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Chapter 1: Aquatic Habitats

Design a Habitat 1:1
Experience signs of pond life on a “virtual field trip” or an actual field trip to a pond, and construct a fish habitat diorama that demonstrates the four basic habitat needs of fish.
Food Chain Tag..... 1:2
Observe a food chain in action by role-playing: becoming minnows, perch, northern pike, bacteria and anglers.
Run For Your Life Cycle 1:3
Travel the migration route of a northern pike to discover some of the challenges these fish face during their life cycle. Complete lesson available in hardcopy only.
Water Habitat Site Study 1:4
Explore a local water body and discover a variety of organisms that live in the different aquatic habitats.
Habitat Hideout 1:5
Identify preferred fish habitat to find where the fish are likely to be and where to cast your line when fishing.
From Frozen to Fascinating..... 1:6
Scoop bottom sediment from an icy lake, pond, or wetland to discover what causes some tiny aquatic organisms to emerge in spring after quietly surviving through the cold Minnesota winters.

Chapter 2: Minnesota Fish

Fish Sense..... 2:1
Explore the six senses of a fish and print its image using the ancient Japanese art form called Gyotaku (GEE-OH-TAH-KOO).
Fins: Form and Function 2:2
Learn the names and test the function of different fin types; determine that fin adaptations help fish survive in their habitat.
Fish Families..... 2:3
Learn how scientists classify fish into groups called families. Find out how many fish families are in Minnesota.
Using a Key for Fish ID 2:4
Identify Minnesota fish species by looking closely at their physical characteristics and using a dichotomous key.
Diving Into Diversity 2:5
Explore fish diversity in Minnesota. Create a grouping system that helps answer a question about fish.

Adapted for Habitat2:6
 Dress two fish with adaptations, one a predator and one a prey species. Then, design a fish with adaptations suited to proposed habitat conditions in the year 4000. Complete lesson available in hardcopy only.

Fish Tales2:7
 Discover that fish stories have a long history in Minnesota. Write a tall tale using exaggeration, similes and metaphors to increase entertainment value, while still telling the “fishy” stories in a believable style.

Fish in Winter2:8
 Discover how winter conditions can affect dissolved oxygen levels in the water and learn what this means for fish in winter.

Fish Bowl.....2:9
 Play a knowledge bowl game to review and reinforce concepts learned about fish identification, habitat, fish management, and other topics covered in a previous lesson or unit.

Chapter 3: Water Stewardship

The Incredible Journey.....3:1
 Become a water molecule, roll a die and simulate the movement of water within the water cycle.

The Function of Aquatic Plants3:2
 Conduct experiments to explore the value of aquatic vegetation to lakes and streams and fish habitat.

Wonderful Watersheds3:3
 Investigate watersheds in 3-D by making a watershed model to demonstrate how the water cycle and land use practices impact water quality in a watershed.

Would You Drink This Water?3:4
 Use your senses of sight, smell, and taste to examine the quality of six water samples.

The Lake Game3:5
 Read situation cards and make decisions relating to resource use, pollution, recreation, economic and industrial values, and introduction of exotic species for a local lake.

Macroinvertebrate Mayhem3:6
 Play a game of tag to simulate the effects of environmental stressors on different species of aquatic macroinvertebrate populations.

Mussel Mania3:7
 Become a native mussel, zebra mussel (non-native), perch, walleye, or “plankton mover” in a game designed to demonstrate how harmful invasive species impact ecosystem balance.

Chapter 4: Fish Management

- Fishing Regulations and Sportsmanship4:1
Participate in a scavenger hunt through the fishing regulations booklet for answers to questions about fish and fishing. Then create a short skit to demonstrate a group decision in response to a fishing regulations or sportsmanship situation.
- Fish Surveys.....4:2
Learn why and how fisheries managers conduct fish surveys and become familiar with some of the equipment and survey methods used by fisheries biologists. Participate in fisheries biologist training to learn how to use a mark-recapture method and mathematical formula to estimate the size of the walleye population in Lake MinnAqua.
- Aquatic Plant Power.....4:3
Explore one way shoreline vegetation is important for successful fish reproduction and growth, and investigate how shoreline plants help regulate water temperatures that are suitable for certain species of fish.
- Town Meeting.....4:4
Role-play a land-use public hearing that demonstrates citizen participation in community decision-making about a local shoreline development issue.
- Fisheries Management and You.....4:5
Play a board game to review fisheries management tools and techniques and reinforce the role of every citizen in fisheries management in Minnesota.

Chapter 5: Fishing Equipment & Skills

- Freshwater Rods and Reels.....5:1
Examine different types of freshwater rods and reels, learn what fishing conditions each is suited for, and practice casting.
- Casting a Closed-face Rod and Reel Combo5:2
Practice basic rod and reel rigging and fishing skills.
- Pop Can Casting5:3
Like native Indians and early Minnesota settlers once did, you can use readily available and common materials to make a fishing rig that will catch fish.
- Tackling Your Tackle Box.....5:4
With a limited amount of money, shop in a virtual tackle store for basic lures and baits. Choose the best items to stock in a tackle box for trying to catch a particular fish species.
- Flashy Fish Catchers5:5
Use knowledge about fish senses to design your own fishing lure to attract fish.
- Fool Fish With Flies5:6
Learn the life stages and body parts of various aquatic insects and play a game of Go Fly Fish.
- Making Ice Fishing Jiggle Sticks5:7
Students make and rig their own jiggle stick.

Chapter 6: Safety & the Fishing Trip

Safety and Fishing at the Water’s Edge6:1
 Choose a safe fishing site and participate in creating a safety plan by writing a safety rap, song, or poem with safety rules and tips for the trip. Put your fishing skills to action and have fun fishing.

Ice Fishing and Winter Safety6:2
 Learn about dressing in layers, ice thickness safety considerations, practice ice rescue, and have fun while going ice fishing.

Planning a Fishing Trip6:3
 Gather information from the Minnesota Department of Natural Resources website and other sources to plan a fishing trip.

Piscatorial Palate.....6:4
 Conduct a bait experiment to test how well fish will be attracted to an unusual variety of bait. Be creative by suggesting common foods to try as alternatives to traditional baits when trying to catch “the big one!”

Eating Fish6:5
 Explore how toxins can accumulate in fish, and discuss the healthy benefits and potential risks of eating fish. Learn some ways to reduce the risks. Cook and taste some fish!

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