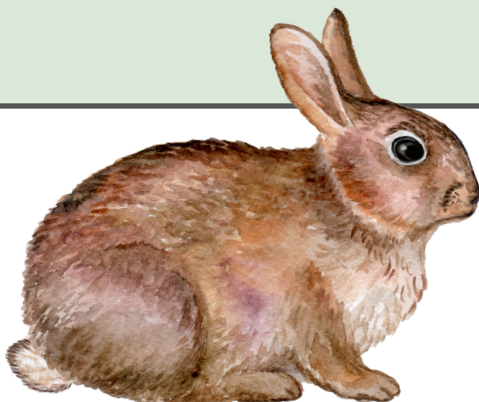
Let's see which rabbits were able to collect all three of their resources, their food, water, and shelter. Great, you survived! Now there are more rabbits! For our next round, every single one of you will be rabbits, even if you were a resource before. Remember, this is the sign for rabbits. Remember how rabbits move?

Now for those of you rabbits who did NOT find all 3 of your resources - sorry, you did not survive. Now all of you will be resources for this next round.

Assign resources and teach signs as above. Repeat for as many cycles as you wish, or until every student has had an opportunity to be a rabbit. When you are finished, gather everyone together.

Discussion questions:

- 1. What did you notice about how many rabbits we had, and whether or not they were able to find all their resources?***
- 2. What happened in the second round? Third round? Etc.***
- 3. What was your favorite part - did you like being a rabbit or a resource?***
- 4. Now what about humans? Do we need the same resources?***
 - a. Yes, we also need food, water, and shelter.***
- 5. What about some of our other resources - what other resources do we use? We thought about some of our classroom/playground resources when we made our models and maps. What resources did we include in those?***
- 6. So we have the same basic needs as other animals, food, water, and shelter, but we also make use of other resources so we can do things like read and write, make artwork, play music, and so on. Think back to the models and maps that you made - those included lots of our classroom/playground resources, beyond food, water, and shelter. We'll be looking at some of these kinds of other resources in the next section.***



LESSON TWO

THE RECENT PAST

EVALUATE: Explore natural resources
(time: 20-25 minutes)

Introduce the activity:

We've been thinking and talking about resources, but let's go back and think about our map again. We made maps that showed where our classroom/playground resources are found. Let's look at another map of Ohio that shows some of the natural resources (resources that come directly from nature) and take a look at where those are found.

Explore the Ohio resources map in your folder, flash drive, or online. Discussion questions/topics:

Let's look at what resources we see on this map, and think about where resources we use come from. These natural resources are resources that we can use now, but they were also around for people to use in the past. People who lived when the box turtle was hatched used these same resources that we use today. Looking at the map, what do we see?

- 1. There's water - rivers and creeks. What do we need water for?***
 - a. To drink. To wash. We can also use water for power, like a mill, or to make electricity.***
- 2. There's lots of trees and forests - we use the wood in trees for things.***
 - a. For building. For fires and keeping warm. For our shelter.***
- 3. Do you see the deer and the plants? These represent food. So we have water, shelter, and food. What else do we see?***
- 4. What about the deer's antlers, or fur, or bones? Does anyone collect antlers? We might use them for artwork.***
- 5. What about these stones? There's slate and flint on this map. We can use stones for building, that's shelter again, and for making walkways and roads, what else? Slate might have been used in schools when the box turtle was hatched, perhaps as small handheld chalkboards or larger chalkboards on the wall. Slate has also been used as roofing material. Many of the slate roofs you see today are as old as the turtle! Flint is our state gemstone, and can be carved or knapped to sharp points. Has anyone ever seen an "arrowhead" or spear points? Those are made of flint.***
- 6. And look at this - there's something on this map that looks like it comes from outside of Ohio. This is copper, and people brought it to Ohio from what is now Minnesota and Wisconsin.***
- 7. Finally, there is also a lot of clay in Ohio. Clay comes from the soil, and we have a lot of it in soils around here. Clay is a resource that has been used to make something else (something that we see all the time.) Thinking back to the story of the Box Turtle - it lived for a long time, longer than some people. But, we probably know people who knew people who were alive when the box turtle hatched. That's around the time that bricks were being made out of clay in this part of Ohio. Now look what we have here - a brick that was made out of clay, in this part of Ohio. Now, let's explore it:***

THE RECENT PAST

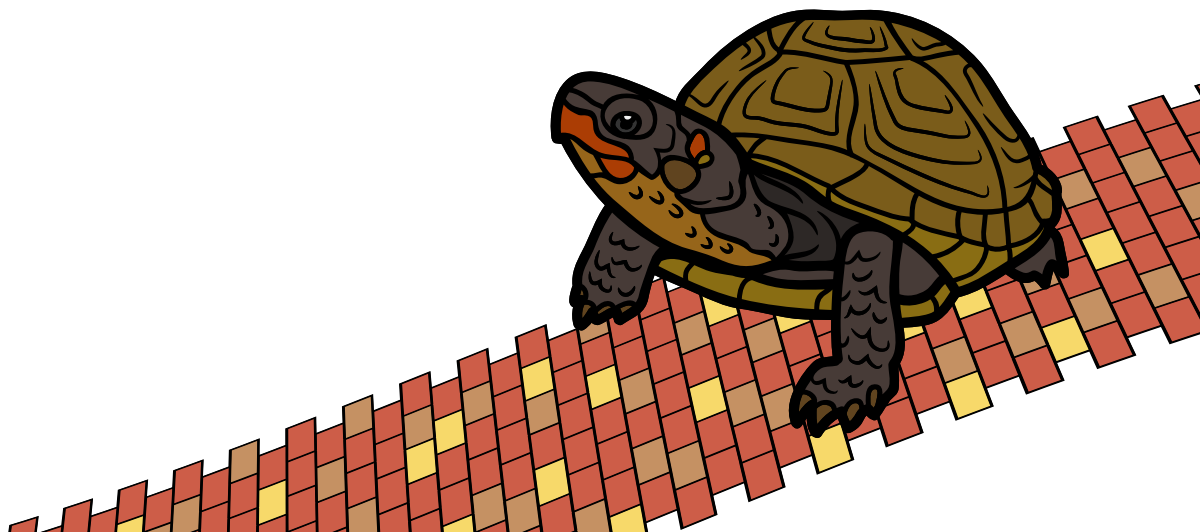
Examine your local brick. Remember, this brick is heavy, and has been outdoors so there may be some mud or moss on it. You might pass the brick around carefully, or leave it on a tabletop and allow students to come and explore it in small groups.

As everyone is taking their opportunity to examine the brick, you can use the following discussion questions. You may wish to have students draw or write about their observations of the brick, in part to prepare for the final activity:

1. What do you notice about the brick's shape, color, size, and texture?
2. What details are important about it?
3. What do you think - who used this brick, and for what?
4. What do you think this brick is made from? What can it be used for?
5. Have you ever seen anything that looks like this? Where? What was it?
6. Do you ever find things from the past or in your home that you don't know what they are for?
7. Have you ever found or dug something up that was made by people long ago?

Wrap up and introduce the next activity:

So far, we've talked about models and maps, we've thought about different resources that we use, and we've talked about people now and people from a long time ago. Next, we're going to keep thinking about maps and resources, but we're going to think about people who lived a very, VERY long time ago.



LESSON THREE

LONG, LONG AGO

Content standards:

Ohio's Learning Standards for Social Studies

- History Strand: 1. Time can be divided into categories (e.g., months of the year, past, present and future).
- History Strand: 2. Photographs, letters, artifacts and books can be used to learn about the past.
- Geography Strand: 7. Diverse cultural practices address basic human needs in various ways and may change over time
- Economics Strand: 12. People produce and consume goods and services in the community
- Economics Strand: 13. People trade to obtain goods and services they want.

Learning for Justice Standards

- Diversity 10 (DI.K-2.10): I find it interesting that groups of people believe different things and live their daily lives in different ways.

Learning objectives:

- Students will be able to describe life long ago.
- Students will be able to explain how archaeologists and other scientists use artifacts to learn about people who lived long ago.
- Students will be able to articulate how people who lived in our region long ago were different from and similar to people today.

Lesson Description:

- Students will explore images of Adena/Hopewell mounds and artifacts found at mound sites. They will make connections with these artifacts and natural resources, and then create their own artifacts out of similar resources.

Lesson 3: Long long ago	Time	Supplies	Preparation
ENGAGE: Discuss “Long, long ago”	5-15 minutes	Binder, flash drive	Computer and smartboard/projector set up.
EXPLORE: Hopewell mounds and artifacts	10-15 minutes	Binder, flash drive	Computer and smartboard/projector set up.
EXPLAIN: Resources map and artifacts	10-15 minutes	Binder, flash drive, resources map	Computer and smartboard/projector set up.
ELABORATE: Create model artifacts	30-35 minutes	Binder, flash drive, air-dry clay, art metal foil sheets, pencil	Divide the air-dry clay into 2-ounce pieces and distribute to each student. Distribute art metal foil sheet and pencil to each student.
EVALUATE: Gallery Walk	30-35 minutes	Completed artifacts, artifact tags, pencil	Consider how you would like to display your class's artifacts. It might be a brief in-class-only display; or you may choose to do walk-throughs of your fellow first-grade classrooms to share with each other; or set up a display in some way that the entire school may be able to view the artwork with the artifact tags.

Preparation:

- Consider how you would like to share your class's artifacts as you complete the final activity. It might be a brief display in-class only during the final activity; or you may choose to do walk-throughs of your fellow first-grade classrooms to share with each other; or set up a display in some way that the entire school may be able to view the artwork with the artifact tags.

LESSON THREE

LONG, LONG AGO

ENGAGE: Discuss “long, long ago”
(time: 5-15 minutes)

Introduce the idea that there were people who lived so long ago that no one alive now knew them. Share maps of where they lived and images of the mounds they built that exist in some form today. These are in the binder in your pack and on the flash drive/website.

We understand what a map of where we live now might look like. But let’s think about people who lived long, long ago. We live here now, but there were people who lived in this same place before you were born and lived here. Maybe some of your teachers, family members, or other adults in your life lived here before you lived here. They might tell you stories about what our area was like before you were here. It was a little bit different, and you can see those differences on maps.

But, what about long, long ago, before anyone you knew was around? Did you know there were people who lived here then too? Just like maps tell us what this area was like before you lived here, (and when adults you know lived here), maps also tell us about people who lived here a very long time ago.

These maps look very different from maps of right now, because humans lived very differently on the land. They didn’t build roads out of asphalt and concrete like we do, and their buildings were different from ours - but they still provided that important resource, shelter. One thing that people built a long, long time ago was mounds. Lots of huge earthen mounds were built, and just like we build buildings for different reasons and uses, mounds were built for different reasons and uses.

Have you seen or heard about any mounds in our area?

Share images of maps and mounds from the flash drive/website.

LESSON THREE

LONG, LONG AGO

The mounds have been here for thousands of years, and now that we live here, many people have dug up or plowed or bulldozed mounds. Archaeologists have excavated mounds - they dig carefully and slowly to find things buried in the mounds. When we find things that were buried in the mounds and pay attention to where they were found, we learn clues about what life was like for the people who built those mounds. Some mounds haven't been excavated and are just like they were when people long ago created them. Have you ever seen a mound in our region?

It's interesting to think about what it might be like if you lived long, long ago and lived life the way people did then. What do you think their lives were like? How were they the same or different from our lives? What kind of toys would you play with if you lived then? What would you wear?

Their lives were very different from our lives, but they were still people who did people things. They ate meals together, they made artwork, they played games, they learned from each other, they loved their families and friends. They shared and traded supplies with each other. And we know they gathered in large groups, sometimes, for holidays or religious celebrations. We're going to focus now on some of the artwork and tools that they made, because that's something we've been able to learn about by excavating the mounds.

EXPLORE: Hopewell mounds and artifacts
(time: 10-15 minutes)

Look at and explore models or images of artifacts from the Hopewell cultures, dating to approximately 2000 years ago.

Now, we have these photos and maps of where the mounds were in Ohio and what they looked like. In some places, we can go see the mounds (or re-creations of them). If you live in or have been to The Plains, have you seen the Hartman Mound? What do you know about that mound? Scientists estimate the Hartman mound is between 2000-3000 years old.

Share the images of photos and maps of mounds in Ohio. Find these in the binder to pass around to students, and in a slideshow on your flash drive.

Let's look at some of these photos of mounds and maps of where they were. As you can see, they were all over Ohio! Has anyone heard of Serpent Mound? What about the Newark Earthworks? Or the Hopewell Mound Group? Our region is special because it has the second largest grouping of mounds in the whole state of Ohio! Others?

LESSON THREE

LONG, LONG AGO

Share the images of artifacts that have been found at mound sites (these are also in the binder and slideshow).

We also have pictures of things that have been found in the mounds. These are things that people made when they lived a long, long time ago. The people we're talking about now lived here before you were born and also way before the box turtle hatched - so the people who built the mounds lived here before you lived here, and before anyone you know or remember lived here.

All of these pictures are of things made by people long, long ago - nearly 2000 years ago! What do you see? What do you notice? We have a pottery vessel, flint disks, a copper raven or crow figure, and a woodpecker carved out of antler. We call these "artifacts," because we use them to learn about people from a different time, and they are sometimes displayed in history museums. You can see lots more, and learn all about them, over at the Southeast Ohio History Center museum in downtown Athens.

Just like when we explored the brick, we can ask the same questions:

- 1. What do you notice about each artifact's shape, color, size, and texture?*
- 2. What details are important about it?*
- 3. What do you think - who used this artifact, and for what?*
- 4. What do you think this artifact is made from? What could it be used for?*
- 5. Have you ever seen anything that looks like this? Where? What was it?*

EXPLAIN: Resources map and artifacts
(time: 10-15 minutes)

Examine the resources map and discuss what resources were used to make which items.

Remember, all along we've been using maps to tell stories. We've learned about maps - how to read them, and we understand that they represent a place. They can represent a place now (where we live) or the same place long ago (when other people lived in this same place).

But they can also be used to represent (or tell stories about) other things, the different resources that we can use to create things. Now we're exploring stories about the earth's resources, and people who used the earth's resources in the past.

LESSON THREE

LONG, LONG AGO

Let's go back to that resources map and use it while we're thinking about these pictures of artifacts. Remember looking at this map when we first looked at the brick? We can use the map to think about what resources were used to make each of the artifacts.

1. **So, which artifact is made out of the resource clay?**
 - a. **Pottery vessel**
2. **What about stone?**
 - a. **Flint disks**
3. **Metal? Remember, this metal, copper, was brought to Ohio by people who lived far away. So it's a natural resource that came from another place, but was used in Ohio.**
 - a. **This interesting crow or raven shape, that looks like it could have been a decoration for something.**
4. **What other natural resource was used?**
 - a. **An antler was carved to make an image of a woodpecker.**

ELABORATE: Create model artifacts
(time: 20-25 minutes for pottery, 10-15 minutes for metal)

Display an image of pottery and introduce the activity: **When we look at the pictures of the pottery (in the binder, or here on the screen), what do we figure out it was made of? Have you ever made anything that's kind of like pottery? What did you make it from? We are going to make some pottery today!**

Display an image of a copper artifact: **Now let's look at this metal object. What do you notice about it? What shape is it? What do you think it could be used for, or represent? Some archeologists think that metal objects like this might have been worn as earspools, headdresses, buttons, tinklers (things to wear that would make rattling sounds).**

Copper was a metal that was used a lot to make these decorations, and they were usually worn for ceremonies or religious celebrations by the people who lived long, long ago. This picture of a copper artifact probably represents a crow or raven. To make this, and other things like it, copper was folded, hammered, drilled, or rolled. They used tools made out of other resources, especially stone and bone.

LESSON THREE

LONG, LONG AGO

Now we have some clay, and some metal, that we're going to use to make useful or artistic artifacts of our own:

1. Pottery.

Each student should receive a small piece of air-dry clay. You have enough clay for each student to use about 2 ounces for their own small pottery piece.

Introduce some ideas for working with the clay:

You might start out by rolling the clay into a ball with your hands and then you can push your thumbs into the middle of the clay to start making a cup or bowl shape. Or, you could roll your clay into a long rope, and then coil it into a cup or bowl shape and smooth the edges together. These are some ways that people have made pottery for a very long time, and you get to continue that tradition!

Find the pottery-making video on our website/your flash drive to show the students for more direction. Remember that the pieces will need to dry for 24-48 hours before they can be completed and taken home.

1. Metal artwork:

Each student should receive a sheet of art metal foil and have a pencil and paper handy. Instead of rolling, cutting, or hammering, students can draw a design with a pencil on the sheet:

Introduce the idea of preparing a design for drawing on the foil.

Take a moment to think about something that's important to you. This can be a person, animal, object, or even an activity - such as something you do to celebrate a holiday. Now, you can sketch that out on a piece of paper if you would like to, or you can draw directly on your foil sheet. Your pencil will dig into the foil, and make grooves in it, instead of drawing on it. This is what your finished artwork will look like - the lines of your drawing (of something important to you) show up as these grooves in the metal.

Allow time for students to think of what they'd like to represent, and then to complete their work. As they are working:

So think about it - there were people who lived a very, very long time ago, right here in Ohio. They created artwork out of metal to represent something important to them, which is exactly what you're doing now! Even though we live very far apart in time, we're in the same place doing some very similar activities. When our two artifacts, the clay and the foil sheet, are completed, we will display them with artifact tags - the way we might see them displayed in a museum (and the way they are displayed in the artifact photographs we looked at earlier)!

LESSON THREE

LONG, LONG AGO

EVALUATE: Gallery Walk
(time: 30-35 minutes)

Consider how you would like to display your class's artifacts. It might be a brief in-class-only display; or you may choose to do walk-throughs of your fellow first-grade classrooms to share with each other; or set up a display in some way that the entire school may be able to view the artwork with the artifact tags.

After the clay has been molded, and the foil sheets are completed, allow some time for students to consider how they would use their "artifacts." If you wish, ask the students to write a story, poem, or song about their artifacts and share in that way. Otherwise, use a simple show-and-tell style sharing.

Introduce the final activity: ***Now we're going to share our artifacts with each other. Take some time to think about how you would use your artifact. Is your pottery for everyday use, or for some special occasion? What about your metal artwork? Is it part of a ceremonial costume or celebration? Or would you use it to label an entrance to a building? Or something else? We're going to make labels for our artifacts and display them in a gallery walk, so everyone has a chance to see everyone else's work, and we will share some details about our artifacts.***

Hand out the "artifact tags." ***This is your artifact tag. Label it with your name, today's date, and then in the middle name each of your artifacts (for example, "soup bowl") and then add what is was made out of, for example, clay.***

Name
Date
NAME OF CLAY ARTIFACT
Resource used
NAME OF METAL ARTIFACT
Resource used

Set up your artifact display, and walk the students through each piece, allowing everyone in turn to tell the story of their artifact. When your final gallery walk and/or artifact display is complete, send the artifacts home with your students.



THANK YOU!

We truly appreciate the opportunity to be a part of your classroom with OVMoD's STEAM Packs! We hope you enjoy these lessons and learn something new. Our team is looking forward to the day we can welcome you into our new museum building at 67 Columbus Road in Athens. Until then, please visit our website and the STEAM Packs page

www.ovmod.org/athenscosteampacks

to find more resources, watch how-to videos, fill out our survey, and contact us with any questions or comments.

We appreciate your feedback and photos!

carolyn@ovmod.org
director@ovmod.org



<https://athensfoundation.org>

IN APPRECIATION

STEAM Packs are made possible by generous funding from the Athens County Foundation. Many thanks as well to the Board of Directors of the Ohio Valley Museum of Discovery and all the wonderful volunteers who gave their time to prepare the kits, including HCOM medical students for game testing and packing.

We are grateful to the Southeast Ohio History Center for supplying the historical photographs and images. You can find more information about visits and field trips to the History Center by contacting Jessica Cyders (jessica@athenshistory.org) or by visiting their website: <https://athenshistory.org>



OHIO VALLEY MUSEUM OF DISCOVERY

OVMoD has lots of exciting summer programs coming up, including Summer STEAM Discovery Camp, library visits, Discovery Lab makerspace programs, and more! Scholarships for summer camp are available now - see our website for details. You can also sign up to receive our monthly newsletter, visit us on social media, and keep up to date with our upcoming building renovations.

Discover the world you live in...

For more information, visit us at www.ovmod.org.