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Great Salt Lake & You

K-6 STUDY GUIDE

by Jaimi Butler
and Sharah Meservy

Part of Utah Division of Arts & Museums
Art Education emphasis on Great Salt Lake
and Salt Lake City Arts Council's
Wake the Great Salt Lake initiative

PLAN-B
THEATRE

It's Okay to be Salty!

Great Salt Lake is one of the most diverse and important ecosystems of the world and it's right here in our state! 12 million birds and over 2.5 million humans rely on this ecosystem. It is home to our state crustacean (the brine shrimp) and our state bird (the California gull). We have a duty to care for and protect this amazing and unique salty lake.



The Great Great Salt Lake Monster Mystery

by Dr. Bonnie K. Baxter & Jaimi Butler

Illustrated by Arly Landry



A picture book for grades K-6 that sparks wonder and curiosity about our inland sea inspired by the authors' experiences studying the Great Salt Lake.

A group of kids searching for the fabled Great Salt Lake Monster encounter tiny baby monsters (brine flies), monster food (brine shrimp), giant furry creatures (bison), the ridges of the monster's back (microbialites), pooids, and much more!

Our videobook version is specifically designed for classroom use. Featuring ASL interpretation, audio description, and open captions.

A hard copy of *The Great Great Salt Lake Monster Mystery* will be gifted to each elementary school in Utah as part of Plan-B Theatre's upcoming Free Elementary School Tour of Elaine Jarvik's EB AND FLO during the 2025/26 school year (grades K-3).

[Watch the Accessible Videobook](#)



Theme 1: Great Salt Lake is diverse.

Great Salt Lake is one of the most diverse places on the planet. Everything—from the birds to the bugs they eat to the microbes—is diverse! We are also a complex and varied set of humans that live along the shores and impact the ecosystem.

Microenvironments

A microenvironment is a small area with distinct conditions that set it apart from the wider habitat. Great Salt Lake's salt content creates microenvironments from freshwater to super hypersaline (extremely salty!) and everything in between. Use the [Meet the Microenvironments](#) webpage to explore the microenvironments of the lake.

Print out copies of the map on the next page for students. As you research the salt content of each microenvironment, color in the map using dark colors for higher salt content and lighter colors for fresh water.



More Resources on Salinity

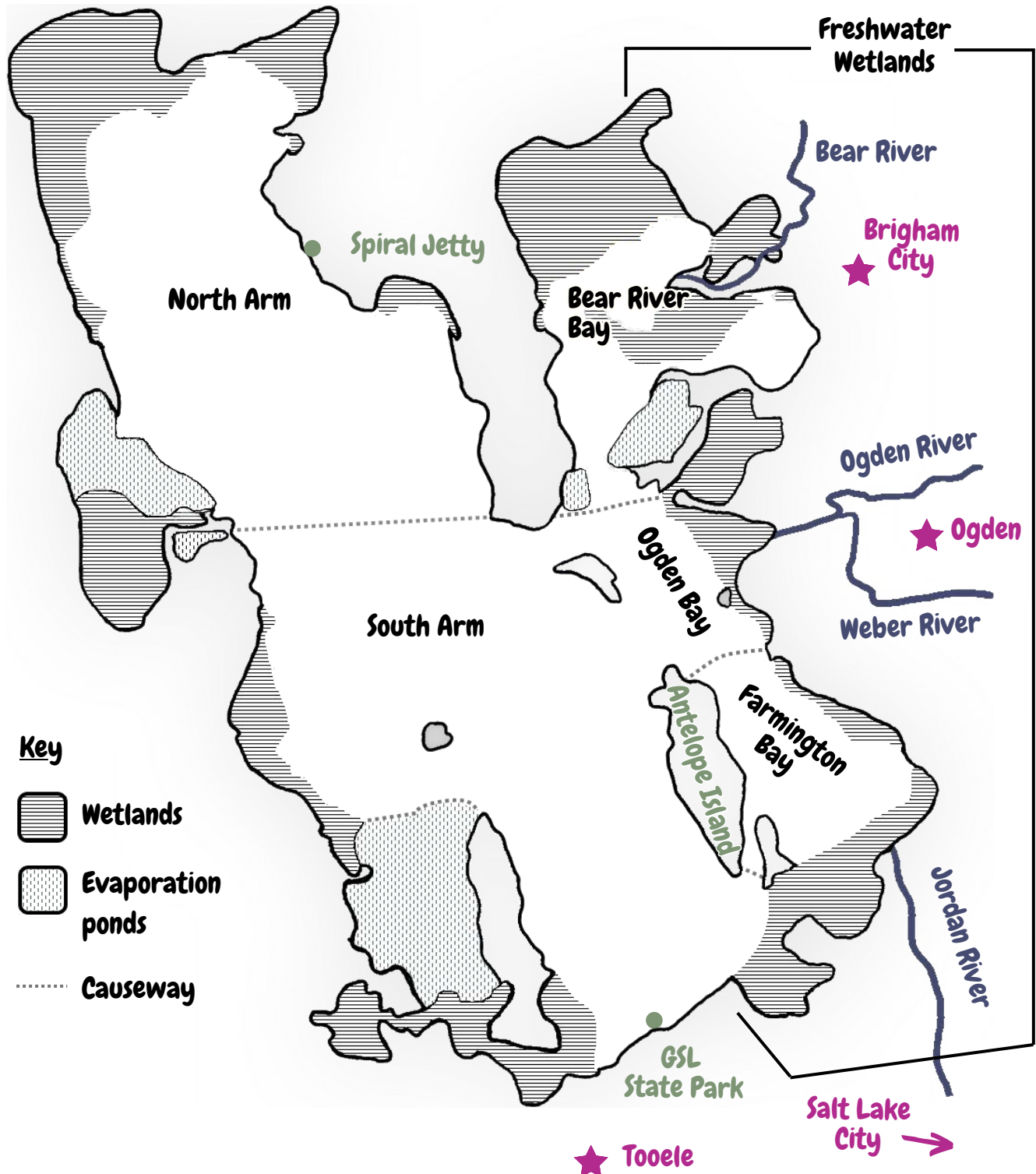
- [Tasting the Great Salt Lake Lesson Plan](#) written by Bridger Layton in partnership with The Great Salt Lake Institute at Westminster College.
- [Great Salt Lake is Salty Lesson Plan](#) written by Megan Black in partnership with The Great Salt Lake Institute at Westminster College (You'll find the PowerPoint and student materials to support this lesson plan on [this page](#).)
- [Find current information on Great Salt Lake's water and salinity.](#)

Name: _____

Date: _____

Great Salt Lake Microenvironments

Great Salt Lake is made up of **microenvironments** that have different **salinity**. Different things live in each **microenvironment**. Color in the map as you learn about each part of the lake.



Exploring Ecosystems

Great Salt Lake is one of the most diverse places on earth! Because different parts of the lake have different salinity (saltiness), different living things thrive there. Use the following resources to explore three different habitats.

Habitat Dioramas

Print and color the dioramas on the following pages to learn about what you can see if you visit the lake. Pages 9-14 should be printed double-sided.

Slides

As students color their dioramas, use this slide deck on a projector or smart board to learn more about the living things (and a few nonliving things) depicted in the dioramas. You won't be able to cover everything, so let your students' curiosity guide your classroom discussion.

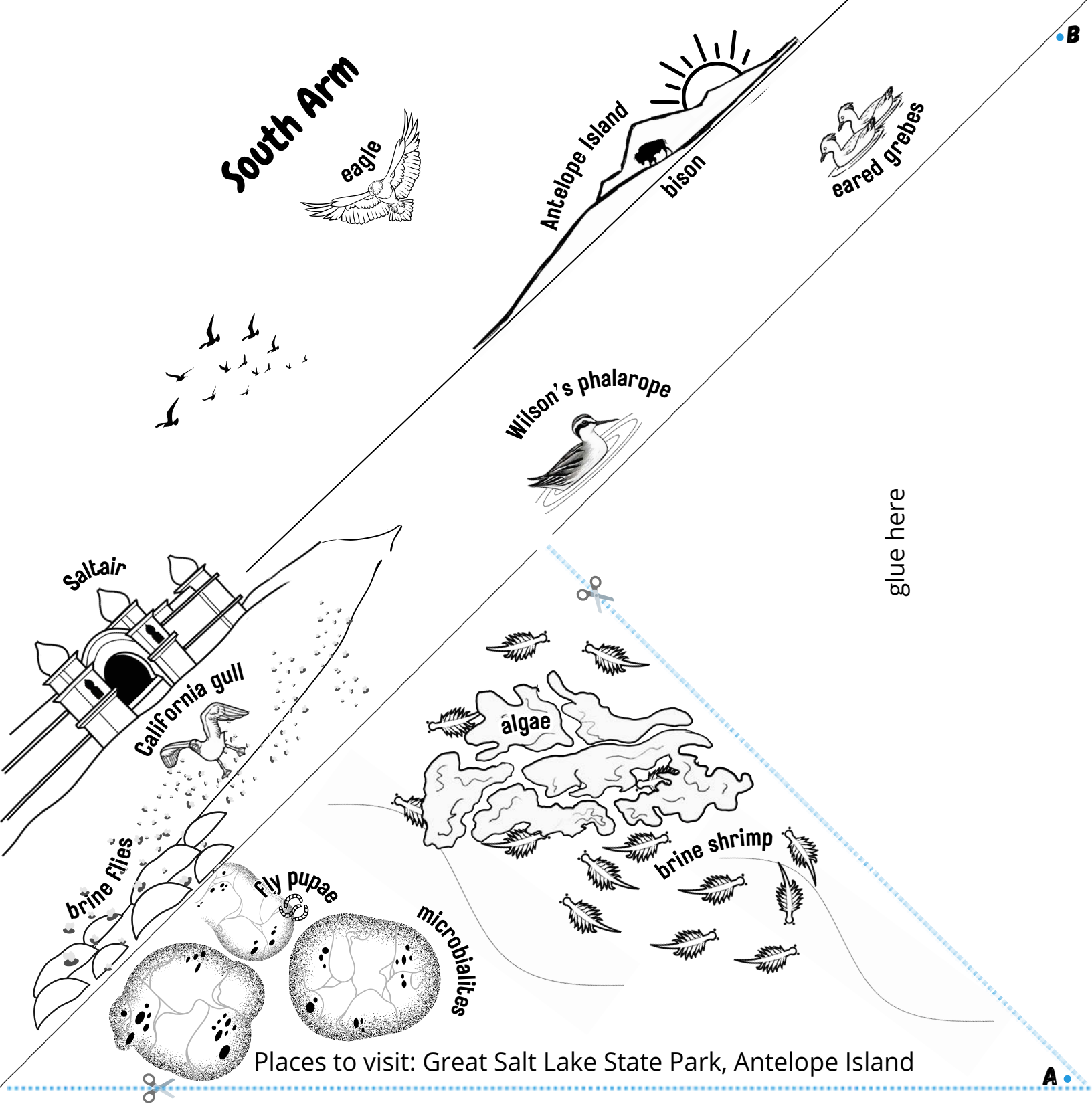
View the slides on Google Presentations or download them to your computer.



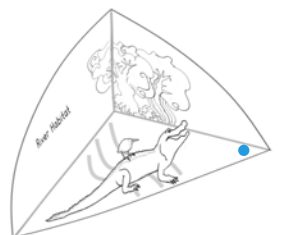
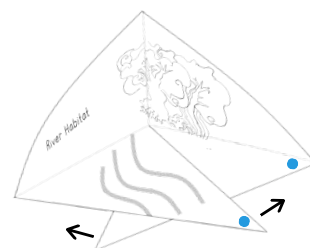
- [Access slides](#)
- [Print the presenter notes](#)

More Resources on Great Salt Lake's Ecosystems

- [Great Salt Lake Ecosystems Lesson Plan](#) (You'll find the PowerPoint and student materials to support this lesson plan on [this page](#).)
- [Guide to Common Birds of Great Salt Lake](#)
- [Wetlands Web Lesson Plan](#) and [activity cards](#)
- [Brine Shrimp Life Cycle](#)
- [Great Salt Lake Food Web](#)



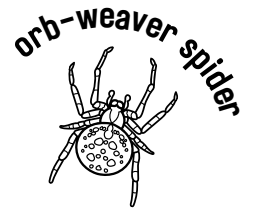
1. Color in the diorama.
2. Cut along the dotted lines.
3. Fold along the solid lines.
4. Overlap point A over point B.
5. Use glue or staples to fasten.



Spring & Summer



It smells the worst when it's hot! Wear a head net to protect yourself from biting bugs. Look for migrating birds, brine shrimp, and swarms of brine flies. Go for a swim, but be sure to rinse off after.



Fall

Fall is the most comfortable time to visit the south arm! The biting bugs are mostly gone. There are LOTS of spiders, but they don't bite.

Winter

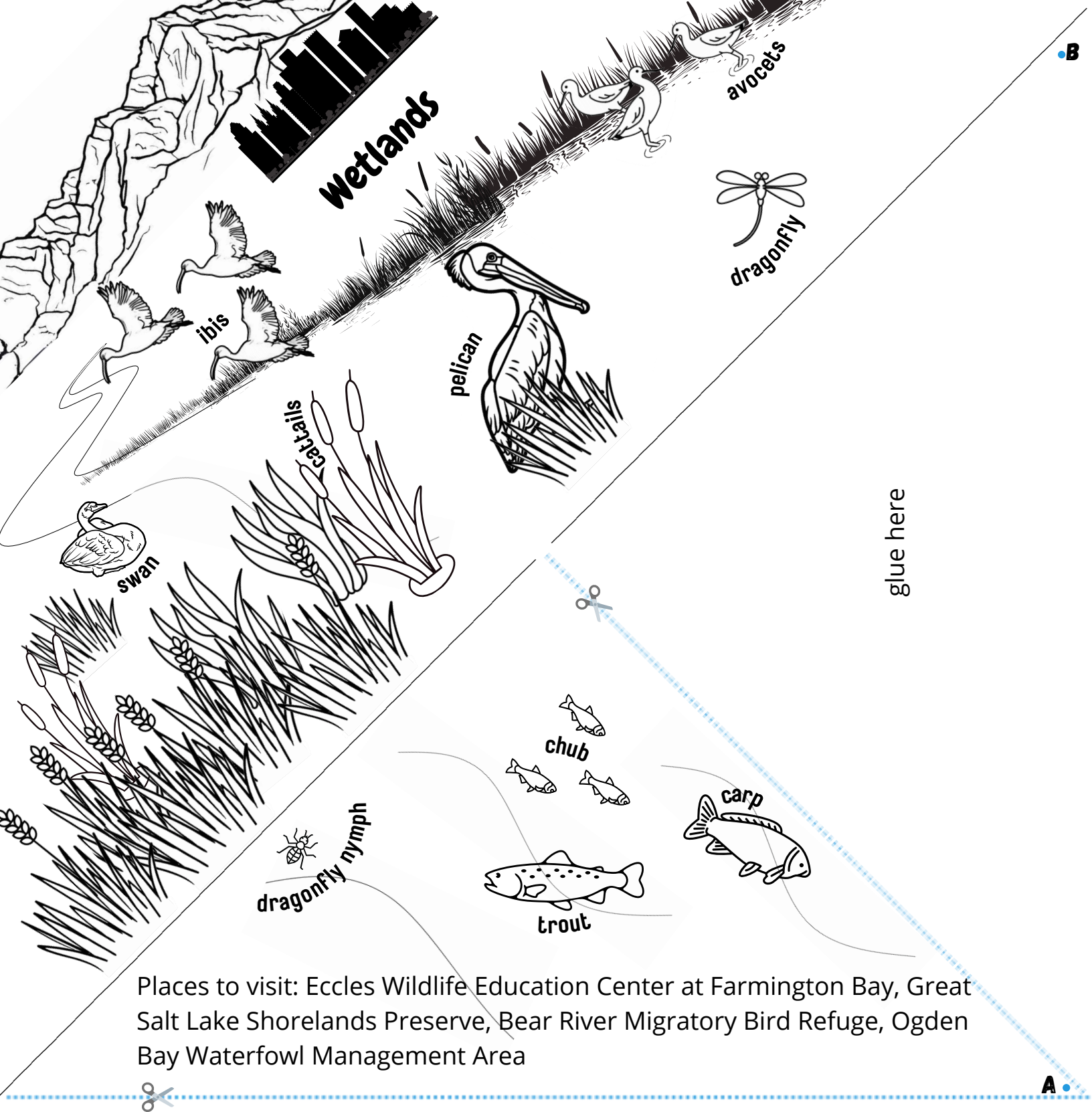


No biting bugs when it's cold! Ducks, bald eagles, and many other birds spend the winter here. Ice piles up on the shore and you might encounter "pickled" dead birds. The salt and cold temperatures keep dead things from decomposing!

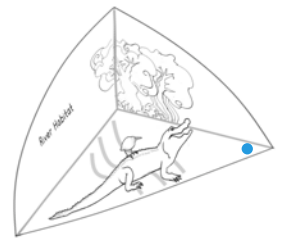
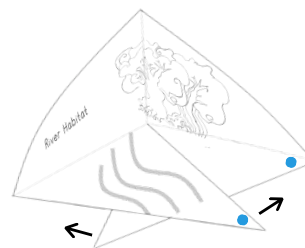
glue here



Print on reverse of South Arm diorama.



1. Color in the diorama.
2. Cut along the dotted lines.
3. Fold along the solid lines.
4. Overlap point A over point B.
5. Use glue or staples to fasten.



Spring & Summer

Spring is migration time so the wetlands are busy with birds! How many types of birds do you see? Can you hear the frogs croaking? There are LOTS of bugs so be sure to protect yourself.

Fall

You'll see lots of ducks that migrate here in the fall and stay through the winter. You might see people going hunting. The wetlands have bugs even in the fall so bring protection!

Winter



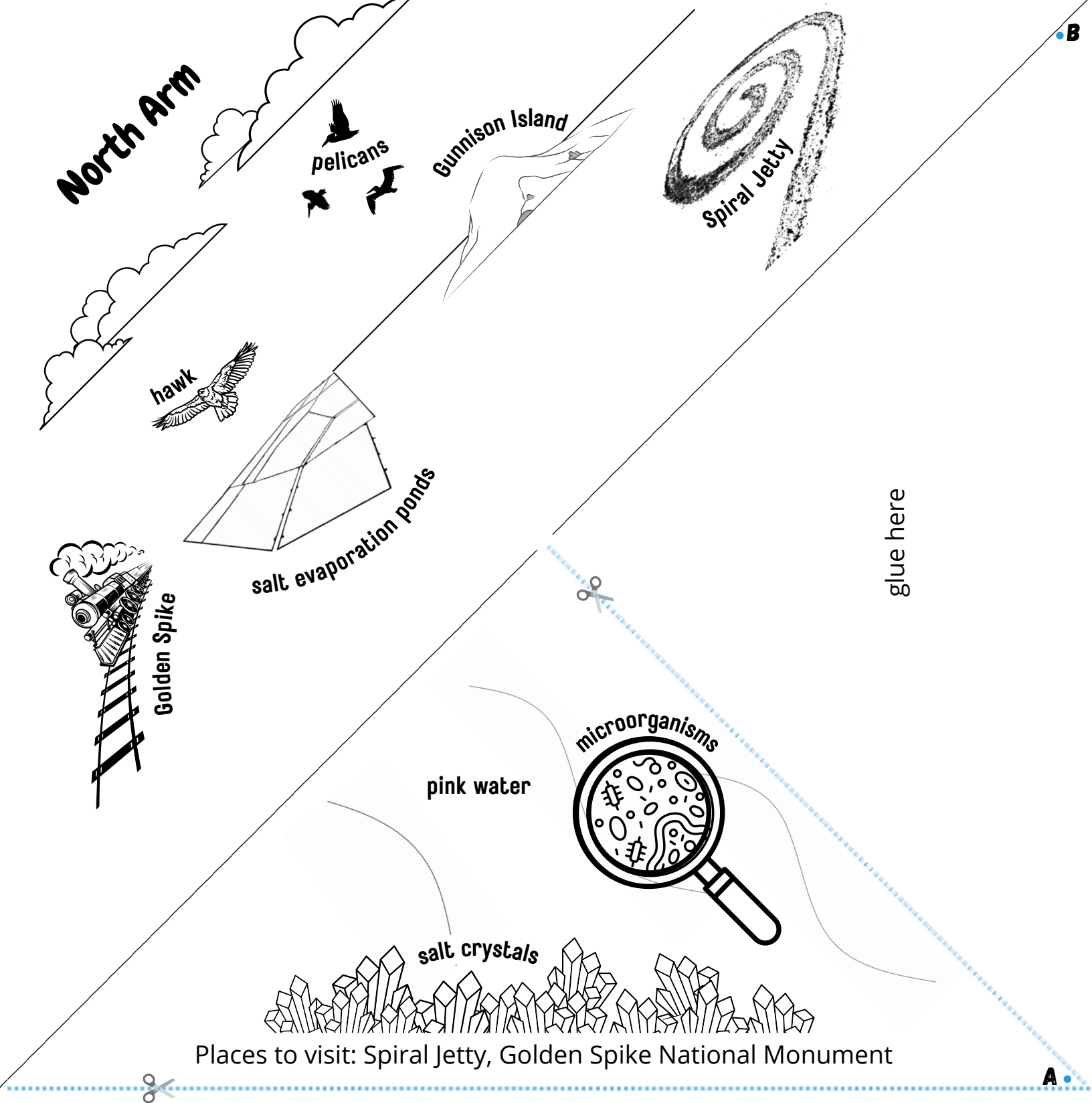
bald eagle

It's cold and windy. The water is covered with ice. This means that there are no pue swans or for swans and biting bugs! Look for bald eagles. raptors like bald eagles.

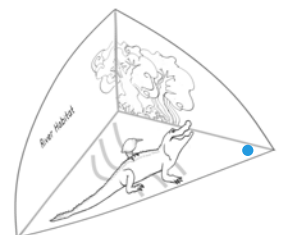
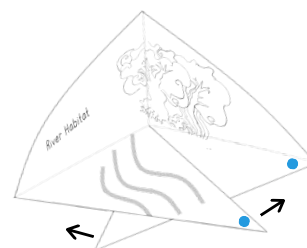
glue here



Print on reverse of Wetlands diorama.



1. Color in the diorama.
2. Cut along the dotted lines.
3. Fold along the solid lines.
4. Overlap point A over point B.
5. Use glue or staples to fasten.



burrowing owl



Look for pelicans flying overhead on their way to catch food for their young in the wetlands. You'll also see raptors like hawks and burrowing owls.

Spring & Summer

Fall

This is the most comfortable time to visit this extreme environment when it is not so hot and sunny. Enjoy the long drive through the scenic landscape with plenty of snacks and water.

It gets really cold and windy so dress warmly. Wear tall waterproof boots as you'll walk through slush when you're near the water. Minerals from the water form mounds of crystals.



Winter

glue here



Print on reverse of North Arm diorama.

Theme 2: We are all connected.

How does Great Salt Lake matter to birds all over the world? Great Salt Lake is a critical rest stop on the hemispheric highway for migrating birds.

Wilson's Phalaropes

Every fall, Wilson's phalaropes gather on Great Salt Lake before migrating to spend the winter in South America. They eat brine shrimp, brine flies, and other insects, so the lake is the perfect place for them to fill up before their long journey. Phalaropes have an interesting trick to help them catch food: they spin in circles on the surface of the water to create a vortex that pulls brine shrimp and other prey to the surface.

Watch these short clips of Wilson's phalaropes with your students and discuss how they affect their surroundings to get what they need, and what behaviors help them survive.



[The Frenetic Wilson's Phalarope](#)

by Jo Atwood



[Wilson's Phalaropes Spinning in Water](#)

by Backyard Birds



For younger students: [Wilson's phalarope coloring page](#) from BirdsCarribean.

For older students: Have your class complete a jigsaw activity on Wilson's phalarope. Assign each student one topic to explore such as diet, life cycle, or migration patterns. Then group them with students who were assigned different topics. Have each student share three key concepts of what they learned with their group. Suggested resources: the [National Audubon Society](#), [Kiddle](#), and the [Cornell Lab of Ornithology](#).

Sister Lakes

Did you know that Great Salt Lake has sisters? Some of its salty sisters are Mono Lake in California, Lake Chaplain in Canada, and Laguna Mar Chiquita in Argentina. All three lakes are important habitats for migrating birds. Marcela Castellino grew up near Laguna Mar Chiquita. Today she is a scientist who studies Wilson's phalaropes.

These short audio clips about Marcela Castellino from BirdNote (around 2 min. each) are great for Spanish dual immersion students!

- Listen in English: [Inspired by A Lake and a Sister](#)
- Listen in Spanish: [Una laguna y mi hermana, mis fuentes de inspiración](#)
- Listen in English: [The Wilson's Phalarope's Dance](#)
- Listen in Spanish: [El baile del falaropo de Wilson](#)

Watch this video from KSL with your class:
[Over 500K birds fueling up at Great Salt Lake for migration to Argentina](#) (2:53)



Discuss these questions:

- What does it mean to migrate?
- What makes Great Salt Lake a good habitat for Wilson's phalaropes?
- What is the connection between Mar Chiquita and Great Salt Lake?
- Why did Marcela Castellino come all the way to Utah to study birds?
- If Great Salt Lake dried up, what do you think would happen to the birds like Wilson's phalaropes which fill up on brine shrimp before their long journey to Argentina?

More Resources on Bird Migration

- Explore [this map](#) that shows migration of different shorebirds. Where do they come from and where do they go? Do they stop at Great Salt Lake?
- Use the Western Hemisphere Shorebird Reserve Network's [Migration Mania lesson plan](#) (grades 3-8) to teach your students about migration, expand on habitat needs, and introduce threats and conservation actions.

Theme 3: We all play a part at Great Salt Lake!

Great Salt Lake is shrinking. This means that the water is getting too salty and there is less habitat for the bugs and birds that eat them. The dust on the dry lakebed can also get blown into the air. Farmers, hair stylists, and even elementary school students can play a part in shaping the future of our Great Salt Lake!

- Dive deeper: [hear from experts, lawmakers, and local folks what is happening right now because of our shrinking lake](#).
- Read [this story](#) about Mr. Craner's class from Emerson Elementary, Salt Lake City School District. They have been studying the lake and worked to get our brine shrimp listed as the official state crustacean.
- What part are you going to play? Have students [make finger puppets](#) of themselves and [create short plays](#) about what they will do to protect the lake. Students might want to incorporate one or more characters from the list below and have them explain why Great Salt Lake is so important to them.
 - brine shrimp
 - eared grebe
 - algae
 - pelican
 - goat or cow from a farm
 - phalarope
 - human (farmer, scientist, themselves etc.)

Hi! I'm Brianna the brine shrimp. I love eating algae. Mmm-mmm!

Last year it got REALLY salty around here! I was so stressed.



More Resources

[Shore Birds at Risk: Threats and Actions Lesson Plan](#) from the Western Hemisphere Shorebird Reserve Network (you'll find [accompanying materials on this page](#).)

Visit the Lake (In-Person and Virtually)

No matter where you are, there are opportunities for your class to explore Great Salt Lake!

Take a [virtual field trip to the Natural History Museum of Utah](#) to learn about the history of the Great Salt Lake.

Located in Davis County and accessible by a causeway, [Antelope Island State Park](#) is teeming with wildlife and offers beautiful views of the lake. In addition to other events throughout the year, the park hosts an annual Spider Fest to celebrate the orb-weaver spider.

[Great Salt Lake State Park](#) is a short drive from Salt Lake City. You can see Saltair, walk along the beach, and even take a boat tour.

Friends of Great Salt Lake offer [Lakeside Learning Field Trips](#) for fourth grade students at two locations: Antelope Island State Park (open to all schools) and Great Salt Lake State Park (open only to the Tooele County School District). Teachers of all grades should check out their many [educational resources](#), including self-guided field trips for both locations.

The Nature Conservancy offers [Wings and Water](#), a comprehensive program that includes a field trip to the GSL Shorelands Preserve in Layton. Also available is a free downloadable [audio tour](#).

Visit the annual [GSL Bird Festival](#) which takes place at multiple locations throughout Utah.

Visit the iconic [Spiral Jetty](#) in Box Elder County. Check out a backpack put together by [Utah Museum of Fine Arts](#) from the museum, the Salt Lake City Public Library or Logan Library.



Theme 1 Core Standards

- SEEd Standard K.2.2
- SEEd Standard 2.2.1
- SEEd Standard 3.2.5
- SEEd Standard 5.1.2
- SEEd Standard 6.4.3
- Social Studies Standard K.2.3
- Social Studies Standard 1.2.2
- Social Studies Standard 1.2.3
- Social Studies Standard 1.3.4
- Social Studies Standard 2.2.2
- Social Studies Standard 2.2.3
- Social Studies Standard 4.1.1
- Social Studies Standard 4.1.2

Theme 2 Core Standards

- SEEd Standard K.2.3
- SEEd Standard 1.2.4
- SEEd Standard 3.2.4
- SEEd Standard 4.1.1
- SEEd Standard 6.4.1
- Social Studies Standard 1.2.4
- Social Studies Standard 2.2.5
- Social Studies Standard 6.4.4

Theme 3 Core Standards

- SEEd Standard K.2.4
- SEEd Standard 5.3.4
- SEEd Standard 6.4.1
- SEEd Standard 6.4.5
- (K-6).Theatre.CR.1
- (K-2).Theatre.CR.3
- (3-6).Theatre.CR.3
- (K-6).Theatre.CR.5
- (3-6).Theatre.CR.6
- (K-6).Theatre.P.1
- (K-6).Theatre.P.6
- Social Studies Standard 1.3.2
- Social Studies Standard 1.3.3
- Social Studies Standard 1.3.4
- Social Studies Standard 1.3.5
- Social Studies Standard 2.2.4
- Social Studies Standard 2.2.5
- Social Studies Standard 2.2.6
- Social Studies Standard 2.3.3
- Social Studies Standard 3.2.2
- Social Studies Standard 3.3.7
- Social Studies Standard 3.3.8
- Social Studies Standard 4.5.3
- Social Studies Standard 4.5.5
- Social Studies Standard 5.6.1
- Social Studies Standard 5.6.2
- Social Studies Standard 6.4.4

**Please visit planbtheatre.org/education
for more free educational resources.**