

Title

Fish Morphology Mini Lesson

Grade Level

Kindergarten & First

Student Target

Kindergarten Benchmarks

- SC.K.N.1.2 Make observations of the natural world and know that they are descriptors collected using the five senses.
- SC.K.N.1.4 Observe and create a visual representation of an object which includes its major features.
- SC.K.N.1.5 Recognize that learning can come from careful observation
- SC.K.P.8.1 Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light) and texture.
- SC.K.P.12.1 Investigate that things move in different ways, such as fast, slow, etc.
- SC.K.L.14.1 Recognize the five senses and related body parts.
- SC.K.L.14.2 Recognize that some books and other media portray animals and plants with characteristics and behaviors they do not have.

First Grade Benchmarks

- SC.1.N.1.1 Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.
- SC.1.N.1.2 Using the five senses as tools, make careful observations, describe objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.
- SC.1.N.1.4 Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.
- SC.1.L.14.1 Make observations of living things and their environment using the five senses.
- SC.1.L.14.3 Difference between living and nonliving things.
- SC.1.L.17.1 Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.
- SC.1.E.6.3 Recognize that some things in the world around us happen fast and some happen slowly.
- SC.1.P.12.1 Demonstrate and describe the various ways that objects move, such as in a straight line, zigzag, back-and—forth, round-and-round, fast, and slow.

Kindergarten Florida Core Standards Language Arts

- LAFS.K.L.3
- LAFS.K.RI.3
- LAFS.K.SL.1
- LAFS.K.SL.2

Kindergarten Florida Core Standards Math

- MAFS.K.CC.1
- MAFS.K.G.1
- MAFS.K.G.2
- MAFS.K.MD.1
- MAFS.K.MD.2

First Grade Florida Core Standards Language Arts

- LAFS.1.L.3
- LAFS.1.RI.1
- LAFS.1.RI.3
- LAFS.1.RF.1
- LAFS.1.RF.3
- LAFS.1.SL.1

LAFS.1.SL.2
LAFS.1.W.3

First Grade Florida Core Standards Math

MAFS.1.G.1
MAFS.1.OA.1

Materials

Teacher

- A book about fish. Suggested list below:
 - *The Rainbow Fish* by Marcus Pfister
 - *Big Al* by Andrew Clements
 - *Fish Eyes: A Book You Can Count On* by Lois Ehlert
 - *Fish is Fish* by Leo Lionni
 - *Swimmy* by Leo Lionni

Student

- Construction Paper
- Paint
- Colored markers or crayons

Warm-Up

1. Read one of the books from the suggested list in teacher's materials or any book about fish
2. Discuss the characteristics of fish. Compare the fish in the story to real fish
 - Water-dwelling animals that live in oceans, lakes, rivers, stream, and ponds
 - Have gills for breathing oxygen in the water
 - Most are covered with protective scales
 - Swim by wiggling their bodies back and forth, use fins to steer
 - 20,000 to 40,000 species or kinds of fish
 - Live in different habitats, but all need food, water, and shelter
 - Some eat plants, some eat bugs, smaller fish, and some eat decaying matter
 - For shelter, some swim in schools to confuse their predators and some hide among rocks, plants, oyster reefs, or logs

Main Lesson

Have students create and design fish using hand prints. Allow them to decorate their fish, adding fins, eyes, and a mouth as well as designing their fish's habitat. Then have the children draw its shelter (either a school of fish, grasses, rocks, or logs) and food.

Reflection

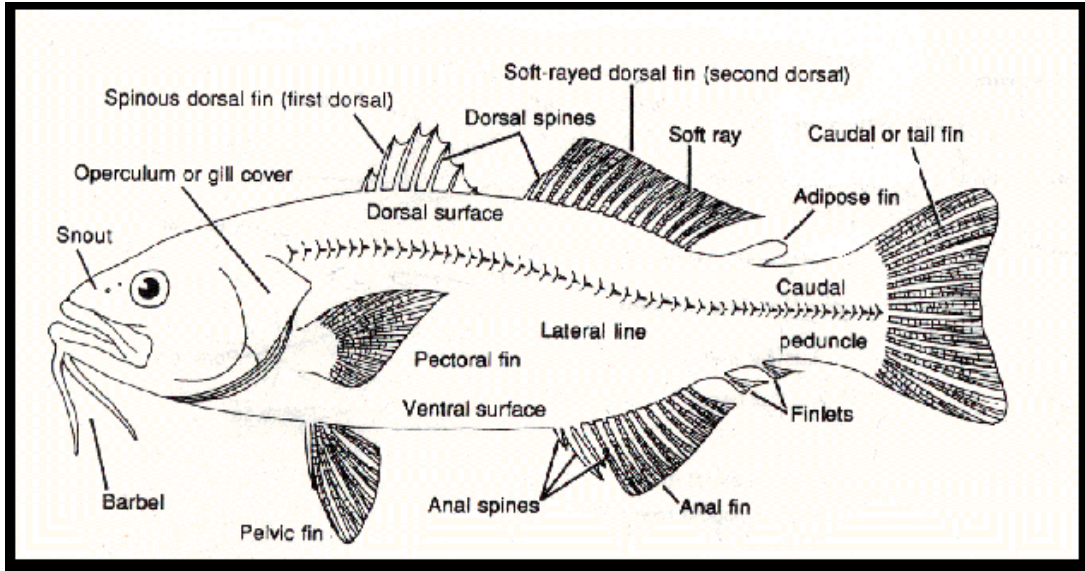
Allow the children the opportunity to share their picture with the rest of the class. Discuss the importance of its habitat (where an animal finds its food, water, and shelter).

Assessment

Participation in the activity

Attachments

- Information packet about the Loxahatchee River Center
- Map of the Loxahatchee River
- Fish Morphology Regular Lesson



Title

Fish Morphology Regular Lesson

Grade Level

Kindergarten & First

Student Target

Kindergarten Science Benchmarks

- SC.K.N.1.2 Make observations of the natural world and know that they are descriptors collected using the five senses.
- SC.K.N.1.4 Observe and create a visual representation of an object which includes its major features.
- SC.K.N.1.5 Recognize that learning can come from careful observation
- SC.K.P.8.1 Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light) and texture.
- SC.K.P.12.1 Investigate that things move in different ways, such as fast, slow, etc.
- SC.K.L.14.1 Recognize the five senses and related body parts.
- SC.K.L.14.2 Recognize that some books and other media portray animals and plants with characteristics and behaviors they do not have.

First Grade Science Benchmarks

- SC.1.N.1.1 Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.
- SC.1.N.1.2 Using the five senses as tools, make careful observations, describe objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.
- SC.1.N.1.4 Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.
- SC.1.L.14.1 Make observations of living things and their environment using the five senses.
- SC.1.L.14.3 Difference between living and nonliving things.
- SC.1.L.17.1 Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.
- SC.1.E.6.3 Recognize that some things in the world around us happen fast and some happen slowly.
- SC.1.P.12.1 Demonstrate and describe the various ways that objects move, such as in a straight line, zigzag, back-and—forth, round-and-round, fast, and slow.

Kindergarten Florida Core Standards Language Arts

- LAFS.K.L.3
- LAFS.K.RI.3
- LAFS.K.SL.1
- LAFS.K.SL.2

Kindergarten Florida Core Standards Math

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- MAFS.K.G.1
- MAFS.K.G.2
- MAFS.K.MD.1
- MAFS.K.MD.2

First Grade Florida Core Standards Language Arts

- LAFS.1.L.3
- LAFS.1.RI.1
- LAFS.1.RI.3
- LAFS.1.RF.1
- LAFS.1.RF.3
- LAFS.1.SL.1

LAFS.1.SL.2
LAFS.1.W.3

First Grade Florida Core Standards Math

MAFS.1.G.1
MAFS.1.OA.1

Materials for Pre & Post Lessons

Teachers

- River Center Packet
- Fish Morphology Mini Lesson
- Hula Hoop
- Box
- Safety Cones
- Carpet Squares
- Pretzel Sticks
- Cream Cheese or Peanut Butter
- Fish-Shaped Crackers

Pre-Visit Warm-up Lesson (Completed in classroom before visiting)

- Review the information in the Loxahatchee River Center packet with your students
- Complete optional mini lesson provided by River Center education staff upon field trip registration confirmation
- Review the interactive website activity <http://loxahatcheeriver.org/rivercenterflash/index.html>

Main Lesson (Completed during visit with River Center staff)

1. Welcome, introduction to the River Center, overview of today's field trip, and safety/rules talk
2. Divide the students into 2 groups to rotate through 3 different activities
 - a. Lovin' the Loxahatchee River Tour – focusing on fish species, adaptations, and habitats
 - b. Fish Morphology hands-on activity (See below)
 - c. Water resources discussion – Where our water comes from, how we use water, where it goes once it's down the drain, water conservation
3. Touch tank demonstration

Fish Morphology Main Lesson (Completed during visit with River Center staff)

1. Using CDs, Students will add art materials such as sequins, feathers, leaves, etc. to the CD to represent the protective scales on its outer body.
2. Using different shapes of construction paper and materials students will create dorsal fins, pectoral fins, a mouth, a tail, and eyes. Different shapes or designs are descriptive of different adaptations. Their adaptations give the fish advantages for survival.
3. They can color their fish depending on its habitat and camouflaging techniques.
4. Students will show their completed CD fish, describe why they designed it in their specific way, how it can survive, and what habitat it lives in.

Post-Visit Reflection Lesson (completed in classroom after visiting)

1. Play Fish Tag
 - Lots of predators besides people eat fish: larger fish, seals, bears, and pelicans are just a few. Many fish hide from predators under docks or rocks, among plants, or other places.
 - Play a game where a predator (one child) tries to catch fish (other children) by tagging. The predator can choose what kinds of animal to be. Fish are "safe" if they stand or touch a safe spot, like a grass bed (hula hoop), mangroves (safety cone), rock (box) or dock (carpet square)

- To keep things moving, fish can stay in the safe spot only as long as it takes for them to count to five. After the predator catches some fish, play again with a new predator.
- 2. Have a fish snack. Use pretzels sticks as fishing poles and cream cheese or peanut butter as bait. Have the children “fish” for fish-shaped crackers.
- 3. Fish Poem (Identify rhyming words)

Fish

How I wish
I were a fish!
My day would begin
Flapping my fins.
I'd make a commotion
Out in the ocean.
It would be cool
To swim in a school.
In the sea,
I'd move so free,
With just one thought:
Don't get caught!

Assessment

Participation in the activity

Attachments

- Loxahatchee River Center packet

Creating STEM Connections – Fish Morphology K-1st

Science

- See standards above

Technology

- Create fish ID cards and allow the students to weigh and measure the fish that they “caught.” Post a sign showing fish at the size at which they are legally large enough to keep. Students and compare and measure each fish to see if it is legal.

Engineering

- Create magnetic fishing poles using sticks, string/yard, paper clips, packing tape, and strong magnets.

Mathematics

- See standards above