



# MinnAqua Moments

MinnAqua



November 2011

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## Ice Fishing & Winter Fun

by Nadine Meyer, Newsletter Editor

When I think about my winter memories from childhood I invariably recall the time I spent out on the ice with my father and sister ice fishing. From the moment we got our snow boots on I was excited for the adventure ahead. The slipping-sliding walk to the ice house (ours was a canvass tent with the floor cut off), the smell of the kerosene stove as it got lit, and the bright, bright sun and blue, blue skies are easily recalled as if it were yesterday. It always seemed brighter and sunnier and (gasp) warmer on the ice than anywhere else in the winter.

In this issue you'll find references to "the good ole days" on the ice in our [Fishing Equipment & Tips](#) & [Piers & Places](#) articles, along with good advice on taking care of your fishing equipment and how to engage a group of kids for a successful ice fishing event.

For more information on what to do in the classroom check out our [Featured Lesson](#) and for a look at what parents do with classroom assignments visit [Angling for a Laugh](#). The [Book Reviews](#) contain excellent science trade-books you can use with your students this winter and our [Species Profile](#) gives an in-depth look at a fish which is caught more often in the winter. If you want ideas on how to engage students after school read about an "Ace of a Clubs" in the [Mentoring & MinnAqua](#) article.

Finally, our [Community Connections](#) article features a new partnership program between the Minnesota DNR and local colleges offering opportunities for college students to try outdoor recreational sports like hunting and fishing. Don't forget to check out the [Updates & Opportunities](#) section for links to grants, programs, and other local offerings available this early winter.

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## Remember Us?

MinnAqua is sending you this newsletter because you have received the new leader's guide, *Fishing: Get in the Habitat!* either through a training workshop or you have requested information about the leaders guide.

# Featured Lesson

## Lesson 2:8 - Fish In Winter

by Scott Moeller, Aquatic Education Specialist

November 2011

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Chapter 2 of the MinnAqua *Fishing: Get in the Habitat!* Leader's Guide contains nine lessons, all pertaining to understanding Minnesota Fish. This chapter covers topics from how fish perceive their world, to how to identify Minnesota fish, to the history of fishing in Minnesota. Part of being a fish in Minnesota involves coping with winter and the changes that winter brings to our rivers and lakes. **Lesson 2:8 – Fish in Winter** explores how winter conditions can affect dissolved oxygen levels in water and what this means for the fish.

[Download the Lesson](#) 

### Lesson Summary

*In this lesson, students play a simulation game in which they play the roles of fish attempting to survive a Minnesota winter. Through the course of the game, students discover how ice and snow cover can affect dissolved oxygen levels in the water, and why oxygen is the most important limiting factor for fish in climates with cold winters. By the end of the lesson, students should be able to explain dissolved oxygen and the importance of dissolved oxygen in the water, as well as identify natural factors that affect dissolved oxygen levels for fish in winter.*

### Tips & Tricks

- Students might have a hard time understanding that oxygen can be dissolved in water. Make sure to go over this with them, giving the very common example of soda pop as something they can relate to as proof that gases can be and are commonly dissolved in liquids.
- Not only does snow cover block sunlight in the lake in winter, but the angle of the sun is much lower in the wintertime and days shorter. You can use a simple "sundial" in a classroom window to demonstrate seasonal changes in the sun's angle, and discuss sunset and sunrise times in summer versus winter.
- Warm-blooded and cold-blooded can also be challenging concepts for students to fully grasp. Make sure they understand that the term "cold-blooded" is an imperfect term and, in fact, "cold-blooded" animals do not always have a cold body temperature, but a body temperature that changes with their environment. Similarly, be sure students understand that there are both advantages and disadvantages of being either warm-blooded or cold-blooded.
- Students may easily grasp the concept of localized oxygen depletion by perhaps recalling a time they were hiding under a bedsheet (or other scenario) and experienced increasing difficulty in getting enough oxygen. This could serve as a valuable analogy for the life of a fish in winter.
- In any game like this, the honor system is critical. You may find it helpful to explain to students



that the objective is not to “survive” at all costs, but to play the game honorably to explore the dynamics of survival and suffocation. Some students can be extremely sensitive about “winning,” so it may be good to emphasize that no one will be mocked for “suffocating” or rewarded for “surviving.”

## Diving Deeper

- Set up some simple experiments in the classroom to explore concepts like:
  - How much snow does it take to block sunlight from penetrating the lake surface?
  - How much less light intercepts a lake’s surface in winter than in summer?
  - How much shorter is a winter day than a summer day?
- Have students research which Minnesota fish require high oxygen levels and which have a tolerance for low oxygen levels. Discuss the implications of this in regards to which fish are more likely to survive a winterkill and which fish are likely to be victims.
- Observe a local lake in late fall and early spring to predict and observe when ice forms and when ice goes out, and what environmental conditions cause both.
- Visit a local lake that has an aeration system and talk with local officials about the lake and the aeration system in winter.

## MinnAqua Lesson Connections

**[Lesson 1:6 - From Frozen to Fascinating](#)**[PDF](#) (30 pages | 3.8 MB) is another MinnAqua lesson that focuses on how other aquatic lifeforms deal with the rigors of winter. **[Lesson 2:3 - Fish Families](#)**[PDF](#) (23 pages | 3.4 MB) could serve as springboard to talking about the many different Minnesota fishes and their varying tolerances for winter oxygen depletion. **[Lesson 3:2 - The Function of Aquatic Plants](#)**[PDF](#) (24 pages | 3.5 MB) makes the connection with aquatic plants as one important way in which a lake obtains and maintains its dissolved oxygen. And, **[Lesson 5:7 - Making Ice Fishing Jiggle Sticks](#)**[PDF](#) (19 pages | 2.8 MB) and **[Lesson 6:2 - Ice Fishing and Winter Safety](#)**[PDF](#) (29 pages | 2.2 MB) both deal with the topic of going outside on a nearby frozen lake to “sample” some real live fish in winter.

## Suggested Online Student Resources

Have your students access these online resources to engage in these concepts further.

- **[How do fish breathe?](#)**
- **[Oxygen in lakes and ponds](#)**
- **[Low oxygen tolerances for some common fish species](#)**
- **[Aquatic oxygen depletion basics](#)**

# Species Profile \*\*

## Lake Whitefish

by Roland Sigurdson

November 2011

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### Lake Whitefish

*Coregonus clupeaformis* : *Coregonus* co-regg´-on-us) means "angel eye" in Greek *clupeaformis* (clue-pee-ah-form´-iss) means "herring shaped" in Latin




Lake Whitefish

### Identification

The lake whitefish is slender, elongated species with a mouth that is subterminal and a snout that protrudes beyond it. The tail is deeply forked and they have an adipose fin. Typically they are silvery to white in color with an olive to pale greenish-brown back. The fins are white and the tail has a dark-edge.



Adipose Fin

The lake whitefish is occasionally referred to as "humpback" because the head is small in relation to the length of the body. In order to correctly identify the lake whitefish utilize [Lesson 2:3 - Fish Families](#)  (23 pages | 3.4 MB) to learn about all the members of the Trout and Salmon Family.

### Food

©MN DNR G. Mikel



Midge Larva

The lake whitefish is a bottom dweller, so it stands to reason that they would eat things near the bottom of the lake. Young whitefish eat zooplankton and begin to include small bottom-dwelling insect larvae as they grow larger. Adult whitefish eat a lot of amphipods (scuds), fingernail clams, snails, opossum shrimp, midge larvae, and small fish.

## Reproduction

The spawning season for the lake whitefish is in the fall (usually mid-October to early December) when shallow water temperatures fall below 45° F. Spawning usually occurs at night over gravel, rubble, or small rocks near the shores of the lake or around islands. The fish swim up to the surface of the water and back down in twos, threes, or greater numbers releasing eggs and sperm. The fertilized eggs fall to the bottom and settle between the rock crevices. A single female can lay 10,000-130,000 eggs depending on her size. The embryos develop through the winter and hatch in early spring.

## Predators

Early in their lives, lake whitefish are eaten by lake trout, salmon, northern pike, walleye and burbot. In inland lakes their main predator as adults are humans. As adults in Lake Superior their main predator, besides humans, is the sea lamprey.

## Fishing and Handling

In spring, try using flies, small spinners, and jigs during insect hatches. There is a gill netting season in the fall, but be sure to check the DNR website for lakes and mesh sizes that you can use. In the winter, a spoon and a jig combination work well. Tie a flasher to your line so it is about 1 - 2 feet below the ice, then tie another 1-2 feet of line below it and put on a white colored jig or small minnow. Crappie minnows suspended under a bobber anywhere in the water column will bring strikes. They sometimes swim by right under the ice.

## Fun Facts

- Lake whitefish occur in Lake Superior and in many deep, cool-water lakes in northern Minnesota. They are present in many lakes in the Boundary Waters Canoe Area and in lakes of the Upper Mississippi River drainage. They require cool, well-oxygenated water in the summertime.
- The Anishinabe (Ojibwe) word for Great Lakes Whitefish is Adikameg
- The largest lake whitefish on record weighed a whopping 42.67 lbs, caught in Lake Superior in 1918. The Minnesota inland lake record is 12 lbs, 5 oz from Leech Lake in Cass County.
- "the whitefish is most esteemed for the richness and delicacy of its flavour, and there is a universal acquiescence in the opinion formerly advanced by Charlevoix, 'that whether fresh or salted, nothing of the fish kind can excel it'" Henry Schoolcraft 1820
- Fannie Farmer's 1918 Boston Cooking School cookbook calls whitefish "the finest fish found in the Great Lakes."

## Preparation for Cooking

Clean raw fish in preparation for cooking in the following manner.

1. Remove the head and carefully fillet the fish with a sharp, long-bladed knife, cutting along the backbone, belly and around the tail to end up with two fillets.
2. Trim the fat along the top center of each fillet.
3. Trim fat along edges.

Today many fish recipes available to prepare whitefish are found on the internet.



# Fishing Equipment & Tips

## Winter's Coming! Get in Gear!

by Michelle Kelly, Aquatic Education Specialist

November 2011

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Minnesotans mark the passing of time by each dramatic change of seasons- fishing seasons, that is!

Waiting for the ice to grow thick on lakes and streams can seem interminable for anglers with visions of **ice fishing**, **ice augers** [PDF](#) and **jiggle sticks** [PDF](#) dancing in their heads! It's several weeks until ice houses will appear in temporary communities on across lake tops.

All too soon it will be time to drag the ice house off the lakes again and anglers will endure another long wait for the

spring and summer fishing seasons as winter's snow and ice melts drip by drip... by drip.

Want to fend off those 'between fishing seasons blues' this winter? Get in gear! Fishing gear, that is! Inventory and maintain your fishing gear, tune up your MinnAqua **Fishing: Get in the Habitat!** learning kits, and sharpen your casting skills. Once the ice is ready, you will be too!

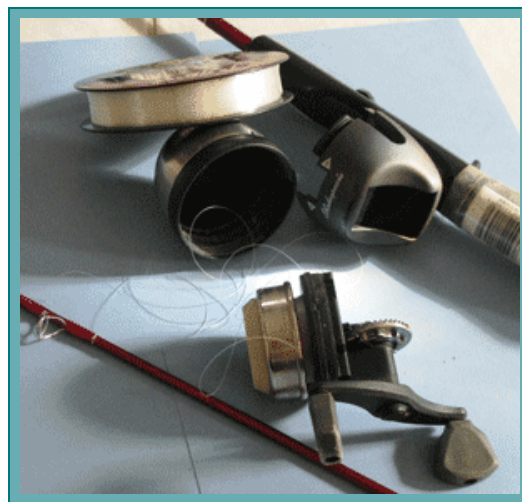


## Spruce Up your Gear

**Fishing Gear Maintenance:** Give your rods and reels a good wash down, lubricate reels, pull out the first 10 or 20 yards of line, check for nicks and weak spots, remove any bad line and recycle any discarded monofilament. (Check with your local tackle and bait dealers – many recycle old line.) You should completely **replace the line on your reels** at least once per season and always **replace weathered and worn line** with **new monofilament**.

**Repair broken reels:** Check rods for **broken tips** and loose, bent or broken eyelets. Can't fix something? Replace it.

**Organize and restock tackle:** Put some **basic tackle** [PDF](#) (sinkers, bobbers, hooks) in three or four small, clear plastic tackle boxes with compartments. Your spring fishing trip will run more smoothly when your adult volunteers have their mini-tackle boxes handy and can quickly replace any lost tackle to allay frustration and keep the kids fishing.





Restock your first aid kit and check your safety bag (throwable PFD, rope, paper cups for water breaks, sunscreen, bug spray, life jackets, note paper and pen.)



Inventory and spruce up your MinnAqua *Fishing: Get in the Habitat!* lesson materials and learning kits. Replace worn and missing items. Do you have ideas for additions or adaptations to enhance your lessons? Add new materials.

*Creativity is thinking up new things.*

*Innovation is doing new things. — Theodore Levitt*

When the cold winter winds are blowing, sit in a cozy chair by the fire with a cup of hot chocolate and read through some of the MinnAqua *Fishing: Get in the Habitat!* lessons you have yet to try. How might you incorporate a new lesson or several new lessons into your fishing unit next spring? Engage your imagination and dream up a unit that you want to teach! Outline your new unit and assemble the materials into new learning kits.

**Involve your students/youth:** Together you can generate excitement, anticipation, motivation and ownership in the learning, the fishing trip and/or the service-learning project to come in spring – and your students/youth will equip and themselves with important life-long learning skills. They'll develop and demonstrate more confidence in planning, in the generative process, in social interaction and self-direction in maintenance and caring for equipment.

Nurture the development of **creative problem-solving skills** by having students brainstorm ideas for ways to enhance their spring fishing unit, classroom equipment and your learning kits. Their innovative ideas and enthusiasm will surely brighten up many gray winter days!

# Piers & Places

## Winter solitude, winter wonder

By Roland Sigurdson, Aquatic Education Specialist

November 2011

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One of my favorite places to be in the winter is out on a frozen lake, ice fishing. I know that to some that may seem like punishment, but for me it includes moments filled with solitude and wonder. This is something that can be shared with kids as well.

While it is arguably difficult to find solitude during an ice fishing session with a group of children, there are moments when a hush will fall over the entire group as they concentrate on the bobber and hole before them. Suddenly, the solitude of a world frozen in time will encompass the group. Literally!! The world around them somehow seems silent. No bird songs, no insect buzzing, no frog calls and the winter light is just...well...weird.



Winter Shore Fishing



Ice fishing with students from Battle Lake School

Yet they quickly realize as the bobber in front of them begins to jiggle that there is life here. The aquatic species below this lid of ice continue to survive and thrive in the face of below freezing temperatures above the surface. Nature has found a way.

The opportunities to introduce kids to this wonderment become boundless in our watery state during the winter months. Suddenly, every lake is accessible. The prime fishing spots can be reached with our own two feet. The only barriers to access are a warm jacket, good winter boots, a stocking cap and the good sense to put them on.

One thing that you'll need to remember is that fish in winter are not in the same places they were during the summer months. You probably won't find them near the public fishing pier, but rather in much deeper water. To discover why that is true, use [Lesson 2:8 - Fish in Winter](#) highlighted in the [Featured Lesson](#) of this newsletter. It would also be a good idea to check with the local bait shop or resident anglers about good places to find fish on any particular lake that you'll be visiting. A special project for a group of students might be to interview some of the local anglers before hand to obtain this knowledge and report back to the group.

Not only will the horizontal location of fish change in the winter, but the vertical location as well. Most fish will be within the bottom three feet of water, often to depths over 20 feet. Kids can research where to find these deeper holes using the maps found on the DNR [LakeFinder](#). By knowing the structure of the lake bottom, we can make some educated guesses about where the fish will most likely be found.

Be sure to include [Lesson 6:2 - Ice Fishing and Winter Safety](#)  (29 pages | 2.2 MB) in any of your ice fishing program planning.



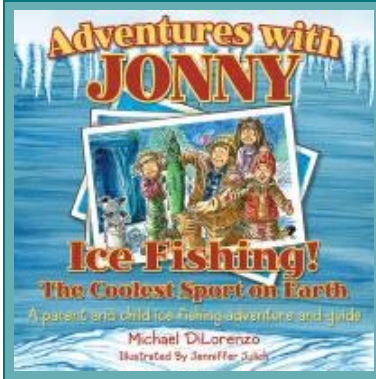
# Book Reviews

## Ice Fishing

by Nadine Meyer, Aquatic Education Specialist

November 2011

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### **Ice Fishing! The Coolest Sport on Earth (Adventures With Jonny), 2007**

by Michael DiLorenzo, Illustrated by Jennifer Julech, Running Moose Publications

Grades: PreK-4 ISBN: 0977721019

A wonderfully illustrated interactive book for families that want to take their kids ice fishing. The lyrical story told by Johnny leads the reader through the process of preparing for and embarking on an ice fishing trip. The book also includes tips for safe ice fishing, how to pick ice fishing gear, and a fishing journal to keep a record of your season's activities. An excellent book for read-aloud and individual reading time.

Available in hardcover.

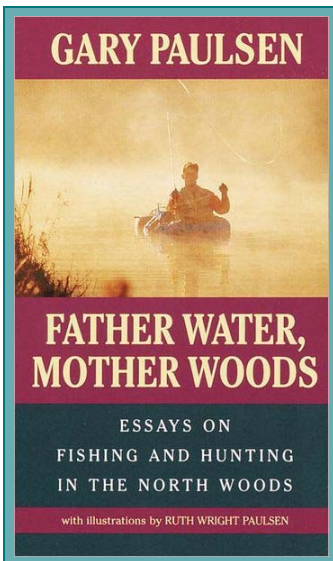
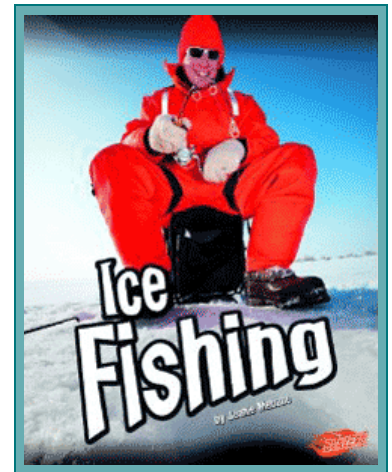
### **Ice Fishing, 2011**

by Jeanie Mebane, Capstone Press

Grades: 3-Adult ISBN: 142966066

From the moment you open the cover, this simple yet engaging book will make young and old readers excited to try ice fishing. It has vivid photos of youth and families ice fishing along with simple messages about safety and ice fishing skills. This is a good book for early readers and as well as a reference book.

Available in library binding.



### **Father Water, Mother Woods - Essays on Fishing and Hunting in the Northwoods, 1996**

By Gary Paulsen and Ruth Wright Paulson; Laurel Leaf

Grades: 8 and up ISBN: 9780870204319

This book is a compilation of short stories focused on hunting, fishing, and outdoor recreation in the Northwoods. The stories are easy to read and comprehend, and quickly draw the read into the scene; be it in an ice house in the dead of winter or wading a stream carefully casting for that prize trout. This is a great science tradebook to add to any science classroom library.

Available in mass market paperback and audio CD.

# Community Connections

## College Days

by Scott Moeller, Aquatic Education Specialist

November 2011

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Ryan Puncochar of the Mankato Bucket Riders fishing club helps Alicia Smith take a bass off her line at Duck Lake.

In the fall of 2011 MinnAqua helped college students from **Gustavus Adolphus** learn new outdoor skills. **MinnAqua** and the **DNR Outreach Section** partnered with Madison Lake's **Key Cities Conservation Club** to provide an outdoor skills day for college students. Held on a warm mid-October day at **Duck Lake County Park** and the Key Cities Club headquarters, the College Outdoor Skills Day gave Gustavus students a chance to try several outdoor skills: Trap shooting, canoeing, archery, fishing, and fly casting.

Because it was promoted as a beginners-level 'sampler' event, the day was full of memorable 'firsts' for many of the students. One student had the distinction of not only going fishing for the first time in her life, but also catching her first fish. Other students found empowerment in trying shooting sports for the first time. "I loved it," said one student, after the trap shooting session. "I'm no longer afraid of guns."

The instruction for the various sessions was carried out by experts in their particular field. The trap shooting and archery sessions were instructed by members of the Key

Cities Conservation Club who are certified instructors. Fly casting was taught by certified **Federation of Fly Fishers** instructors. Fishing was instructed by a member of the Mankato State University "**Bucket Riders**" Club. And, canoeing was led by members of the **Mankato Paddling Club**.

"I loved the instructors," said one student participant. "They were passionate, energetic and engaging, and took the time to learn and call us by name."

The event was well-received by participants and instructors alike. "We want to do whatever we can to get more people interested in shooting sports and other outdoor activities," says KCCC president Barry Braun. "We've got a real active club, and we make education events like this a high priority."

Special thanks to Blue Earth County Parks for the use of the Duck Lake facilities and canoes, to the Key Cities Conservation Club, and to all instructors, guides, and organizers.



Crystal Martiarena learns canoeing techniques on Duck Lake in a canoe provided by Mankato Paddling Club members Dean Peterson and Mark Bosacker.



Jenna Wagner prepares to take a shot at the Key Cities Conservation Club trap shoot range as certified instructor Steve Peterson looks on.

# Mentoring & MinnAqua

## Ace of Clubs!

by Michael Kurre, Mentor Coordinator

November 2011

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Playing cards and the outdoors go together like fishing line and lures. Go Fish, smear, bridge, pinochle, and in this case cribbage was our choice of games and dominating was order of the day. We could do no wrong with double digit hands as the norm and our poor adversaries who came up empty handed and were skunked and even double skunked (you don't have to be a cribbage player to know that can't be good). So they took the only recourse they had and retired the cards and retreated to the safety of conversation.

The banter was the typical guy talk about hunting and fishing, since we were at a Pheasants Forever retreat with the theme of "Focus on Forever" and "Training Trainers". The topic soon turned to my job with the Minnesota Department of Natural Resources as the Mentoring Program Coordinator. We discussed the critical factors of recruitment and retention in the outdoors. And as we each presented our backgrounds in the outdoors, it was abundantly clear we all had the passion of connecting our outdoor experiences with others and understood the challenges we face of effectively bring the outdoors to life in the direction of kids and adults.

One member of the humbled team (but a winner in my book) was Wayne Trapp a biology teacher and [Conservation Club](#) advisor for the Waconia School District (Home of the [2012 Governor's Fishing Opener](#)). Wayne informed us he was presenting a "how to start" and "maintain" an after school outdoors program the next day that was designed to promote life skills such as: fishing, charitable volunteering, adventures afield, fund raising and community service. Their motto: *"Expand, Explore and Protect our Natural Resources"*.

The program started with only about 20 students and has grown in 5 short years to almost 300. The [Conservation Club](#) has many an ace in the hole with a fanatical club advisor, passionate parents who volunteer their time soliciting donations and the best possible hand.....the students who do the bulk of the work. Club members are eligible to "letter" with minimum attendance and volunteer requirements such as: developing a yearly action plan of involvement and 1/3 participation, delegate responsibilities to each other and they shuffle in local experts in the field to share their expertise at their weekly and monthly meetings.

If you have the passion, but no aces up your sleeve, [email](#) Wayne, he would love to be dealt-in. Ace of Clubs.....[Waconia Conservation Club](#) that is!

## P.S.

[Take A Kid Ice Fishing \(TAKIF\)](#) is February 18 through the 20th, 2012. During TAKIF weekend, anglers 16 and older do not need a license if they are accompanied by a child younger than 16 and are actively participating in Take-A-Kid Ice Fishing Weekend.

# Angling for a Laugh

## Compound Interest

by Scott Moeller

November 2011

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Getting kids to do their homework can sometimes be challenging.

The best analogy I can think of is that, at times, it can feel like wrangling a feral cat into a cardboard box and trying to close the flaps. In either case, the task requires finesse, timing, the right incentives, protective gear, and Band-Aids.

When it comes to homework, finding the right incentives and motivation is key, but every kid is different. Our 8-yr-old, for example, is heavily motivated by the promise of TV time, but seems surprisingly unmoved by the prospect of attaining a sense of self-satisfaction at a job well-done.

Our 6-yr-old daughter, on the other hand, is motivated by games. If you can make it a game, she'll do it. In our household, turning your inside-out shirtsleeves and pantlegs the right way is called 'reaching down the rabbithole', the recycling bin is 'the treasure chest', and shingling the roof this summer will be referred to as 'the big high puzzle'.

That's why I turned her assignment into a game the other night, as she and her older brother were working on their homework. She was working on an exercise about **compound words** when I suggested that we try to think of as many compound words as we could. Her older brother started us off with 'catfish'.

"Good one," I said to him.

In true 6-yr-old fashion, she responded by saying 'dogfish.' My first instinct was to giggle, but then I remembered that the **bowfin** is also called a 'dogfish.' "Yes," I said. "That is actually a real fish, AND a compound word."

My 8-yr-old then blurted out "elephantfish!" thinking this was a completely nonsensical and, therefore, hilarious animal. The giggles were compounded even more when I confirmed that there really is a fish called an elephantfish.

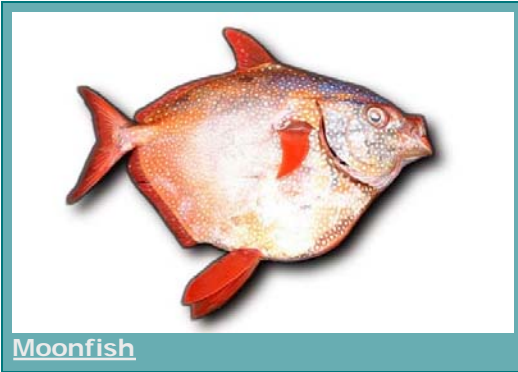
And, thus, began our great discovery about compound fish names: There are a million of them! We went on to name countless real fish names based on other animals.

Lionfish, Tigerfish, Zebrafish, Leopardfish, Batfish, Hawkfish, Buffalofish, Whalefish, Butterflyfish, Cardinalfish, Parrotfish, Turkeyfish, Roosterfish, Boarfish, Salamanderfish, Lizardfish, Mosquitofish, Ponyfish, Squirrelfish .... And on and on and on.

There's no end to the **compound fish names**. And that's just the ones made with the names of other regular animals. There is also a whole crew of fish named for menacing or mythical animals: the Unicornfish, Dragonfish, Angelfish, Devilfish, Viperfish, and Scorpionfish.







There's a Sunfish, a Moonfish, and a Starfish (although 'starfish' is, of course, a misnomer since sea stars are **echinoderms** and not **fish** – same is true for '**jellyfish**' and several others).

There are the fish that seem to belong in a medieval castle somewhere: Kingfish, Damselfish, Jackfish, Ladyfish, Clownfish and Monkfish.

There are the fish named for weapons, -- the Dartfish, Hatchetfish, Knifefish, Triggerfish, Swordfish, Cutlassfish, -- even those that would fit right into Clue: Ropefish, Pipefish and Candlefish.

Dr. Suess would be happy to learn that there is, indeed, a Redfish and a Bluefish, and also a Whitefish, Blackfish and Goldfish too fish. A Bonefish, Tonguefish, Boxfish, Lungfish. A Rockfish, Sawfish, Sandfish, Jawfish... (*Oh crud, now I probably have to pay royalties*).

How about a Velvetfish, Icefish, Coffinfish, Blobfish, Cavefish, Glassfish, Paddlefish, Milkfish, Lightfish, Pineapplefish, Footballfish, Pineconefish.... OK.... You get the picture.... There's a lot of different compound fish names, because there are a lot of different fish -- each with unique characteristics and ecology to learn about.



It occurs to me that a classroom teacher could make use of this concept. The teacher could give the students a list of 100 different fish names (from Trumpetfish to Rudderfish to Jewelfish), ask the students to make predictions about the characteristics of the fish based on the name, then research their unique species. Or, students could brainstorm a list of '*silly*' fish names, then do research to determine which ones are real fish and which ones are not.

These ideas would go well with several of the lessons in **Chapter 6** of the MinnAqua ***Fishing: Get in the Habitat!*** Leader's Guide.

Give it a try sometime. Games can be a powerful motivator to get kids to do their work both in and out of the classroom and effect real and impactful learning.

And if that fails, just fall back on what motivates my 3-yr-old... Candy. Lots and lots of candy.