

**LESSON PLAN** 



**APRIL 2020** 

## **GONE FISHING** A STORYTIME ABOUT FISH LESSON PLAN



The objectives of this lesson are the following:

- (1) to expand children's curiosity and knowledge about fish, fishing and people who fish;
- (2) to highlight the diversity of fish in the Great Lakes region and globally;
- (3) through reading, to connect children to the cultural and environmental attachments people have to fish and fishing; and
- (4) to introduce a few basic fish characteristics through a craft project.

This lesson plan works well with children in preschool through second grade. The lesson lasts from 45 minutes to an hour, based on the number of books read. To orient the children to what it means to be a scientist, think scientifically and "do science," use the "<u>A Scientist Is...</u>" and "<u>Scientific Method</u>" handouts available at the end of this lesson plan.



Distribute fishing licenses found at the end of this lesson plan as the children arrive.

#### SING

Begin with your favorite welcome song.

#### **SCIENCE CHAT**

Begin by asking the children what they know about fish (e.g., "Does anyone fish?" "What do you know about fish?" "Who eats fish?"). You can follow the brainstorm by sharing some of these facts about fish.



#### FACTS ABOUT FISH: LOTS OF FISH, LOTS OF FACTS

Fish are vertebrates (animals with a backbone, like humans).

Fish make up about <u>half</u> of all the types (<u>species</u>) of backboned animals (vertebrates) existing today.

Fish were the <u>first vertebrates</u> to live on earth and have existed for more than <u>500 million years</u>.

Fish species number more than 30,000, with almost half living in <u>fresh water</u> (even though fresh water is a tiny fraction of the water on earth). Wisconsin currently has about 160 fish species, which includes some accidental and some intentional introductions.

Fish need oxygen and they get it from the water. Almost all fish breathe through gills, which are featherlike organs covered by a protective flap called the <u>operculum</u>. Water passes through the fish's mouth, across the gills and out the operculum. As it passes over the gills, oxygen gets absorbed into the blood.

Fish, like reptiles and amphibians, are <u>almost</u> all cold-blooded, which means their bodies get heat from their surroundings.

Fish species have adapted to different temperatures, and some, like the <u>blackfin icefish</u> and other Antarctic fish, have special "<u>antifreeze</u>" proteins in their blood. This allows them to spend their lives in water temperatures that can reach <u>below freezing</u>.

Fish live in salt or freshwater environments: oceans, seas, rivers, streams, lakes, ponds and underwater caves. They live in waterbodies on or surrounding every continent, including Antarctica.

Fish have been <u>discovered</u> in seawater under Antarctic ice that is a halfmile thick, 500 miles from the outer edge of the Ross Ice Shelf. Some species are known to live at <u>depths</u> of 5 miles below the ocean surface.

Fish can be divided into three basic groups or "superclasses."

1) <u>Bony fish</u>, by far the biggest group (about 28,000 species), have skeletons made of bones. Most have scales and most have <u>swim bladders</u> that help them stay at a particular depth.

2) <u>Cartilaginous fish</u> (sharks and rays) have skeletons made of cartilage, which is more flexible than bone (like your ears or nose). <u>Most</u> live in salt water.

3) <u>Jawless fish</u>, like lamprey and hagfish, are the most ancient type of fish. They have no jaws, are without scales, have a skeleton made of cartilage and have eel-like shapes.

Many fish have highly developed senses of sight, touch, smell, taste and hearing.

Some fish have a sixth sense called a "<u>lateral line</u>" that senses tiny changes in water speed and motion. This is what allows schools of fish to suddenly zig or zag perfectly synchronized.

Fish may have <u>feelings</u> and possibly <u>personality types</u>. They feel <u>pain</u> and suffer <u>stress</u>, which matters in terms of how humans treat them.

Many fish are social animals that depend on cooperation and communication for their well-being and survival. Some fish species, such as herring, tuna and anchovy, are known for <u>shoaling</u> (swimming in a loose group) and <u>schooling</u> (swimming in unison) their entire lives.

Some fish use sounds like <u>clicks</u>, <u>grunts</u>, <u>whistles</u> and, yes, <u>FaRTs</u>, to communicate. When it's too dark to see, herring communicate with "fast repetitive ticks," or FaRTs, which do consist of air bubbles forced out their backsides.

Most fish reproduce by <u>spawning</u> (the female of the species deposits eggs and the male fertilizes them), but some fish species give birth to live young, including some common <u>aquarium fish</u> and some <u>shark</u> species.

Fish parenting styles vary greatly, with many species depositing lots of eggs and leaving them <u>unguarded</u>. Other species, however, hide or guard their spawn, and some protect their young by building <u>nests</u> or <u>tunnels</u> or even carrying their young in their <u>mouths</u>. <u>Seahorse</u>, <u>clownfish</u> and <u>three-spined stickleback</u> dads play major parental roles. The <u>discus</u> fish even feeds its young with a special mucus from its own body.

Active fish parents in the Great Lakes region include nesting fish such as smallmouth and largemouth bass, sunfish and the bowfin. Bowfin males guard the nest and stick around to protect the baby fish after they hatch.

The largest fish is the <u>whale shark</u>. A large whale shark can be as big as a school bus (40 feet long) and weigh almost twice as much (more than 40,000 pounds). This enormous shark is a filter feeder and only eats plankton.

The smallest known fish is about as long as your fingernail and found in the acidic peat swamps and streams on the islands of Sumatra and Bintan, Indonesia. *Paedocypris progenetica* is a <u>member of the carp family</u>.

Thought to be the world's fastest fish, the <u>sailfish</u> has been clocked at 68 miles per hour. Besides its enormous dorsal fin, it is known for its sword-like upper jaw or "bill," which it sometimes uses to hunt prey.

A fish scientist is called an ichthyologist (ICK-thee-ah-lo-gist), and the study of fish is <u>ichthyology</u>. <u>Fish biologists</u> and <u>aquatic ecologists</u> also study fish, especially their ecology, habitat and ecosystems.

<u>Not Fish!</u> Not all animals that live, swim and feed in oceans and fresh water are fish. Examples of creatures that live or swim among fish but are not fish include: dolphins, whales and manatees (mammals like us); sea turtles and sea snakes (reptiles); frogs (amphibians); invertebrates such as squid, octopus (cephalopods), jellyfish, sponges and sea urchins; and animals considered "shellfish" (crustaceans and molluscs) such as shrimp, lobster, crayfish, crabs, clams, mussels and oysters.

Not Fish! A list of (non-fish) creatures who swim with Great Lakes fish would include: beavers, otters and muskrats (mammals like us); snapping turtles, painted turtles and watersnakes (reptiles); frogs and mudpuppies (amphibians); invertebrates such as Daphnia, scuds, mayflies, caddis flies and freshwater sponges; and shellfish (crustaceans and molluscs) such as freshwater clams, quagga mussels and crayfish. The largest Great Lakes fish is the lake sturgeon. Biologists tagged the <u>largest recorded Wisconsin sturgeon</u> in 2012. This female fish, captured in Shawano, Wis., by fish biologists, weighed 240 pounds, measured more than 7 feet long and was estimated to be 125 years old.

The smallest fish found in Wisconsin waters is the least darter, which is about 1 inch long.

More than <u>160 species</u> of fish live in Wisconsin waters, which in addition to Lake Superior and Lake Michigan shorelines, includes more than <u>15,000 lakes</u>, millions of acres of <u>wetlands</u> and 12,600 rivers and streams. Fish inhabit many types of habitats in these systems, with different species using different habitats at different times in their life cycles.

The Wisconsin Department of Natural Resources considers 26 fish species of 148 evaluated (18%) to be "<u>species of greatest conservation</u> <u>need</u>," which may be species that are either endangered, rare, living in threatened habitats or declining in numbers.

Fish are important because they are part of the planet's <u>web of life</u>. They are important to humans, too, as food <u>for billions</u> of people, for natural control of insects like mosquitos, for our scientific understanding of animal behavior and adaptation, for recreational fishing and as aquarium pets. Fish <u>abundance and variety</u> (or their decline) tell us a lot about the health of our rivers, lakes and oceans.

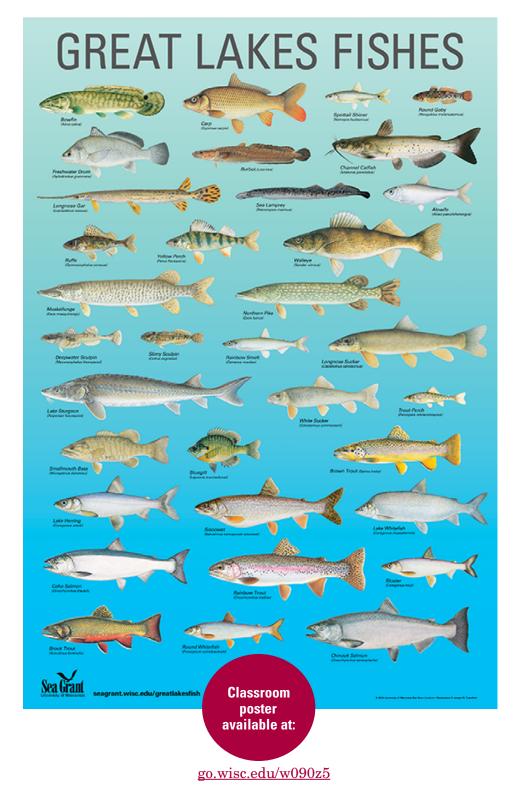
Many species of fish are <u>threatened</u> by overfishing, pollution, wetland destruction, large dams, deforestation, <u>invasive species</u>, harmful practices in the <u>pet trade</u> and <u>climate change</u>.

Almost 10% of fish species studied by the International Union for Conservation of Nature (<u>IUCN</u>) are either <u>critically endangered</u> or <u>endangered</u>, meaning truly threatened with extinction. Another 10% of fish species are <u>vulnerable</u>, or likely to become endangered if we don't ease the pressures we put on them and their environments.



#### **CHARACTERISTICS OF GREAT LAKES FISH**

Talk about looking at the world with observant eyes. Start with the children — what characteristics makes each child unique. It could be hair color, eye color, number of arms and so on. This translates well to the characteristics of fish: size, number of fins, color, pattern and more.



# READ

Here are some suggestions from the Wisconsin Water Librarians, but feel free to swap out with your own or visit our subject-specific reading list: <u>Fish and Fishing</u>.

Book descriptions are excerpted from the Cooperative Children's Book Center (CCBC), Kirkus Reviews (KR) and Publishers Weekly (PW).

#### Hooray for Fish! (2005) by Lucy Cousins.

"Swimming through pages of brilliant blues and greens, Little Fish greets his friends with rhythmic and rhyming introductions. More than one or two and beyond just red and blue, Little Fish sings salutations to spotty fish, stripy fish, happy fish, and gripy fish. Colors and contrasts abound in a board book aquarium of friendly fish. Little readers will delight in Little Fish's most important greeting of all — his kiss, kiss, kiss with mother fish." (CCBC) For ages birth-3.

#### **One Lonely Fish: A Counting Book with Bite!** (2017)

by Andy Mansfield and Thomas Flintham. "Count from one to 10 with this nimble concept creation. One tiny fish with a bright red tail swims all alone. A sandy ocean landscape lines the bottom, with swirls of blue covering most of the spread. The text is spare: '1 one lonely fish.'... But a flip of the page (featuring a clever triangular snip from the recto page's edge) suddenly shows a new fish, mouth open wide, swimming right behind the first one! Now there are '2 two fish.'... Anticipation rather than narration propels each page turn, and the repeated practice of counting every time a new fish is added is sure to delight youngsters. One comically big gulp at the end makes everything come full circle." (KR) For ages 2-4.

## Fish Eyes: A Book You Can Count On (1990) by Lois Ehlert.

"Swimming through the deep blue pages ... a little black fish invites readers to count from one to ten as each page spread presents an increasing number of brightly colored fish. This skillfully designed book incorporates easy addition into a patterned rhyming text. Small circles die-cut into every page serve as brightly colored eyes on fishes, as well as a visual and sensory means of keeping the count." (CCBC) For ages 2-6.

#### Rain Fish (2016) by Lois Ehlert.

"Ehlert returns to two favorite subjects, fish and found objects. The artist's eye sees all kinds of colorful fish swimming in the gutters after a rain where most people would just see trash. One fish, for example, is constructed from an odd sock, a twig, a leaf, a broken popsicle stick, a feather, and a crumpled grocery store receipt. Each collage has been carefully assembled but Ehlert has made them all look loosely constructed to reinforce the idea that the rain fish are all made of things anyone might find on the sidewalk or side of the road after a rain. You'll see them if you look for them, she tells the reader, but look fast because tomorrow they'll be gone." (CCBC) For ages 2–5.

#### Fish for Supper (1976) by M.B. Goffstein.

"When my grandmother went fishing she would get up at five o'clock in the morning ... to spend the day catching, cleaning, and eating fish.' ... Utterly simple, unmistakably individual, implicitly touching — in short, a Goffstein." (KR) For ages 2-6, Caldecott Honor Book.

## <u>The Pout-Pout Fish</u> (2008) by Deborah Diesen, illustrated by Dan Hanna.

"The pout-pout fish, painted a suitable blue, is so named for his perpetual gloom ... The plot takes a rather unpalatable turn when a shimmery girl fish kisses the gloomster right on his pouty mouth. With that kiss, he transforms into the 'kiss-kiss fish' and swims around 'spreading cheery-cheeries all over the place ...' Hanna's cartoonish undersea world swims with hilarious bug-eyed creatures that ooze personality. (KR) For ages 3-6.

<u>Piggy and Dad Go Fishing</u> (2005) by David Martin, illustrated by Frank Remkiewicz.

"Catch-and-release fishing takes its next logical step in this story of youthful sympathy. Young Piggy is very excited about going on his first fishing trip with his dad. ... Sure, he wants to go fishing, but how on earth is he expected to skewer a hook through a live worm ... The solution is 'feed-the-fish fishing,' with no hooks involved. Terrific narrative artwork as droll as the text ... highlights a vegetarian in the making." (KR) For ages 3-6.

#### Fish is Fish (1970) by Leo Lionni.

"... [T]he tale of a friendship between a tadpole and minnow, and the changes wrought when the now-fully-fledged frog tries to describe the wonders above ground to his finned friend. Lionni's palette ... is as captivating as ever." (PW) For ages 3-7, ALA Notable Children's Book.

#### Fish (2016) by Liam Francis Walsh.

"This picture-book debut from a New Yorker cartoonist presents a child and a dog and their escapades while fishing. The narrative is mostly wordless, although the alphabet does take center stage. The clean pen-andwatercolor panels and spreads are by turn humorous and dramatic. Children will enjoy following the dog's storyline as much as the child's ... A full-bodied story with an economy of style, this will be particularly rewarding for emerging readers." (KR) For ages 3-7.

**Poor Little Guy** (2016) by Elanna Allen. "A small, bespectacled pufferfish must face the everyday reality of being a small fish in a world full of big fishes. Readers first see the pufferfish swimming alone, totally unaware of a giant eye looking in its direction. As the fish makes its way along, it passes in front of two giant eyes; these, it notices. 'Gulp.' 'Hello, little guy! Let's play... / Catch of the Day!' says a big octopus that's just a bit too friendly. Allen wrings a lot of humor from the wickedly funny abuse the octopus inflicts on the ... [t]hough knowing readers will predict what happens next ... " (KR) For ages 3-7.

Swim! Swim! (2010) by Lerch and James Proimos. "A jaunty, optimistic but lonely fish needs a friend. He swims about in his bowl enthusiastically trying to engage the attention of pebbles and a diver statue. Even the bubbles, with whom he tries to converse in their language, just float to the surface and disappear. ... [T]he work is formatted in exaggerated comic-book style with bright, heavily outlined, large-scale cartoons ... appealing and accessible to the youngest readers." (KR) For ages 3-8.

A Million Fish... More or Less (1992) by Patricia C. McKissack, illustrated by Dena Schutzer. "Inspired by the tall tales of Papa-Daddy and Elder Abbajon, young Hugh Thomas recounts a whopper of a fish tale of his own after a day of fishing on the Bayou Clapateaux. On his way home after having caught a million fish, he loses half of them to a wily alligator, half of the remaining lot to a band of pirate raccoons, several thousands more to a flock of attacking crows before running into his neighbor's greedy cat. A well-paced, wildly funny story set in the Louisiana bayou, whimsically illustrated with boldly colored oil paintings." (CCBC) For ages 4-7.

#### Nanabosho, Soaring Eagle and the Great Sturgeon

(1993) by Joe McLellan, illustrated by Rhian Brynjolson. "When two Ojibway girls go fishing with their grandfather, they brag about the number of fish they'll catch as they ride in their grandfather's truck to the lake. After listening to the two girls, grandfather shares a Nanabosho story about a time the trickster hero and his friend Soaring Eagle were greedy when they stocked up on fish for the winter. Engaging watercolor illustrations capture the humor and the wisdom of this story within a story." (CCBC) For ages 4-8.

<u>Granddad's Fishing Buddy</u> (2007) by Mary Quigley, illustrated by Stéphane Jorisch.

"Sara doesn't want to miss anything during her visit with her grandparents at their lakeside cabin. While the sky is still dark and the stars still shining, she asks her grandfather to take her fishing. Her grandpa warns her that she'll have to be 'real quiet,' so the fish won't know they are there. She'll have to help row the boat. And, she'll have to bait her own hook. Although Sara's not too sure about that last requirement, she eagerly agrees. She's thrilled to go along, and curious to meet her granddad's "fishing buddy," whose identity remains a mystery for much of their earlymorning outing. Mary Quigley deftly weaves multiple elements of gentle surprise into a satisfying, lyrically told story. Stephane Jorisch captures the quiet earlymorning of the natural world and the loving bond between Sara and her granddad in his soft, warm illustrations." (CCBC) For ages 4-8, Highly Commended, 2008 Charlotte Zolotow Award.

<u>Fishing in the Air</u> (2000) by Sharon Creech, illustrated by Chris Raschka.

"From the moment they first pack the car with their fishing poles, a sack of sandwiches, and a can of crawly worms, a father and son set off on a journey of boundless imagination. Inspired by his father's creative view of things (trees that look like soldiers, clouds that look like angels, etc.) and by his father's childhood memories, the boy soon begins to see the whole world in front of him, dangling from his fishing line. Chagall-like illustrations form decorative frames around a lyrical text about a shared journey between father and son." (CCBC) For ages 4-8.

#### The Sawfin Stickleback: A Very Fishy Story (1994)

by Catherine Friend, illustrated by Dan Yaccarino. "As Katie and her younger brother, Mark, sit with their Grandpa in his icehouse waiting for a fish to bite, they imagine a series of incredible — and highly improbable — fish lurking below the ice; in fact. Mark thinks he can even see them when he peers down into his ice hole. And when he catches his first whopper, Katie and Grandpa conspire to turn it into a whopper of a different sort — the horrible, humongous sawfin stickleback. Dan Yaccarino's human figures have large, round heads atop tiny bodies, adding to the humor and overall 'fishiness' of the story." (CCBC) For ages 4-8.

Fishing for Methuselah (1998) by Roger Roth. "Up in the North Country, lumberjacks Ivan and Olaf are always competing, trying to outdo one another. At the upcoming ice-fishing competition, the two men both brag that they are going to catch Moosehead Lake's humongous, legendary fish called Methuselah. As the competition between them escalates, the two men end up putting themselves in danger, and soon learn that the only chance they have for survival requires cooperation. An appealing tall tale with an unusual setting offers a good example of conflict resolution that satisfies everyone." (CCBC) For ages 4-8.

**Trout, Trout, Trout!: A Fish Chant** (2004) by April Pulley Sayre, illustrated by Trip Park. "This delightful 'fish chant' will have fish lovers laughing at the antics the author and illustrator imagine underwater. The jaunty text begs to be chanted ... Wacky, bold illustrations add even more humor, yet accurately depict dozens of freshwater fish...an ideal collaboration of science and entertainment ..." (Jacket notes) For ages 4-8.

**Wishing I was Fishing** (2007) by Eva Wells, illustrated by Chandra Dale.

Take a trip across the lake on a young boy's first spring fishing trip with his dad. As the

winter melts into spring, the two prepare the boat, gather their gear, and reel in their first fish. This beautifully illustrated story captures a child's joyous anticipation and the thrill of the first catch. For ages 4-8.

**Fantastic Fish** (2009) by Elizabeth Bennett. Part of Scholastic's Science Vocabulary Readers series, this quick introduction to fish for beginning readers presents vivid photos of selected freshwater and saltwater species (unfortunately without comparative scale), fast facts, fish talents, several 'amazing' species, and ends with a short glossary and comprehension questions. For ages 5-7.

This Is Not My Hat (2012) by Jon Klassen. "A small fish is full of irrational optimism, sure his secret — he's stolen a small hat from a very large fish and is wearing it proudly as he makes his way toward some reeds where he can hide — is safe. The humor comes entirely through the contradiction between what the small fish is saying and what can be seen in the art — the large fish in single-minded pursuit... Th e vast difference between the action in Klassen's understated illustrations and the smug tone of the droll narrative is priceless, as is the opportunity to talk about inference." (CCBC) For ages 5-9.

**Gone Fishing: A Novel in Verse** (2013) by Tamara Will Wissinger, illustrated by Matthew Cordell. "A playful verse narrative of the joys and perils of a family fishing trip ... In her poetic debut for primary graders, Wissinger tells the sweet domestic tale of a much-anticipated family outing from the viewpoints of young Sam, sister Lucy and Dad. ... Alongside the poems, Cordell's light yet expressive illustrations neatly capture the day's shifting mood." (KR) For ages 5-9, poetry. <u>Go Fish</u> (1991) by Mary Stolz, illustrated by Pat Cummings.

"Thomas and Grandfather share a passion for thinking about fishing, fishing, cooking fish, eating fish and playing the "Go Fish" card game. Both Stolz's story and Cummings' drawings depict a strong and tender intergenerational relationship in an African-American family. An easy chapter book with black-and-white illustrations on every page ..." (CCBC) For ages 5-9.

Bubble Homes and Fish Farts (2009) by Fiona Bayrock, illustrated by Carolyn Conahan. "Bayrock's love of 'way cool science' bubbles over in this surprisingly substantial book. How do animals use bubbles? For sailing, running, breathing, nesting — even playing (dolphins seem to blow bubbles just for fun). Sixteen double-page spreads cover 16 wholly different ways that fish, insects, amphibians and mammals use bubbles. Conahan's whimsical watercolor illustrations, complete with conversational bubbles, add humor and interest. Three pages of additional facts and a combined glossary/index round out a volume that's sure to rise to the top." (KR) For ages 5-10.

A Good Day's Fishing (2004) by James Prosek. "A child rummages through the contents of his tackle box, certain that what he needs for a good day's fishing is somewhere inside. Beautiful watercolor paintings show each lure and tool described in the simple text. Additional paintings depict the kind of fish each is designed to catch, making this a picture book and field guide in one. Prosek is a noted fishing expert and has written extensively on the topic for adults. The glossary in the back explains in much more technical detail how each kind of lure and fly works to move and reflect light and how each is designed to attract certain types of fish in a variety of conditions." (CCBC) For ages 5-12.

<u>A Different Pond</u> (2017) by Bao Phi, illustrated by Thi Bui.

"A Vietnamese American boy's predawn fishing outing with his dad is the subject of a narrative shaped by an exquisite accounting of details. So much beyond the action is conveyed through beautifully weighted sentences ... The specific experience of this immigrant child ... a hard-working family's economic hardship ... bittersweet memory as the boy's dad recalls fishing at a similar pond as a child in Vietnam with his brother, who died during the war. [R]unning through it all is the boy's happiness in their time together, a pleasure that extends feelings about his entire family when they gather at day's end. The evocative art masterfully and movingly conveys details of character, setting, and action while superbly reflecting the warmth and intimacy of the story." (CCBC) For ages 6-9, Caldecott Honor Book, Winner, 2018 Charlotte Zolotow Award.

**The Biggest Fish in the Lake** (2001) by Margaret Carney, illustrated by Janet Wilson. "Carney's evocative tale celebrates the special bond between a grandfather and his granddaughter as they share a love and respect for nature. The quiet pleasures and dramatic thrills of fishing are captured by Wilson's timeless illustrations. Together, they gently remind us that sometimes there is more to life than landing the 'big one''' (Jacket notes) For ages 6-10.

Fishing Day (2003) by Andrea Davis Pinkney, illustrated by Shane W. Evans.

"Reenie and her mom are having fun and great success while fishing in Jim Crow River, while Peter and his father are fishing for food and have nothing to show for it. ... Told in the present tense, the style will enable the modern-day reader to feel the constrictions of segregation's rules of conduct. ... Evans's illustrations get to the core of the story. ... A gentle tale with a big punch." (KR) For ages 7-10.

**Freshwater Fish and Fishing** (1982) by Jim Arnosky. Jim Arnosky's guidebook offers detailed descriptions and elegant watercolor illustrations of many freshwater fish, as well as techniques recommended for catching them. It includes instructions for tying flies, making lures, cleaning your catch, making a fish print, and tying fishing knots. For ages 8-14.





Use any song you like adapted to the theme of fish. Here is one suggestion:



I'm a little fish, I like to swim.

(Put hands in prayer position facing away from you — they're the fish. Wiggle them back and forth like a fish swimming through the water.)

You can't catch me, 'cause I have fins. (Shake finger back and forth "no no no.")

When I swim past my friends, I hear them say... (Put hand to ear like you're listening.)

Stop your swimming and come and play!

(Make a STOP gesture with hand and then jump up in the air.)

# **FISHING WISDOM**

(source: <u>Drowning Worms</u>)

I am firmly convinced that the ideal combination leading to a happy life is to have the time to both fish and read.

Brian Murphy



Angling is extremely time consuming. That's sort of the whole point.

Thomas McGuane



Fishing is not an escape from life, but often a deeper immersion into it.

Harry Middleton



The fishing was good; it was the catching that was bad.

A.K. Best



Nothing makes a fish bigger than almost being caught.

Anonymous



The best fishermen I know try not to make the same mistakes over and over again; instead they strive to make new and interesting mistakes and to remember what they learned from them.

John Gierach



I love fishing. You put that line in the water and you don't know what's on the other end. Your imagination is under there.

Robert Altman



(sources: modified from Drowning Worms and Boy's Life)

What do you call a fish without an eye? A fsh.

Why did the freshwater mussel never share his food with his friends? Because he was a little shellfish.

Kid: Is this river any good for fish?

Fisher: It must be. I can't get any of them to leave it.

Why is a fish so easy to weigh? Because it has its own scales.

What did the fish say when it swam into the wall?

#### Dam!

Where do fish wash themselves? In a river basin.

Which lake fish are the smartest? The ones that swim in schools.

What's the best kind of music to listen to while fishing? Something really catchy.

Why did Batman and Robin quit going fishing together? Because Robin kept eating all the worms!

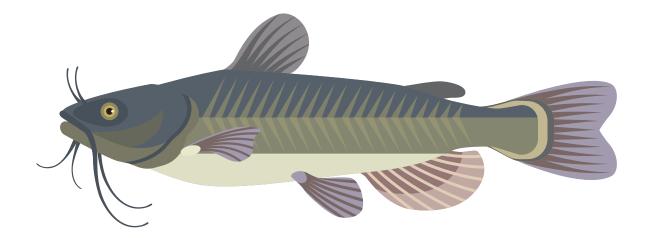
> What kind of fish never shuts up? A big-mouthed bass!

What's the best way to get a hold of a fish?

#### Drop it a line.

# **FISHING POETRY**

From Gone Fishing: a Novel in Verse (2013) by Tamera Will Wissinger, illustrated by Matthew Cordell.



#### "WHAT CAT IS THAT?" Riddle Poem

What has whiskers, spots, a grin, Fork tail, no legs, no fur — just skin?

What eats worms and likes to swim, Is gray, can jump, is long and slim?

What has spiny prickly fins? Be careful — they can poke like pins.

That is why, unlike a pup, This cat's not one to cuddle up.

(Answer: A catfish)

## CRAFT PAPER PLATE FISH

#### Supplies needed:

Paper plates Construction paper Scissors Googly eyes Markers/crayons Cups to hold markers/eyes Glue Yarn



#### How to:

Show photos of real Great Lakes fish. See pages 1, 2, 6 and 19 for some Wisconsin fish.

Let students cut out a triangular shape to form the mouth and use the triangle as a tail (caudal) fin.

Encourage students to create adipose, dorsal, anal, pelvic, pectoral and second dorsal fins from construction paper.

Repeat these words and point them out in photos of the fish.

Let students draw gills, nostrils, lateral lines, etc. on the fish.

Repeat these words and point them out using the photos of the fish.

Let the students glue googly eyes.

If the students want, they can also use yarn to add barbels and explain which Great Lakes fish have these (bullheads, catfish and sturgeon, among others).

Students can also use yarn to create a string for hanging their fish from a window in their home (with permission/help from a parent).

# LEARN MORE ABOUT

DK Find Out! Online children's encyclopedia fish true/false quiz: dkfindout.com/us/quiz/animals-and-nature/fish-true-or-false-quiz Also: dkfindout.com/us/animals-and-nature/fish/what-is-fish

Kid's Britannica online children's encyclopedia: kids.britannica.com/kids/browse/ animals/2173171

Environmental Education for Kids! (EEK!) Critter Corner – Fish: eekwi.org/critter/fish

Wisconsin Department of Natural Resources (DNR) Teaching Materials: dnr.wi.gov/topic/fishing/anglereducation/TeachingMaterials.html See also angler and aquatic education (instructor training): dnr.wi.gov/topic/fishing/anglereducation



Photo by Wisconsin Sea Grant

Game fish of Wisconsin (DNR): dnr.wi.gov/topic/Fishing/species Fishing Wisconsin (DNR): dnr.wi.gov/topic/fishing

Wisconsin DNR Taking Kids Fishing: dnr.wi.gov/topic/fishing/anglereducation/takekidsfishing.html

Eating your catch — healthy choices, Wisconsin DNR (videos about safe fish consumption and environmental toxins, including information in Spanish and Hmong): dnr.wi.gov/topic/fishing/consumption Wisconsin DNR fish consumption map: dnr.wi.gov/topic/fishing/consumption/specialmap.html

UW Sea Grant Institute information, resources, publications and posters on fish and fisheries: <a href="mailto:seagrant.wisc.edu/home/Topics/FishandFisheries">seagrant.wisc.edu/home/Topics/FishandFisheries</a>



Wisconsin Fish ID tool and app, UW Sea Grant Institute: <a href="mailto:seagrant.wisc.edu/fish-id">seagrant.wisc.edu/fish-id</a>

UW Sea Grant Institute "Eat Wisconsin Fish" guide to (Great Lakes) commercially caught and farm-raised fish: eatwisconsinfish.org

International Union for the Conservation of Nature (IUCN), the world's largest global environmental network, documents the status of species and biodiversity generally and publishes the IUCN Red List on endangered species. They have several specialist groups on fish (including the Freshwater Fish Specialist Group): iucn.org/ssc-groups/fishes

Invasive species (a major threat to freshwater fish species) of the Great Lakes: seagrant.wisc.edu/home/Topics/InvasiveSpecies

Fish and climate change: michiganradio.org/topic/warm-water-fish-changing-great-lakes

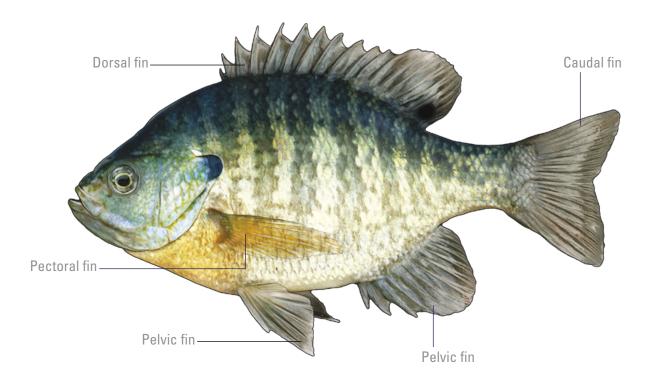
National Geographic Society on sustainable fishing practices: nationalgeographic.org/encyclopedia/sustainable-fishing American Fisheries Society "the world's oldest and largest organization dedicated to strengthening the fisheries profession, advancing fisheries science, and conserving fisheries resources": fisheries.org

Great Lakes Indian Fish and Wildlife Commission, representing 11 Ojibwe tribes, is "actively involved in a broad spectrum of resource related activities aimed at protecting and enhancing the natural resources and habitat in the treaty-ceded territories while also infusing an Ojibwe perspective into its work":

glifwc.org/About/lakes.html See also: dnr.wi.gov/topic/fishing/ceded

Wisconsin Council of Trout Unlimited, strives "to conserve, protect and restore North America's coldwater fisheries and their watersheds": wicouncil.tu.org

Izaak Walton League of America – Wisconsin chapters (fish, game and habitat conservation): **sites.google.com/view/wisconsindivision** See also their Clean Water Challenge program: **iwla.org/conservation/water/clean-water-challenge** 



Bluegill Lepomis macrochirus

Illustration: Kandis Elliot





# **SCIENTIFIC METHOD**

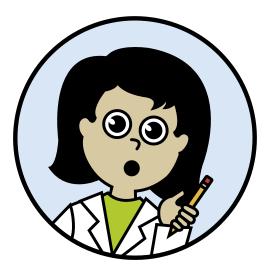


#### A SCIENTIST IS SOMEONE WHO...

Observes and wonders Asks questions Listens to ideas of others Conducts experiments Shares their ideas and discoveries Explores the world around them Uses tools to solve problems

#### A SCIENTISTS SAYS...

I agree with you because... I disagree with you because... Why do you think that? So, what you're saying is... Can you tell me more? Can you give me an example? How could we test that? That reminds me of...



## SCIENTIFIC METHOD THINK LIKE A SCIENTIST



Publication number: WISCU-E-20-001

This work was funded by the University of Wisconsin Sea Grant Institute under grants from the National Sea Grant College Program, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, and from the State of Wisconsin. Federal grant number NA180AR4170097, project number C/C-1.