

# Fish Bowl

*For answers that are perfectly clear, play a game of Fish Bowl!*



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## Table of Contents

<b>Fish Bowl .....</b>	<b>2:9-A</b>
Minnesota Academic Standards .....	2:9-C
Environmental Literacy Scope and Sequence .....	2:9-C
Instructor’s Background Information .....	2:9-1
Summary .....	2:9-1
Student Objectives .....	2:9-1
Materials.....	2:9-1
Procedure.....	2:9-1
Activity.....	2:9-1
Assessment Options .....	2:9-4
Scoring Rubric.....	2:9-5
Extensions .....	2:9-6
K-2 Option.....	2:9-6
Sample Question Cards.....	2:9-7

## Chapter 2 • Lesson 9

Please note: Academic Standards are updated regularly and our alignments will be updated on the DNR Academic Standards Website at: [www.mndnr.gov/education/teachers/edstandards\\_intro.html](http://www.mndnr.gov/education/teachers/edstandards_intro.html)

# Fish Bowl

## Minnesota Academic Standards

- ☐ Lesson *introduces* this Benchmark.
- ◐ Lesson *partially* addresses this Benchmark.
- ◑ Lesson *fully* addresses this Benchmark.

### Language Arts

Grades 3, 4, 5

#### II. Writing

##### C. Spelling, Grammar, and Usage:

**Benchmark 1**—The student will compose sentences when writing. ◐ (If students generate the questions for the game.)

#### III. Speaking, Listening, and Viewing

##### A. Speaking and Listening:

**Benchmark 1**—The student will participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups. ◐

**Benchmark 2**—The student will demonstrate active listening and comprehension. ◑

### Math

(Students participate in scorekeeping.)

Grade 3

#### II. Number Sense, Computation, and Operations

##### B. Computation and Operation:

**Benchmark 1**—The student will use addition of up to three whole number addends, containing up to four digits each in real-world and mathematical problems. ◐

**Benchmark 2**—The student will use subtraction with up to three digit whole numbers in real-world and mathematical problems. ◐

Grade 4

#### II. Number Sense, Computation, and Operations

##### B. Computation and Operation:

**Benchmark 1**—The student will use addition and subtraction of multi-digit whole numbers to solve multi-step real world and mathematical problems. ◐

**Benchmark 2**—The student will add up to three whole numbers containing up to three digits each, without a calculator. ◑

Note: Whether other benchmarks are addressed will depend on the questions you use for the game.

### Science

Note: The standards and benchmarks addressed will depend on the questions you use for the game.

## Environmental Literacy Scope and Sequence

### Benchmarks

- Social and natural systems are made of parts. (PreK-2)
- Social and natural systems may not continue to function if some of their parts are missing. (PreK-2)
- When the parts of social and natural systems are put together, they can do things they couldn't do by themselves. (PreK-2)
- In social and natural systems that consist of many parts, the parts usually influence one another. (3-5)
- Social and natural systems may not function as well if parts are missing, damaged, mismatched or misconnected. (3-5)

For the full Environmental Literacy Scope and Sequence, see:

[www.seek.state.mn.us/eemn\\_c.cfm](http://www.seek.state.mn.us/eemn_c.cfm)

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## Chapter 2 • Lesson 9

# Fish Bowl

**Grade Level:** 3-5

**Activity Duration:** 45-60 minutes for game set-up

45-60 minutes of game play

**Group Size:** minimum of 8

**Subject Areas:** Varies depending on questions asked; possibly Health & Safety, Language Arts, Physical Education, Science, Social Studies

**Academic Skills:** communication, large group skills, listening, listing, organization, small group skills, reading, writing

**Setting:** indoor or outdoor gathering area

**Vocabulary:** Knowledge Bowl

**Internet Search Words:** fish, fishing, Knowledge Bowl, Quiz Bowl

## Instructor's Background Information

A **Knowledge Bowl** is sometimes referred to as an Academic Bowl or Quiz Bowl. **Fish Bowl** is a fun and fast-paced game in which students compete in teams to answer questions on topics they've studied in class. Team members need to be quick as well as knowledgeable to respond with the right answer. Points are awarded for correct answers, and the team with the most points wins the game.

## Procedure

### Preparation

- 1 Collect the materials.
- 2 If using the sample questions provided at the end of this lesson rather than having the students write their own questions, copy the **Sample Question Cards**, cut them apart, and attach them to note cards.
- 3 You may wish to prepare a bonus question for the end—in case there's a tie, or just for fun.

## Activity

### Warm-up

- 1 Tell the students they'll be playing a game referred to as a Knowledge Bowl, or in this case, a Fish Bowl.
- 2 Ask them to help you come up with five or six categories for your game, such as fish parts and adaptations, fish families, fishing equipment and bait, fish habitat, fish identification, or fishing regulations. The categories will vary, depending on what your students have studied.
- 3 Across the top of the classroom whiteboard, write the question categories as headings for columns.

## Summary

This activity uses the format of a popular game show to reinforce concepts about fish identification, habitat, fish management, and other topics covered in the unit. Students review the material to write quiz questions and participate in a fish quiz bowl.

## Student Objectives

The students will:

- 1 Write comprehensive quiz questions covering what they have learned about fish and fishing.
- 2 Answer Fish Bowl questions.

## Materials

- Note cards, ten for each group of four to six students
- Pencils, one for each group of four to six students
- Tape
- Whiteboard
- Whiteboard markers
- Coin
- **Sample Question Cards**
- Noisemakers (such as party horns or buzzers), one type for each group of four to six students (optional)



Rather than having students write their own questions, you may use the **Sample Question Cards**.

## Lesson

### Game Set-up

- 1 Divide the class into groups of four to six students. Hand out the note cards and pencils. Ask each group to come up with a group name. Have each group write one or more questions with answers for each of the categories, drawing from material they've learned in class. Then ask them to assign each question a point value of 10, 20, 30, or 40 points, depending on its difficulty level.
- 2 Encourage the students to think through the questions they write so they're clear and understandable. Show them a good example and a poor example of a question. Suppose that the category heading is Fish Parts. An example of a good question: Which body part do fish use to collect oxygen from the water? (Answer: Gills) This is a good question because the answer is clear and simple. An example of a poor question: How does a fish breathe? (Answer: Gills) This question doesn't clearly ask the student to name the body part. The actual answer to this question is open-ended and the different answers could vary significantly. Correct answers to this question include getting oxygen from the water, taking in water through the mouth, or getting oxygen with gills. This open-ended question is too ambiguous and doesn't fit the category heading of Fish Parts.
- 3 Ask students to format their note cards like this:

<p><b>Fish Parts</b></p> <p><b>30 points</b></p>	<p><b>Q:</b> What body part do fish use to draw oxygen from the water?</p> <p><b>A:</b> Gills</p>
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**Front of card:**  
Category and point value

**Back of card:**  
Question and answer

- 4 Collect each group's note cards containing the questions and discard any duplicates. You may have to adjust point values so that each point value is used just once in each category. Alternately, you may have each group write questions for certain point values.

- 5 On the whiteboard, tape each question—with its point value facing the class—in ascending order under its appropriate category heading:

Heading	Heading	Heading	Heading	Heading
10 pts	10	10	10	10
20	20	20	20	20
30	30	30	30	30
40	40	40	40	40

- 6 Draw a scorecard on the whiteboard. Each team's name should head each score column. As questions are answered, a running point tally can be kept under the corresponding team heading. Assign a student to be scorekeeper, or assign a scorekeeper from each team to post their own team's points on the scoreboard.

<i>Fish Bowl Scoreboard</i>	
<u>Mighty Muskies</u>	<u>Wonderful Walleyes</u>

### Playing the Game

- 1 Explain the rules of the game. Remind students that the Fish Bowl is about reviewing knowledge, teamwork, and having fun! Fish Bowl is an exciting way to tie together, reinforce, and review what students have learned. Everyone contributes to the success of the game, and everyone is a winner.
- 2 You (the instructor) will be moderator, timekeeper, and scorekeeper.
- 3 Flip a coin to determine which team chooses the first question. That team chooses a category and point value (for example, Fish Foods for 10.)
- 4 Remove that question from the board and read it to the class.
- 5 Teams have ten seconds to confer and come up with an answer. As soon as a group agrees on an answer, team members should raise their hands or use their noisemaker. Call on the first person to raise a hand. (Each team can choose one member to be the spokesperson and give all the answers, or set up a predetermined order of students to be spokesperson, so everyone gets a chance to speak. Anyone may raise their hand, however.)

- 6 If the question is answered incorrectly or if time runs out, the next group that had raised their hands or used their noisemaker now has the opportunity to answer. Reread the question and give the group fifteen seconds to confer before offering an answer to the question.
- 7 Award the points to the team with the correct answer by taping the card under their team name. (Option: Give three chances at answers with reduced points after each failed attempt.)
- 8 Give each team a chance to choose the question.
- 9 When all the questions have been answered, have students total the scores for each team. If there's a tie, ask a "tie breaker" question. (You may wish to prepare a few tie breaker questions in advance.)
- 10 To add excitement at the end of the game, consider a bonus round. Create a final bonus question. Let teams wager some or all of the points they have earned so far. The team that answers the bonus question correctly earns their wagered points. If a team answers the question incorrectly, they lose all of their wagered points.

### Wrap-up

- 1 Ask students how they liked the game. What could have made it better? Discuss the importance of writing clear, specific questions.
- 2 Ask students to think about other situations in which they may need to consult others and work in a team to solve a problem.

### Assessment Options

- 1 Observe individual participation, teamwork, knowledge applied in writing and answering questions, and problem-solving. Evaluate whether students adequately reviewed material that was to be covered in this activity.
- 2 Another assessment option includes the Rubric on the next page.

*Fish Bowl Scoring Rubric*

Questions Criteria	4 Excellent	3 Good	2 Fair	1 Poor	0 Unacceptable
<b>Written questions</b>	Questions were thoughtful, well written, and contained the correct answer. Questions were legible.	Questions were thoughtful, well written, and contained the correct answer. Questions were legible, but contained a few grammatical errors.	Questions were thoughtful, and contained the correct answer. Questions were barely legible.	Questions weren't thoughtful or well written. Questions were illegible.	Student didn't write questions for the Fish Bowl.
<b>Teamwork</b>	Group worked together to write questions.	Group worked together to write questions. A few people occasionally dominated the writing.	One or two individuals dominated the group but the whole team did participate in the process.	Only a few people from the group participated in writing questions.	One person wrote questions for the rest of the group members.
<b>Individual participation in Fish Bowl</b>	Attentive and involved in the Fish Bowl game. Answered several questions. Participated in group discussions when appropriate.	Attentive and involved in the Fish Bowl game. Answered a few questions. Participated in group discussions when appropriate.	Attentive and involved in the Fish Bowl game. Answered one or two questions. Seldom participated in group discussions when appropriate.	Wasn't attentive or involved in the Fish Bowl game. Listened during group discussions.	Disrupted the Fish Bowl game. Didn't listen or participate in group discussions.

Score \_\_\_\_\_ Diving Deeper

## Extensions

- 1 Provide teams with answers, and have them respond with a correct question. For example: Question in the form of an answer: Food, water, shelter, and space. Response in the form of a question: What are the four basic habitat needs of all living things?
- 2 Write the questions one day and play the game the next. Have students create banners for their teams and dress in a team color or wear a team emblem.
- 3 Invite parents and family members to be an audience for a “Fish Bowl Game Show.” Choose students to play game show host, panel of judges, stage assistant (brings selected question to the host to read and tapes score cards under appropriate team to award points.) Have students create commercials for station breaks throughout the game show. They should base the commercials on lessons they’ve covered on fish, aquatic habitats, water stewardship, fish management, and fishing.

### For the Small Fry

#### K-2 Option

- 1 Play the Fish Bowl using instructor-prepared questions. Allow two clues to help students respond with the correct answer.
- 2 Ask students to tell you about the things they’ve learned about fish and fishing. Make a chart or web that includes all the topics they list. Have each student pick one of the items and illustrate the main idea, have the students dictate information about their drawing to an adult, or write their own story on the drawing. Laminate the pictures and bind them together to make a class book about their learning experience.

*Sample Question Cards*

These questions use lessons from Chapter 1 as question categories.

**Food Chain Tag**

**10 points**

**Q:** Name one fish predator.

**A:** Perch, northern pike  
(or other fish predators)

**Food Chain Tag**

**20 points**

**Q:** Where do plants and some plankton (phytoplankton) get energy to grow?

**A:** From the sun

### Sample Question Cards

These questions use lessons from Chapter 1 as question categories.

**Food Chain Tag**

**30 points**

**Q:** What do small fish (like minnows) eat?

**A:** Plankton

**Food Chain Tag**

**40 points**

**Q:** What decomposes dead plants and fish?

**A:** Bacteria

*Sample Question Cards*

These questions use lessons from Chapter 1 as question categories.

**Run For Your Life Cycle**

**10 points**

**Q:** What is a newly hatched fish called?

**A:** Fry, sack fry, or larva

**Run For Your Life Cycle**

**20 points**

**Q:** Something that impacts fish and might lessen the chance for survival is called \_\_\_\_.

**A:** A limiting factor

*Sample Question Cards*

These questions use lessons from Chapter 1 as question categories.

**Run For Your Life Cycle**

**30 points**

**Q:** Name three habitats that a northern pike needs during its life cycle

**A:** Wetland, stream, and lake  
(or big river)

**Run For Your Life Cycle**

**40 points**

**Q:** Name two limiting factors that a northern pike might face in its lifetime.

**A:** Predators like kingfishers and anglers, dams, limited food, drought, loss of habitat

*Sample Question Cards*

These questions use lessons from Chapter 1 as question categories.

**Water Habitat Site Study**

**10 points**

**Q:** Aquatic plants grow in this area of a lake.

**A:** Near shore, in shallow water called the littoral zone

**Water Habitat Site Study**

**20 points**

**Q:** Name one piece of equipment you can use when collecting aquatic invertebrates and plants.

**A:** Shovel, rake, strainer, dip net, or bare hands

*Sample Question Cards*

These questions use lessons from Chapter 1 as question categories.

**Water Habitat Site Study**

**30 points**

**Q:** Name three places where you can find aquatic invertebrates.

**A:** Swimming on the surface; stuck to rocks, plants, or logs; under a dock; or in muck

**Water Habitat Site Study**

**40 points**

**Q:** What should you do with invertebrates when you're done studying them?

**A:** Return them to the water where you found them

*Sample Question Cards*

These questions use lessons from Chapter 1 as question categories.

**Habitat Hideout**

**10 points**

**Q:** Name two types of structure in a lake.

**A:** Plants, rocks, brush pile, drop-off

**Habitat Hideout**

**20 points**

**Q:** Slow water behind a rock where a fish can rest in a stream is called \_\_\_\_.

**A:** An eddy

*Sample Question Cards*

These questions use lessons from Chapter 1 as question categories.

**Habitat Hideout**

**30 points**

**Q:** The deeper part of a lake where plants don't grow is called \_\_\_\_.

**A:** The limnetic zone

**Habitat Hideout**

**40 points**

**Q:** Name two types of structure or habitat in a stream.

**A:** Vegetation, boulder, log, under-cut bank, eddy, riffle, pool

*Sample Question Cards*

These questions use lessons from Chapter 1 as question categories.

**From Frozen to Fascinating**

**10 points**

**Q:** Name two things that live in the sediment at the bottom of the lake in winter?

**A:** Aquatic invertebrates and plant seeds (could list species names.)

**From Frozen to Fascinating**

**20 points**

**Q:** What happens to aquatic invertebrates in the winter?

**A:** They hibernate

*Sample Question Cards*

These questions use lessons from Chapter 1 as question categories.

**From Frozen to Fascinating**

**30 points**

**Q:** What happens to aquatic plant seeds in the winter?

**A:** They become dormant

**From Frozen to Fascinating**

**40 points**

**Q:** Which two factors affect how quickly aquatic invertebrates come out of hibernation?

**A:** Amount of light and temperature

*Sample Question Cards*

These questions use lessons from Chapter 2 as question categories.

**Fish Sense**

**10 points**

**Q:** A fish can't see in this direction.

**A:** Directly behind itself

**Fish Sense**

**20 points**

**Q:** What does the lateral line sense?

**A:** Vibrations in the water

*Sample Question Cards*

These questions use lessons from Chapter 2 as question categories.

**Fish Sense**

**30 points**

**Q:** Name three places where a bullhead has taste buds.

**A:** Tongue, lips, skin, barbels, tail

**Fish Sense**

**40 points**

**Q:** Name at least three senses that fish have.

**A:** Sight, touch, smell, taste, hearing, lateral line (the lateral line is an extension of hearing and is sometimes called a sixth sense)

*Sample Question Cards*

These questions use lessons from Chapter 2 as question categories.

**Fins: Form and Function**

**10 points**

**Q:** Name the fin found on the back (top) of a fish.

**A:** The dorsal fin

**Fins: Form and Function**

**20 points**

**Q:** Name two functions of fish fins.

**A:** To help fish balance, swim, and steer

*Sample Question Cards*

These questions use lessons from Chapter 2 as question categories.

**Fins: Form and Function**

**30 points**

**Q:** Fins can be supported by these two structures.

**A:** Soft rays and sharp spines

**Fins: Form and Function**

**40 points**

**Q:** Name the fleshy fin on trout and catfish that has no known purpose.

**A:** Adipose fin

*Sample Question Cards*

These questions use lessons from Chapter 2 as question categories.

**Fish Families**

**10 points**

**Q:** Which fish family has flat undersides, an adipose fin near the tail, and barbels?

**A:** Catfish family

**Fish Families**

**20 points**

**Q:** Which fish family has torpedo-shaped bodies, a small one-part dorsal fin near the tail, and a duckbilled snout?

**A:** Pike family

### Sample Question Cards

These questions use lessons from Chapter 2 as question categories.

**Fish Families**

**30 points**

**Q:** To which family does the largemouth bass belong?

**A:** Sunfish family

**Fish Families**

**40 points**

**Q:** The Minnesota state fish (walleye) belongs to which family?

**A:** Perch family

### Sample Question Cards

These questions use lessons from Chapter 2 as question categories.

## Using a Key for Fish ID

**10 points**

**Q:** Name the ancient fish that has a skeleton composed entirely of cartilage and has a snout (nose) shaped like a paddle.

**A:** Paddlefish

## Using a Key for Fish ID

**20 points**

**Q:** What's the easiest way to tell a yellow perch from a walleye?

**A:** A perch has stripes; a walleye doesn't.

*Sample Question Cards*

These questions use lessons from Chapter 2 as question categories.

**Using a Key for Fish ID**

**30 points**

**Q:** Name a primitive fish that has bony plates instead of scales.

**A:** Sturgeon

**Using a Key for Fish ID**

**40 points**

**Q:** Name the Minnesota fish with a lateral line that runs through its tail.

**A:** Freshwater drum (sheepshead)

### Sample Question Cards

These questions use lessons from Chapter 2 as question categories.

## Diving Into Diversity

10 points

**Q:** What do we call the process of putting objects into groups according to their features or characteristics?

**A:** Classification

## Diving Into Diversity

20 points

**Q:** Name two features that can be used to classify fish into family groups.

**A:** Fin shape, mouth location, mouth type, body shape, presence or absence of barbels or adipose fin, size of scales, or number of scales

### Sample Question Cards

These questions use lessons from Chapter 2 as question categories.

**Diving Into Diversity**

**30 points**

**Q:** How many species of fish live in Minnesota?

**A:** 160

**Diving Into Diversity**

**40 points**

**Q:** If an area has many different types of plants and animals, it is said to have this.

**A:** Biodiversity

*Sample Question Cards*

These questions use lessons from Chapter 2 as question categories.

**Adapted for Habitat**

**10 points**

**Q:** When a fish blends in with its surroundings, it is said to be this.

**A:** Camouflaged

**Adapted for Habitat**

**20 points**

**Q:** What do we call a fish that eats other animals?

**A:** A predator, carnivore, or piscivore

*Sample Question Cards*

These questions use lessons from Chapter 2 as question categories.

**Adapted for Habitat**

**30 points**

**Q:** Describe the body shape of a bluegill.

**A:** Round with flat sides (laterally compressed) or pan-shaped

**Adapted for Habitat**

**40 points**

**Q:** Does the male or female bass guard the nest when the eggs are laid?

**A:** Male

*Sample Question Cards*

These questions use lessons from Chapter 2 as question categories.

**Fish Tales**

**10 points**

**Q:** What do we call the character that saves the day in an amazing way?

**A:** A hero

**Fish Tales**

**20 points**

**Q:** A story that is entertaining and that exaggerates the truth is called this.

**A:** A tall tale (or fish tale)

*Sample Question Cards*

These questions use lessons from Chapter 2 as question categories.

**Fish Tales**

**30 points**

**Q:** What do we call a figure of speech in which two unlike things are compared using the words like or as? For example, “Joy swims like a fish.”

**A:** A simile

**Fish Tales**

**40 points**

**Q:** What do we call a figure of speech in which a word or phrase is given a new meaning? For example, “The northern pike was a torpedo chasing the bait.”

**A:** A metaphor

*Sample Question Cards*

These questions use lessons from Chapter 2 as question categories.

**Fish in Winter**

**10 points**

**Q:** Name the body part that fish use to collect oxygen from the water.

**A:** Gills

**Fish in Winter**

**20 points**

**Q:** What is it called when fish die from lack of oxygen in an ice-covered lake or pond?

**A:** Winterkill

*Sample Question Cards*

These questions use lessons from Chapter 2 as question categories.

**Fish in Winter**

**30 points**

**Q:** What is the most important limiting factor for fish in winter?

**A:** Oxygen

**Fish in Winter**

**40 points**

**Q:** Name one way oxygen is mixed into the water in a lake or stream.

**A:** Wind, waves, bubbling water from a waterfall, riffles (rapids), the arrival of spring and/or green plants, photosynthesis

*Sample Question Cards*

These questions use chapter headings as question categories.

**Aquatic Habitats**

**10 points**

**Q:** What are the four basic habitat needs of fish?

**A:** Food, water, shelter, and space

**Aquatic Habitats**

**20 points**

**Q:** What do small fish (like minnows) eat?

**A:** Plankton

*Sample Question Cards*

These questions use chapter headings as question categories.

**Aquatic Habitats**

**30 points**

**Q:** Name two types of structure or habitat in a stream.

**A:** Vegetation, boulder, log, under-cut bank, eddy, riffle, pool

**Aquatic Habitats**

**40 points**

**Q:** Name three places you can find aquatic invertebrates.

**A:** Swimming on the surface; stuck to rocks, plants, or logs; under the dock; or in the muck

*Sample Question Cards*

These questions use chapter headings as question categories.

**Aquatic Habitats**

**50 points**

**Q:** Something that impacts fish and might lessen the chance for survival is called \_\_\_\_\_.

**A:** A limiting factor

**Aquatic Habitats**

**60 points**

**Q:** What two factors affect how quickly aquatic invertebrates come out of hibernation?

**A:** Light and temperature

*Sample Question Cards*

These questions use chapter headings as question categories.

**Minnesota Fish**  
**10 points**

**Q:** What does the lateral line sense?  
**A:** Vibrations in the water

**Minnesota Fish**  
**20 points**

**Q:** Name two functions of fish fins.  
**A:** To help the fish balance, swim, steer

*Sample Question Cards*

These questions use chapter headings as question categories.

**Minnesota Fish**

**30 points**

**Q:** To which family do largemouth bass belong?

**A:** Sunfish family

**Minnesota Fish**

**40 points**

**Q:** Name the fish that has a lateral line running through its tail.

**A:** Freshwater drum

*Sample Question Cards*

These questions use chapter headings as question categories.

**Minnesota Fish**  
**50 points**

**Q:** How many species of fish live in Minnesota?  
**A:** 160

**Minnesota Fish**  
**60 points**

**Q:** Does the male or female bass guard the nest when the eggs are laid?  
**A:** Male

### Sample Question Cards

These questions use chapter headings as question categories.

**Minnesota Fish**

**70 points**

**Q:** What is the limiting factor for fish in winter?

**A:** Oxygen

**Water Stewardship**

**10 points**

**Q:** Name three natural places where water can be found.

**A:** Soil, plant, river, cloud, ocean, lake, animal, groundwater, and glacier

*Sample Question Cards*

These questions use chapter headings as question categories.

**Water Stewardship**

**20 points**

**Q:** Name three ways that aquatic plants benefit fish.

**A:** Produce oxygen, provide cover, provide shade, provide invertebrate resting spots (fish food)

**Water Stewardship**

**30 points**

**Q:** What do we call an area of land where all water drains to one point such as to a particular stream, lake, or pond?

**A:** A watershed

## Sample Question Cards

These questions use chapter headings as question categories.

### Water Stewardship

**40 points**

**Q:** Name three types of pollution that can contaminate the water.

**A:** Litter, fertilizer/pesticides, oil from cars, animal waste, soil from erosion

### Water Stewardship

**50 points**

**Q:** Name three specific ways in which people can keep water clean.

**A:** Don't litter, reduce fertilizer/pesticide use, recycle oil, keep buffer zones along lakes and streams

*Sample Question Cards*

These questions use chapter headings as question categories.

**Water Stewardship**

**60 points**

**Q:** Name two macroinvertebrates that are intolerant to water pollution.

**A:** Alderfly, dobsonfly, caddisfly, damselfly, mayfly and stonefly larvae

**Water Stewardship**

**70 points**

**Q:** Eurasian water milfoil, zebra mussels, and purple loosestrife are all examples of what?

**A:** Harmful exotic species

*Sample Question Cards*

These questions use chapter headings as question categories.

**Fish Management**

**10 points**

**Q:** Name one reason the DNR sets fishing limits.

**A:** To give more people a chance to catch fish; to give more fish a chance to grow and reproduce and to maintain a sustainable population

**Fish Management**

**20 points**

**Q:** Anyone this age and older must have a fishing license to go fishing.

**A:** 16 years old

*Sample Question Cards*

These questions use chapter headings as question categories.

**Fish Management**

**30 points**

**Q:** The time period when you're allowed to fish for a certain species of fish is called \_\_\_\_\_.

**A:** A fishing season

**Fish Management**

**40 points**

**Q:** Why do fish biologists take scale samples from fish?

**A:** To learn the age of the fish

### Sample Question Cards

These questions use chapter headings as question categories.

**Fish Management**

**50 points**

**Q:** What type of area does a walleye prefer for spawning?

**A:** A shallow place with a gravel bottom

**Fish Management**

**60 points**

**Q:** What is one type of area that the DNR uses to maintain the natural environment of a lake or stream and protect the area from development?

**A:** Aquatic Management Area

*Sample Question Cards*

These questions use chapter headings as question categories.

**Fishing Equipment and Skills**

**10 points**

**Q:** Name three types of rods and reels used in Minnesota.

**A:** Spin-cast (closed-face reel), spinning (open-face reel), baitcasting, fly rod and reel, jiggle stick, cane pole

**Fishing Equipment and Skills**

**20 points**

**Q:** What could you keep in your tackle box that would help you take a hook out of a fish's mouth?

**A:** Needlenosed pliers or forcep

### Sample Question Cards

These questions use chapter headings as question categories.

**Fishing Equipment and Skills**

**30 points**

**Q:** What kind of reel does a pop-can caster resemble?

**A:** Spin-cast or spinning

**Fishing Equipment and Skills**

**40 points**

**Q:** What is the most important step when casting?

**A:** Looking around and behind you *before* you cast

*Sample Question Cards*

These questions use chapter headings as question categories.

**Fishing Equipment and Skills**

**50 points**

**Q:** Name three things that attract fish to a lure.

**A:** Color, flash, scent, noise, movement

**Fishing Equipment and Skills**

**60 points**

**Q:** Dry flies imitate which life stage of an aquatic insect?

**A:** Adult. Dry flies are adult insect imitations that float on top of the water

## Sample Question Cards

These questions use chapter headings as question categories.

### Fishing Equipment and Skills

**70 points**

**Q:** Why are ice fishing rods so short?

**A:** Because there is no need to cast—you just drop your line through the hole in the ice

### Safety and the Fishing Trip

**10 points**

**Q:** What is one thing you can do to make your fishing trip safer?

**A:** Be careful casting, bring personal flotation devices, tell someone where you're going, dress for the weather

### Sample Question Cards

These questions use chapter headings as question categories.

**Safety and the Fishing Trip**

**20 points**

**Q:** What is the best way to dress when fishing outdoors in winter?

**A:** In layers

**Safety and the Fishing Trip**

**30 points**

**Q:** Where can you get information about what fish are in a lake?

**A:** Internet, DNR website, Lake Finder, a bait shop

## Sample Question Cards

These questions use chapter headings as question categories.

### Safety and the Fishing Trip

40 points

**Q:** Name three live baits used in fishing

**A:** Minnows, night crawlers, angleworms, wax worms, grasshoppers, crayfish, frogs, leeches

### Safety and the Fishing Trip

50 points

**Q:** Which size of fish are less likely to contain contaminants?

**A:** Smaller fish

*Sample Question Cards*

These questions use chapter headings as question categories.

**Safety and the Fishing Trip**

**60 points**

**Q:** Filleting and cooking fish should always be done with what?

**A:** Adult supervision