



SOMETHING FISHY

Lesson Objective

To introduce fish and seafood as agricultural commodities.

Learner Objective

The students will become familiar with fish and seafood as a food and from an industry standpoint.

Educational Outcome

The students will be able to identify fish and other seafood produced in Mississippi.

Core Concept Areas

Science, art, writing

Materials Needed

FARMtivity 1: Storage tub, short fishing poles, fishing line, magnets, and pictures of catfish, tilapia, striped bass, crawfish, shrimp, alligators, blue crab, and oysters

FARMtivity 2: Fish or other sea creature pictures from FARMtivity 1

FARMtivity 3: Art supplies and other materials

FARMcabulary

Aquaculture – Breeding, raising, and harvesting fish, shellfish, and aquatic plants.

Catfish – Freshwater or marine fish with barbels resembling whiskers around the mouth; typically bottom-dwelling.

Tilapia – Freshwater fish inhabiting shallow streams, ponds, rivers, and lakes.

Bass – Freshwater and marine species, or perch-like fish, all belonging to the large order of Perciformes.

Alligator – Large semiaquatic reptile like a crocodile but with a broader and shorter head.

Crawfish – Small animals like lobster that live in rivers and streams; often harvested as food.

Crab – Crustacean with a broad upper shell, eyes that stick out, and five pairs of legs, with one pair being pincers.

Shrimp – Small free-swimming crustaceans with an elongated body; frequently harvested for food.



FARMfacts

In addition to the agricultural commodities produced on the land, Mississippi has an abundance of products grown and reproduced in the water. This production is called **aquaculture**, with aqua meaning “water” and culture defined as “to cultivate or grow.”

Catfish is the largest aquaculture crop in Mississippi. In 2022, there were 205 catfish farms with 34,100 acres of production valued at \$258 million. This southern delicacy is raised in ponds filled with well water and fed a grain-based diet. This fish has a mild flavor and is high in protein and low in calories. Most of the catfish are produced in the Mississippi Delta in the northwestern part of the state, but some are also grown in the eastern part of the state near Columbus. Because the state has several catfish processing plants, the locally grown catfish are processed locally and then distributed to other areas and across the country. The farm-raised catfish is far superior in taste to its cousin found in rivers and creeks, known as mud cats, because they are bottom feeders. The modern-day catfish industry prides itself in raising the safest as well as tastiest fish and warns consumers against buying imported, unregulated fish. Other fish grown in Mississippi include **tilapia** and striped **bass**.

The American **alligator** is native to the state of Mississippi and was included on the threatened species list until just a few years ago. Worldwide demand for alligator leather and meat led to the establishment of commercial captive culture facilities in several southern states, including Mississippi. Although declining prices for hides in the early 1990s led to drastic reductions in the number of alligator farms, Mississippi retained about a half dozen commercial farms.

Crawfish (crayfish) are freshwater crustaceans like small lobsters found in brooks and streams, while some thrive in swamps, ditches, and rice paddies. Crawfish are farmed for human consumption in southern states where the water warms during the warm weather season, such as Texas, Arkansas, Mississippi, Alabama, and the Carolinas, with Louisiana being the largest.

In addition to the fish and other water creatures found in the state's lakes, ponds, swamps, and rivers, Mississippi has a great advantage of being on the Gulf Coast; those salty waters offer other seafood varieties, such as **crabs**, **shrimp**, oysters, and finfish. For generations, the nutrient-rich waterways have provided fishing, shrimping, and wild-caught seafood for people on the Mississippi Gulf Coast.

Interest Approach

Write the word "aquaculture" on the board and ask if the students know what it means. Remind them that they have been studying agriculture, but you will talk about aquaculture today. Ask them to break the word down into aqua and culture and ask what the two words mean. Aqua means "water," and culture means "to cultivate or grow," so the word "aquaculture" means to grow things in water, such as fish and other water creatures.

Then, ask the students to name some fish or other water creatures. Mention that Mississippi is famous for catfish, but there are other water creatures that are grown in Mississippi for food and enjoyment.

FARMTivity 1: Let's Go Fishing

Materials Needed

- Storage tub (round, if possible)
- Pictures of catfish, tilapia, striped bass, crawfish, shrimp, alligators, blue crab, and oysters
- Short fishing poles
- Fishing line
- Magnets for pictures and fishing line

Preparation

Print pictures of different types of fish on cardstock and laminate. Glue magnets onto the pictures. Prepare fishing poles by attaching a fishing line to the pole and a magnet to the end of the line. Place the pictures in the tub.

Procedure

Ask the students if they have ever been fishing. Continue the discussion by asking where they go fishing, what they fish for, etc. You might even ask if they like to eat fish or other seafood.

Then, explain that they are going to get to go fishing today and that they will be fishing for not only fish but also other seafood found in the waters in Mississippi.

Explain that the fishing trip today will be to see the sea creatures in this tub. The students will take turns catching fish or other creatures.

Allow the students to come up one at a time to catch a fish or other creature. Ask them to identify what they catch. If they cannot identify it, let the class help. Group the like creatures together. This grouping will be used in the next activity.





FARMTivity 2: From Classroom to the Sea

Materials Needed

Fish or other sea creature pictures from FARMTivity 1.

Procedure

Using the groups from the Interest Approach, have each group research their creature and make a report to the class about the creature. They should include the following, and everybody in the group should participate in the oral report:

- Name of the creature
- Where does the creature live?
- What does it look like (size, color, shape, and other characteristics)?
- Is it a fish, an amphibian, or a crustacean? Explain.
- Does it grow wild, or is it farmed, or both?
- What does it eat?
- Is it edible? How is it prepared?
- Is it used for anything other than food?

The groups should be creative and entertaining. Props, simple costumes, sounds, etc., could be used.

FARMTivity 3: Aquaculture in Mississippi

Materials Needed

- Bulletin board covered with blue paper with brown and green for some land area
- Paper plates
- Paper bowls
- Pipe cleaners
- Clear water bottles
- Toilet paper rolls
- Playdough or clay
- Clothespins
- Construction paper, assorted colors

- Googly eyes (optional)
- Scissors
- Glue
- Rulers
- Crayons
- Paint
- Markers
- Instructions for models

Procedure

Using the same groups as in the Interest Approach, each student in the group will make a replica of the sea creature that represents the group: catfish, striped bass, crab, alligator, shrimp, and crawfish.

Once the models are made, the students should put these on the bulletin board in an artistic fashion. The fish should be in the water (the blue area), while the alligators and crawfish can be on the land if desired.

Each group should also make a sign for their creature with the name and a short definition.

References

Mississippi State University Division of Agriculture, Forestry, and Veterinary Medicine. (2022). [2022 Mississippi Ag Fact Book](#).



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