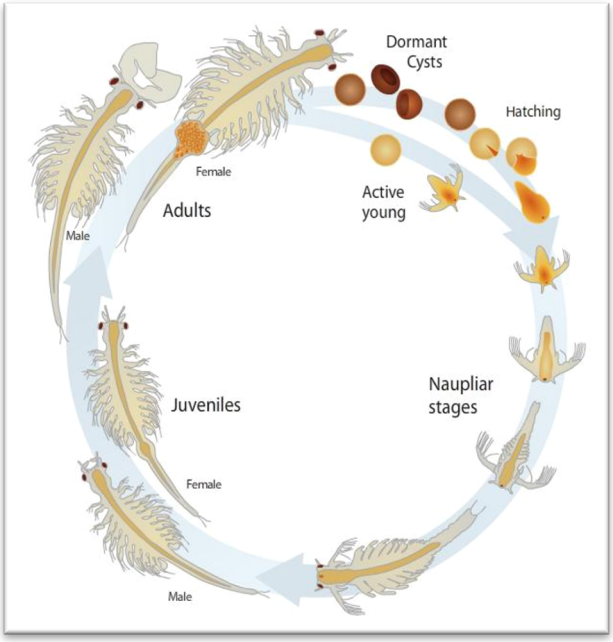
Brine Shrimp Hatch Kit

Supplies

- Glass jar with lid
- Brine shrimp eggs
- 2 tbsp salt (non-iodized)
- Algae wafer
- Bottled spring water or dechlorinated water
- Sharpie marker

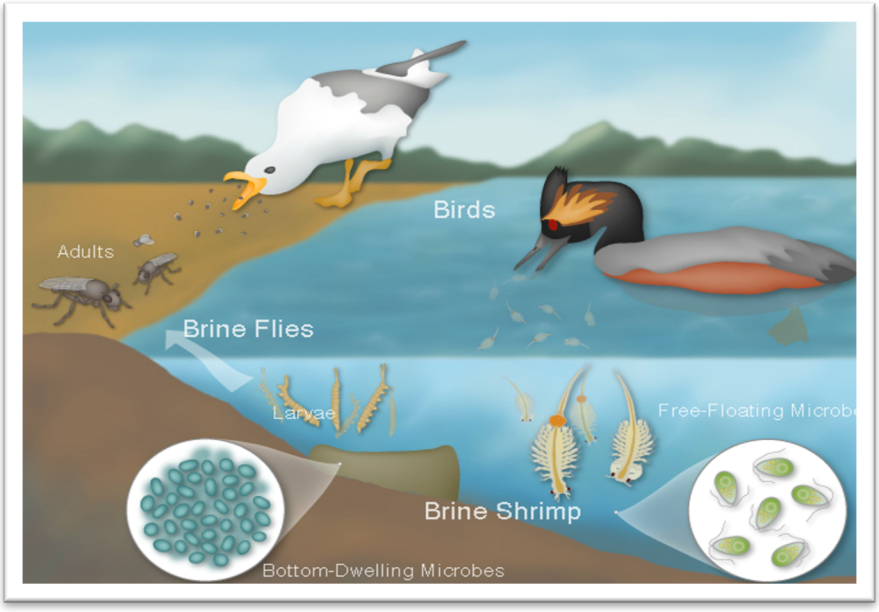


Background Information

There are no fish living in Great Salt Lake—it's too salty! The only creatures that live in the Lake are brine shrimp, brine fly larva, algae, and bacteria. Brine shrimp and brine flies are both an important source of food for the 5-10 million birds that visit Great Salt Lake each year.

Brine shrimp have special **adaptations** that help them survive in this extreme environment:

- In the winter, all of the brine shrimp in the Lake die. But tiny brine shrimp eggs can survive cold temperatures and can even hatch after up to 100 years.
- When the Lake warms up in the spring, the brine shrimp hatch and feed on the algae that blooms in the water.
- Once they are fully grown, female brine shrimp can both lay eggs AND give birth to live young. This helps the brine shrimp population grow quickly while it's warm.
- Brine shrimp help the Great Salt Lake ecosystem by controlling the amount of algae in the water and by providing protein-rich food for birds.

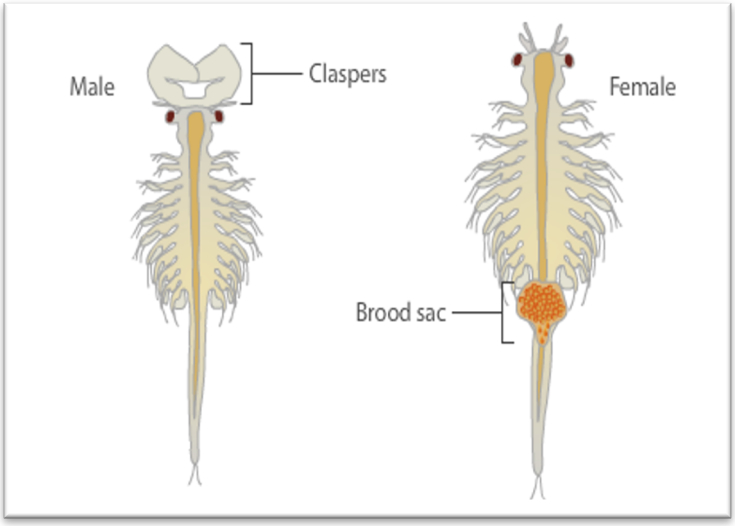


Activity Instructions

You will be creating your own brine shrimp colony. Using the materials provided, you will be replicating the conditions they experience to survive in Great Salt Lake.

1. Fill your glass container with dechlorinated or bottled spring water. Tap water will **not** work! (To dechlorinate tap water let it sit on the counter in an open container for 48 hours and the chlorine will evaporate out!)
2. Add the entire bag of non-iodized salt to the water and stir gently until salt has dissolved.
3. Mark the water level on the side of the container with a marker so you will be able to add water to this line throughout the project. (Remember to use only dechlorinated or spring water when you add water.)
4. Drop a small piece of the algae wafer into the water.
5. Sprinkle 1/8tsp of brine shrimp cysts into prepared water (do not dump in the entire bag)
6. Screw the lid on tight and place the jar in a sunny window sill for adequate warmth and sunlight. You can also use artificial light, the more light the better!
7. At 70-80 degrees, the eggs should hatch within 48 hours. Look closely for tiny, wiggling nauplii (baby brine shrimp). If eggs have not hatched within this time, place the container in a warmer spot.
8. Stir water gently a few times daily.
9. Begin feeding shrimp a small piece of algae wafer every other day AFTER hatching
10. If the water becomes cloudy, stop feeding the brine shrimp until the water is clear.
11. After the brine shrimp have hatched, punch a hole in the lid to allow for air flow.
12. Keep the jar in the front of a window or under a light.

Brine shrimp mature and develop eyes in 3-4 weeks. Adult brine shrimp will be $\frac{1}{2}$ to $\frac{1}{4}$ inch long after molting their exoskeleton up to 24 times!



For more information on brine shrimp visit: www.wildlife.utah.gov/gsl/

Observation Log

Write down your observations of your brine shrimp each day! Try and record any changes in your jar (temperature, cloudiness), any stages of brine shrimp development you notice, and anything you do to alter the environment (stirring the jar, adding pieces of algae wafer).

Day 1 Observations

Jar Conditions: _____

Brine Shrimp Development: _____

Your Actions: _____

Day 2 Observations

Jar Conditions: _____

Brine Shrimp Development: _____

Your Actions: _____

Day 3 Observations

Jar Conditions: _____

Brine Shrimp Development: _____

Your Actions: _____

Day 4 Observations

Jar Conditions: _____

Brine Shrimp Development: _____

Your Actions: _____

Day 5 Observations

Jar Conditions: _____

Brine Shrimp Development: _____

Your Actions: _____

Day 6 Observations

Jar Conditions: _____

Brine Shrimp Development: _____

Your Actions: _____

Day 7 Observations

Jar Conditions: _____

Brine Shrimp Development: _____

Your Actions: _____