

Fish Predators and Prey!



Consumers



Producers

A Fish's Place
in the
Aquatic Food Chain!

WHAT IS A FOOD CHAIN?

A food chain is a way to see how energy (in food) is passed from one living creature to another.

Aquatic is a word used to describe something (plant or animal) that lives, eats, or does something in the water.



PRODUCERS

Fish are an important part of an aquatic food chain. Food chains begin with plants, and an aquatic food chain begins with **Plants**, **Algae**, and **Phytoplankton** that live in the water.



You may have heard of “plankton.” Plankton is made up of tiny plants and animals you can only see under a microscope. The plants are called “Phytoplankton.” The animals are called “Zooplankton.”

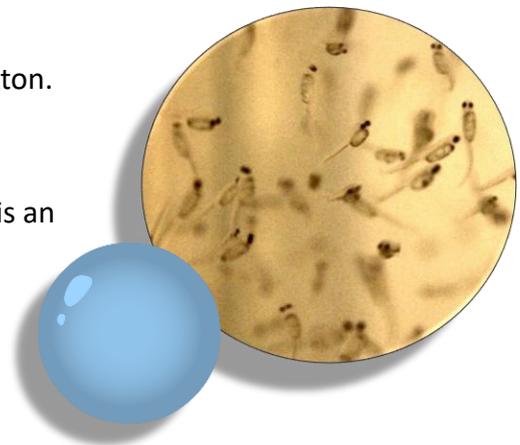
These plants, algae, and phytoplankton are called **Producers**. That is because they produce their own food through photosynthesis.

PRIMARY CONSUMERS

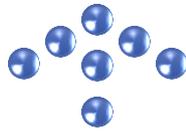
Consumers are animals higher in the food chain that eat plants and other, smaller animals lower in the food chain.

Small fish and zooplankton eat the algae and phytoplankton. These fish are called **Primary Consumers**.

Most primary consumers are **Herbivores**. A herbivore is an animal that eats plants.



Food Chain So Far!



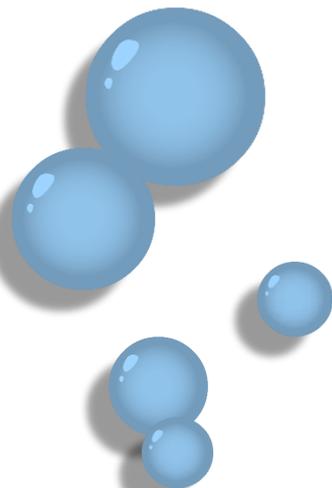
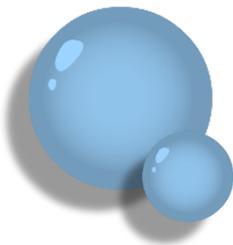
**Primary
Consumers**

(Zooplankton and Small
Fish)



Producers

(Plants, Algae, and
Phytoplankton)



SECONDARY CONSUMERS

Secondary Consumers are either omnivores or carnivores. **Omnivores** eat plants and animals, so omnivores in the aquatic food chain will eat algae and small fish. **Carnivores** are meat eaters. In an aquatic food chain, these are the largest fish and other animals.

Test your knowledge!

Identify each fish as herbivore, omnivore, or Carnivore:



The largemouth bass eats other fish, insects, and other invertebrates like crayfish.

What is it?



The bigmouth buffalo eats insect larvae, mollusks, plants, and algae on the bottom of rivers and lakes.

What is it?

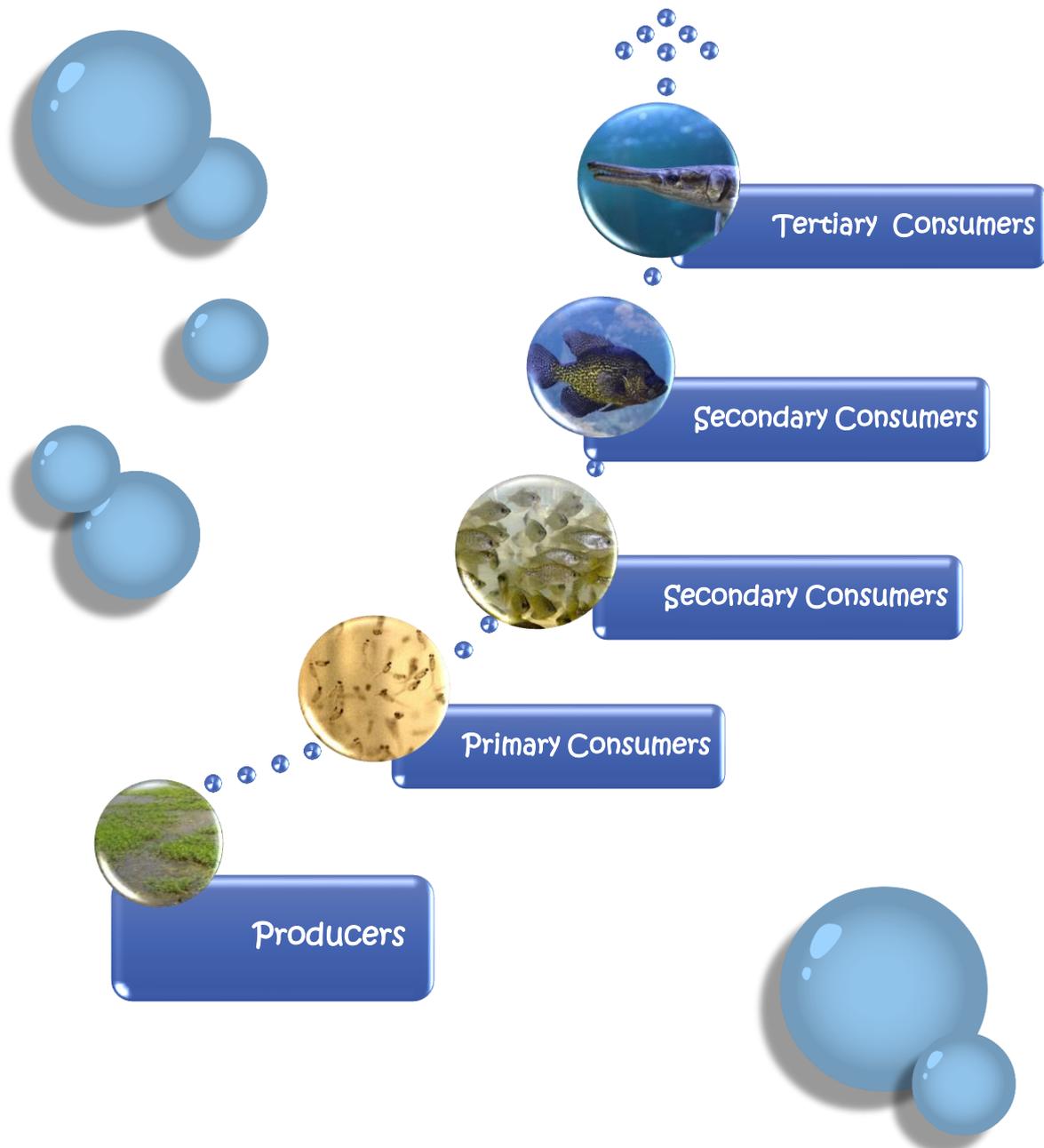


The black crappie eats mostly fish and insects.

What is it?

TERTIARY CONSUMERS

Tertiary Consumers are carnivores that eat other carnivores. Tertiary consumers are the top predators in the food chain!

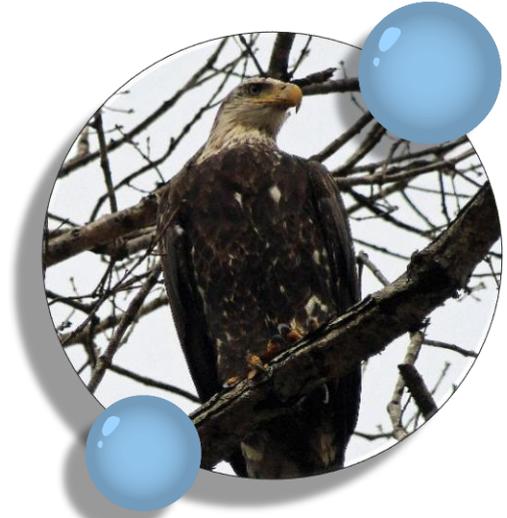


Let's learn about some predators for fish!

American Bald Eagle

This eagle's main food is fish. It tears the fish apart before it eats the fish. The bald eagle is sometimes called a "thief" because it will steal food from other birds! The eagle will scare the other bird into dropping their fish. The bald eagle will then snatch its catch!

Did you know? – The American bald eagle is the national bird, and this eagle was once an endangered species!



Largemouth Bass

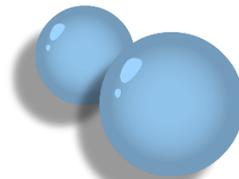
The largemouth bass has a big appetite. It will eat other fish, crawfish, frogs, small birds on the water's surface, and much more even baby alligators!

Did you know? – The largemouth bass is the state fish of Mississippi! It is called a "rover predator" because it will chase down or roam (rove) around for its food!

Alligator Snapping Turtle

The alligator snapping turtle has a pink tongue that looks like a worm. This turtle uses it to “lure” fish into its mouth! It gets its name from the shell, which resembles an alligator’s back.

Did you know? – It can live to be 100 years old and weigh up to 250 pounds!

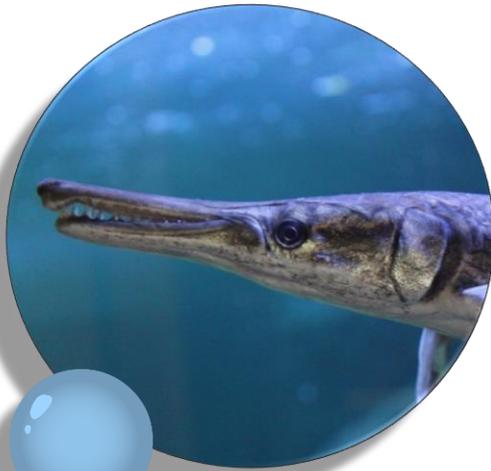


Osprey

The osprey is known as the “fish hawk!” Sometimes this bird will dive completely underwater to catch fish!

It always eats the fish headfirst, and it never eats “left-overs.”

Did you know? – Like many birds, this bird gets water from the fish it eats.



Alligator Gar

The alligator gar gets its name from the shape of its head. It is the largest freshwater fish species in North America! This gar is found mainly in river systems.

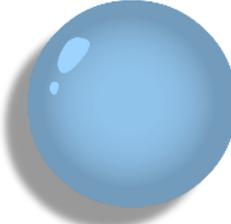
Did you know? – The largest alligator gar was caught in Mississippi. It weighed 327 pounds!

Longnose Gar

The longnose gar, gets its name from the length of its snout. Like the other gar species, they camouflage into their surroundings. They wait for their prey to come to them. That is why gar are known as “lie in wait” hunters.

The gar snaps and grabs it's fish, then turns the fish around and swallows it headfirst and whole!

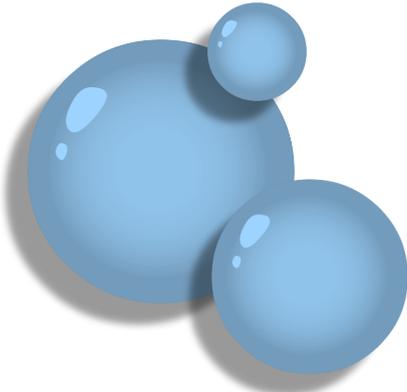




Shortnose Gar

The shortnose gar also gets its name from the length of its snout. It is usually smaller than the longnose gar but larger than the spotted gar.

The shortnose gar, like other gar, eats insect larvae, shrimp, crabs, and fish, including other gar!



Spotted Gar

Each type of gar has some spots on its body, but the spotted gar is covered in spots, which gives it its name.

Did you know? – Gar have very hard scales. Sometimes they are called “armored fish.”



Alligator

Young alligators eat fish and other invertebrates; adult alligators eat bigger birds, mammals, and other reptiles.

Alligators always have lots of teeth. If an alligator loses its teeth, the teeth grow back throughout their lifetime.



American White Pelican

Pelicans fish using the pouch under their beaks. These birds drain the water from their pouch before swallowing the fish!

Did you know? – Pelicans are sometimes called “pirates” because they work together to steal fish from other birds.



Green Heron

The green heron is one of a few birds that uses objects or tools to catch its food. The green heron places “bait” (like mayflies or feathers) on top of the water to lure fish and invertebrates to the surface. The green heron will stretch its neck out quickly to grab or stab its prey!

Great Blue Heron

The great blue heron is known as a “stalk and strike” hunter! This heron feeds mostly at dawn or dusk. It uses its long legs to wade through the water. The great blue heron uses its beak to stab or snap its prey!

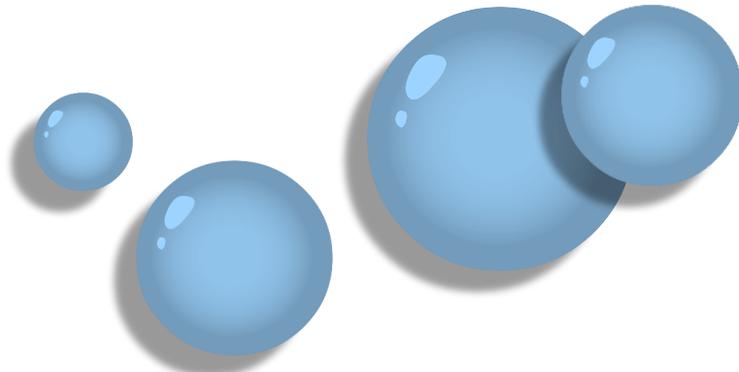
Did you know? – The heron can choke if it tries to eat a fish that is too big!





Northern River Otter

The river otter has a large appetite. It eats lots of animals like fish, turtles, crayfish, and crabs! This predator usually eats its prey as soon as it is caught and eats on its back while it is still swimming in the water!

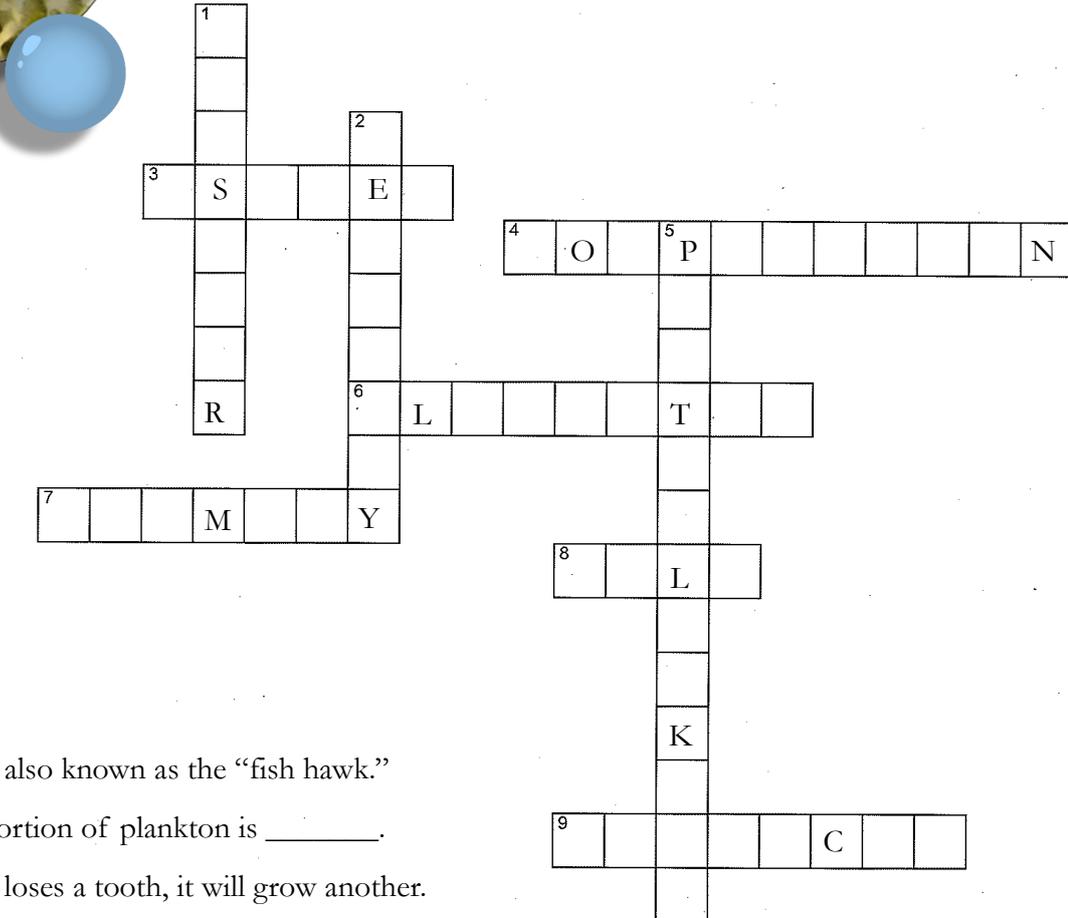


Fish are very important parts of food chains!

Do some investigating on your own! See how many other animals you can discover that eat fish!

Activities!

Crossword Puzzle!



Across:

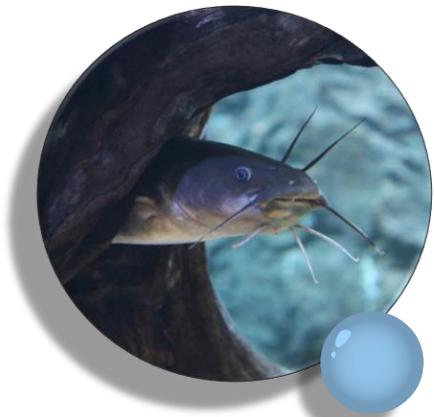
3. The _____ is also known as the “fish hawk.”
4. The animal portion of plankton is _____.
6. If this reptile loses a tooth, it will grow another.
7. Consumers that eat producers.
9. Creates its own food through photosynthesis.

Down:

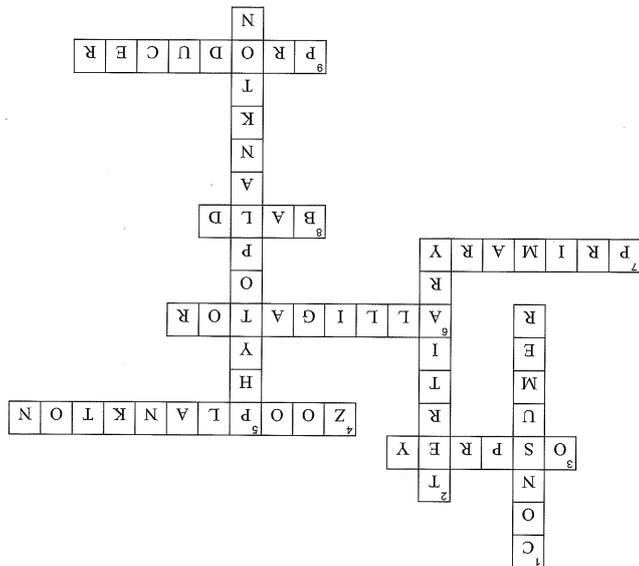
1. Feeds on plants and/or animals for its energy.
2. Top consumers in the food chain.
5. The plant portion of plankton.

Word Jumble!

1. RVHEBIOER _____
2. CRREAVNIO _____
3. ROVMIENO _____
4. TEOARPRD _____
5. YPRE _____

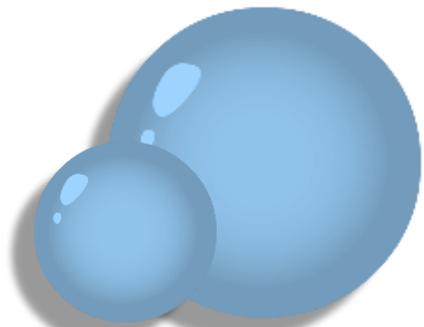


Activity Answers:



1. RVHEBIOER HERBIVORE
2. CRREAVNIO CARNIVORE
3. ROVMIENO OMNIVORE
4. TEOARPRD PREDATOR
5. YPRE PREY

Solution



Words You Learned!

Producers – produce their own food (energy) through photosynthesis

Consumers – animals higher in the food chain that eat plants and other, smaller animals lower in the food chain, getting their energy from these plants and animals

Primary Consumers – small animals, including fish, and zooplankton eat the algae and phytoplankton

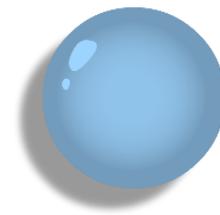
Herbivores – animals that eat plants

Secondary Consumers – either omnivores or carnivores

Omnivores – animals that eat plants and other animals

Carnivores – meat eaters, animals that eat other animals

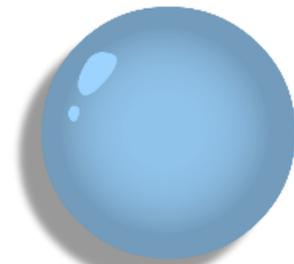
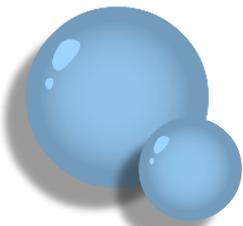
Tertiary Consumers – carnivores that eat other carnivores, the top predators in the food chain



References:

Resources: Mississippi Department of Wildlife, Fisheries, and Parks, *Inland Fishes of Mississippi*, Stephen T. Ross, University of Michigan, Museum of Zoology (UMMZ) website (Created in part through the National Science Foundation), and *Fishes, An Introduction to Ichthyology*, Peter B. Moyle & Joseph J. Cech, Jr.

Photos: MDWFP Personnel and the UMMZ website





North Mississippi Fish Hatchery
Visitor Education Center

Learn more about fish at
www.MDWFP.com/nmfh

