

The Great Swim Off

This activity is part of the **Water Protection** theme.

What's the purpose of this activity?

Students become the fish in a fun relay race where they will learn that different species of fish rely on different habitats and adaptations for survival within a lake.

Key messages:

- Ontario has an abundance of different kinds of fish; there are approximately 175 species in Ontario.
- Ontario's lakes provide a diversity of habitats for our native fish and Ontario's fish have adaptations specific to their preferred habitats.
- If fish cannot find their specific habitat, these adaptations may not be beneficial to the fish and may put the fish to a disadvantage.

Materials

- Laminated poster of Ontario fish (optional)
- Stopwatch or timer
- White board
- White board markers
- Eraser or papertowels
- 18 wooden poles (thick doweling) sharpened at one end
- 1 large wooden pike model with handles
- 1 large wooden pumpkinseed model with handles

Set up:

• Set up 2 racing lines/obstacle courses side by side



 Arrange 9 pieces of wooden poles (or ski poles) per obstacle course

- These should be arranged so that students have enough room to maneuver through the poles with the wooden cutout.
 - Approximately 1 meter apart
- Place wooden Pike in front of one line/obstacle course
- Place wooden Pumpkinseed in front of the other line/obstacle course

What will I be doing?

- Your role is to act as a facilitator to engage students in a fun relay race that will show how different fish are adapted for different habitats!
- Explain that they are fish and the wooden poles are obstacles found in lakes such as plants, logs, rocks, etc.!
- Divide the group into two and have half of the students line up in front of the pumpkinseed and the other half in front of the pike.
- Introduce the students to their fish:

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Pumpkinseed & Pike:

- Have students describe the body shapes of the two fish.
- How do they differ?
- Why do you think they are different?
- How do you think your fish will swim in the water?
- Show them how to properly carry/"drive" their fish:
 - Pumpkinseed:
 - \circ $\,$ One hand on each of the handles.
 - Hands must stay on both handles at all times
 - Pike:
 - One hand on the one handle,
 - Can only use one hand and you must carry your fish low
- Now explain the race!
- 2 members of your team will "drive" (carry using handles) the wooden fish and maneuver through the "weeds, rocks & logs" to the end of the obstacle course.
 - You must run in this race!
 - No part of your fish (or you) can touch the water obstacles (weeds, rocks, logs, etc.)!
 - If you knock a wooden pole down you will have to go back to the end of the line where you began and start again.
- The goal is to get through the water obstacles (wooden poles) successfully, come back through the obstacles and then pass off your fish to 2 other members of your team.
- Then those two must maneuver the fish back through the "weeds, rocks and logs" successfully, come back and again pass off the fish to another 2 members of the team.
- This continues for a pre-determined amount of time. (use timer)
- One of the facilitators must keep track of how many times each fish passes through the weeds!
- Make sure that the students understand what they are doing and then get the first two ready

to go ...

- "Are you ready?"
- "On your mark, get set, SWIM!"
- When the time is up, end the race.
 - Compare how many times each fish team was able to "swim through the obstacles"
- Ask the students if this is what they expected at the beginning?
- Discuss the advantages and implications of the two body shapes.

Questions to Ask Students:

1. **Q:** What is habitat?

A: Habitat is the area where plants or animals live. Within that area, there needs to be the right space, food, shelter and water for each organism to live.

- 2. Q: What is important in a fish's habitat?A: Food, shelter, temperature preference of the fish.
- Q: Where and how would the pike shape be an advantage?
 A: for short bursts of straight-ahead speed to catch prey from their hiding places in the weeds.
- 4. Q: Where and how would the pumpkinseed shape be an advantage?
 A: For maneuverability and twisting to escape among rocks and weeds
- 5. Q: What kind of obstacles would be found in the lake?A: Plants, rocks, predators etc.
- 6. Q: The fins on a fish are important, anyone know why?
 A: They help the fish swim, twisting and turning to help them get away from predators and balance themselves

Additional Background Information:

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Fishes vary by physical characteristics such as colour, shape, markings, number and type of fins, and type of mouth. Each characteristic tells us something about a fish's mode of living and the habitat in which it lives.

Habitat is the area where plants or animals live. Within that area, there needs to be the right space, food,

shelter and water for each organism to live. Fishes have these same basic requirements.

Colour often relates to the specific area where a fish lives. Usually, fish blend in with their surroundings, thus avoiding their predators. For example, the speckled colours of Ontario's brook trout inter-mix with the leaves and gravel on the bottom of the streams they inhabit. The greenishgrey shades of the smallmouth bass provide camouflage that allows them to blend in with the aquatic plants where they live.

A fish's shape reveals its feeding patterns and the characteristics of the habitat in which it lives. The streamlined bodies of northern pike and muskellunge suggest their predatory nature; they are built for speed and quick attack. Fishes living in vegetated areas are usually short in length and have deep bodies. These physical characteristics allow them to make short, quick turns.

Clean Up Procedures:

Stack wooden fish on ground.

Make sure all poles are stable and in the ground ready for the next day. If it is the last day, take poles out of ground and lay by fish.

Place whiteboard, markers and eraser/papertowels into waterproof bin.