

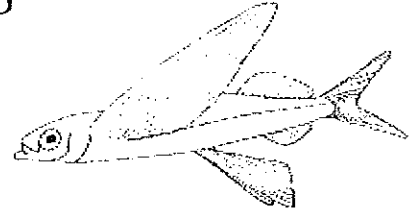
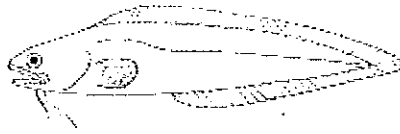
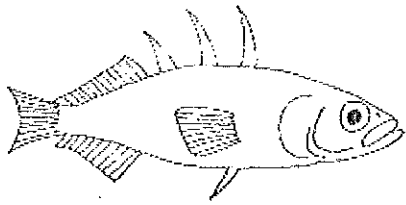
## ADAPTING TO OUR ENVIRONMENT

- D. Give out the Adaptations in Fish handout (#2) and go over the specific body parts, adaptations and their purpose.
- E. Have 10 pictures of assorted fish with all different kinds of bodies, mouths, fins, etc. to show the children. If needed the students can use their charts, as well as, resource books to answer the following questions about their fish pictures.
1. Where does your fish live in the ocean? How do you know?
  2. What does your fish eat? How do you know?
  3. How does your fish feed? How do you know?
  4. How does your fish swim? How do you know?
  5. How does your fish protect itself? How do you know?
  6. What special adaptations does your fish have? How do you know?
- F. Working with a partner/group do the activity called Fashion a fish (handout #3) The children will create a new species of fish.
- G. Make index cards to use as a criteria for making their fish.
1. Body shapes
  2. Mouth shapes
  3. Fins
  4. Eyes
  5. Coloration/Defense mechanisms
- Give the students the Fashion a fish handout to use as a rough draft/guide to making their fish. The students may use their adaptation charts. Once the students have finished their handouts, they will draw their fish and its habitat on a large sheet of paper. Then the students will compile their information into a paragraph to share with the class. \*(as an informal assessment the students can be given the assessment handout #4 to fill out to check their progress)
- H. Once the groups present their work, further discussion can develop about adaptations, habitat, fish etc.

### Materials Needed

- \* Assorted Handouts
- \* Cardboard pieces of fish
- \* 10 pictures of fish
- \* Resource Books
- \* Index cards
- \* Large paper
- \* Crayons/markers
- \* Pencils

# Fashion a Fish



Think about the following information when creating your drawing and written description:

Name of your fish - \_\_\_\_\_

type of fish - agnatha, chondrichthyes (cartilaginous fish), osteichthyes (bony fish) \_\_\_\_\_

habitat - where does your fish live in the ocean? (coral reef, kelp forest, abyss) \_\_\_\_\_

migration - does your fish migrate or live its entire life in one region? \_\_\_\_\_

location in the world - what ocean(s) does your fish live in? \_\_\_\_\_

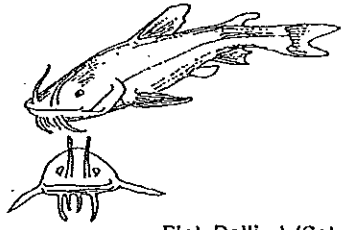
coloration/camouflage, defense adaptations - \_\_\_\_\_

how they swim/move/anchor - \_\_\_\_\_

physical features - body shape, type of fins and # of fins, scales, size, mouth position, eye position, nostril position, barbels, etc. \_\_\_\_\_

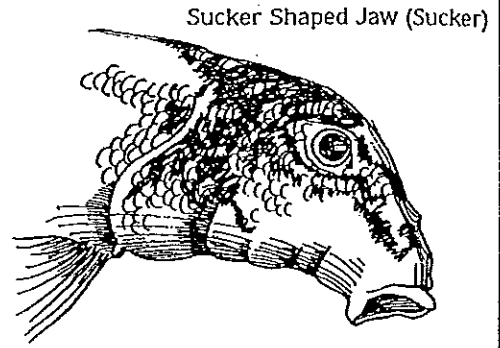
predators/prey - what does your fish eat and what eats your fish? \_\_\_\_\_

Shape



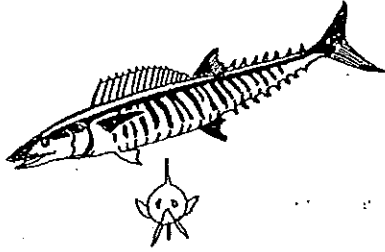
Flat Bellied (Catfish)

Mouth / Feeding



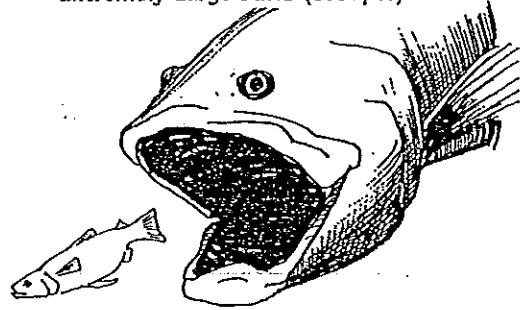
Sucker Shaped Jaw (Sucker)

Shape



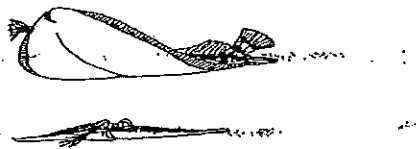
Torpedo Shape (Wahoo)

Mouth / Feeding



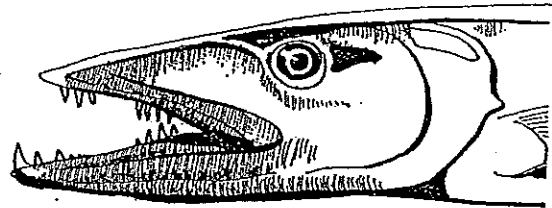
Extremely Large Jaws (Grouper)

Shape



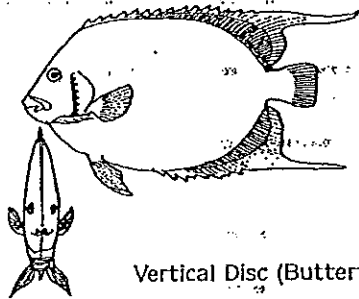
Horizontal Disc (Halibut)

Mouth / Feeding



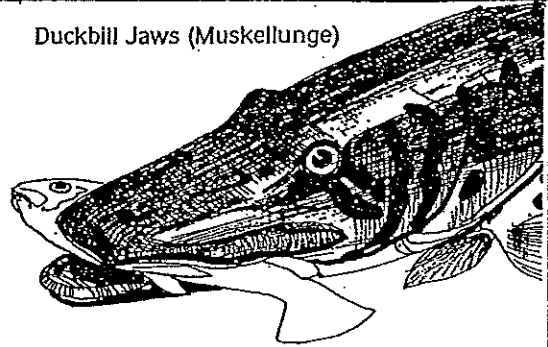
Elongate Lower Jaw (Barracuda)

Shape



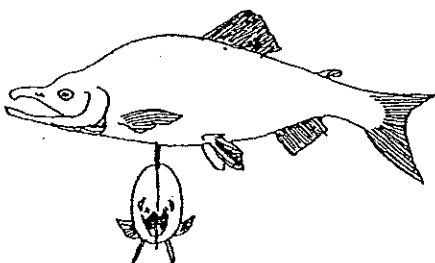
Vertical Disc (Butterfish)

Mouth / Feeding



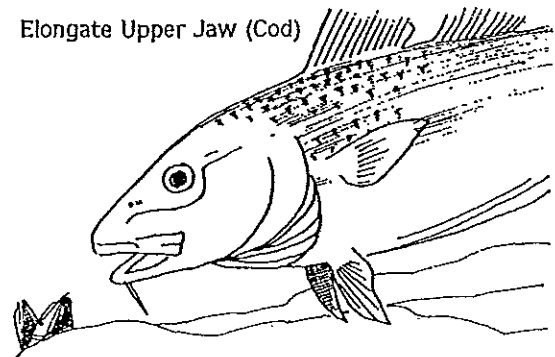
Duckbill Jaws (Muskellunge)

Shape

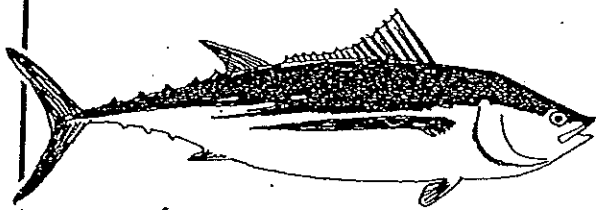


Humpbacked (Sockeye)

Mouth / Feeding

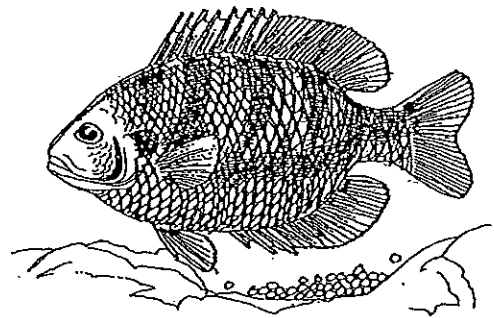


Elongate Upper Jaw (Cod)



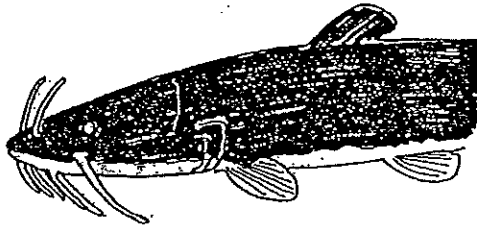
Light Colored Belly (Albacore)

Coloration



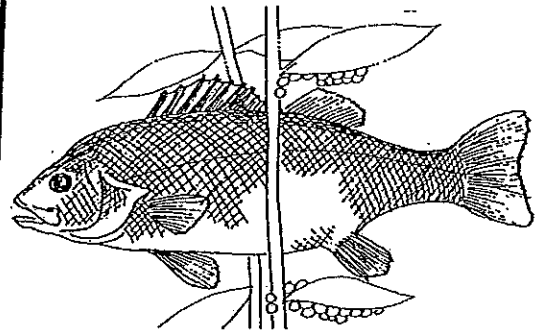
Eggs Deposited in Nests (Blue Gill)

Reproduction



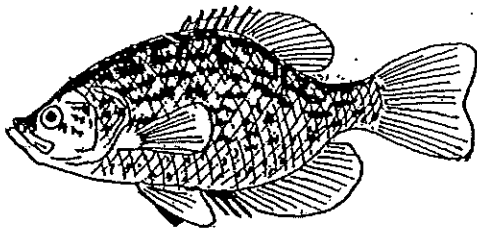
Dark Upperside (Catfish)

Coloration



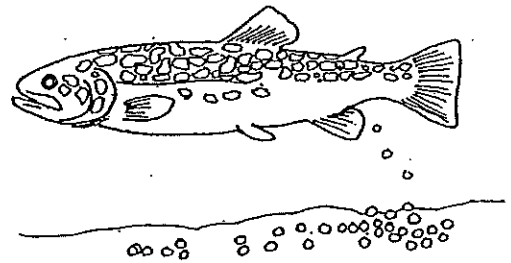
Eggs Deposited on Vegetation (Yellow Perch)

Reproduction



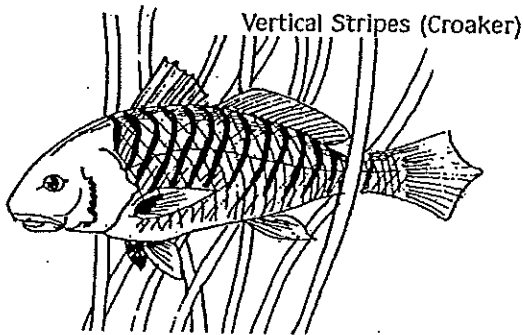
Mottled (Crappie)

Coloration



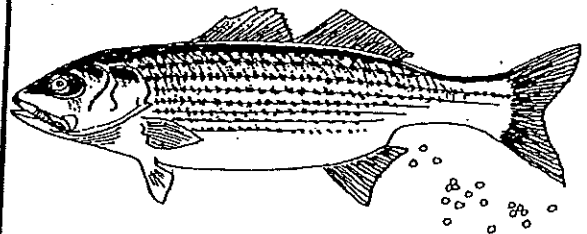
Eggs Deposited on Bottom (Trout)

Reproduction



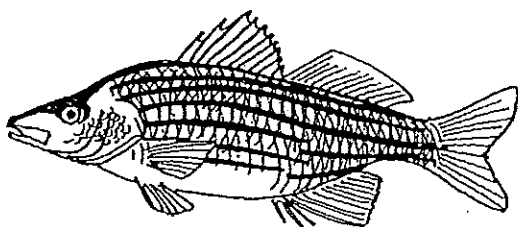
Vertical Stripes (Croaker)

Coloration



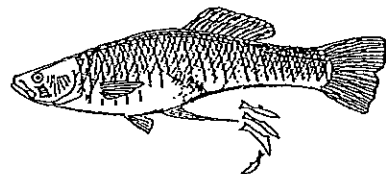
Free Floating Eggs (Striped Bass)

Reproduction



Horizontal Stripes (Yellow Bass)

Coloration



Live Birth (Gambusia)

Reproduction

Adaptations in Fish from <http://www.gov.mb.ca/conservation/sustain/adapt.html>

Adaptation	Purpose	Examples
Mouth		
<ul style="list-style-type: none"> <li>Terminal (at the end of the snout)</li> </ul>	Feeds throughout the water	Walleye, sauger, northern pike
<ul style="list-style-type: none"> <li>Under the snout/longer upper jaw</li> </ul>	Feeds on prey it sees below it; usually feeds off the lake or river bottom	Bullhead, whitefish, carp, sucker
<ul style="list-style-type: none"> <li>Angled upward/longer lower jaw</li> </ul>	Feeds on prey it sees above it; small fish, or aquatic insects, often at surface of water	Goldeye, rock bass, smallmouth bass, tullibee
<ul style="list-style-type: none"> <li>Ventral (under the head)</li> </ul>	Feeds off the bottom	Sturgeon
<ul style="list-style-type: none"> <li>Sucker-shaped</li> </ul>	"Vacuums" up food off the bottom; eats aquatic insects, vegetation	Sucker, sturgeon
<ul style="list-style-type: none"> <li>Strong jaws and well-developed teeth</li> </ul>	Feeds on other fish	Northern pike, walleye
<ul style="list-style-type: none"> <li>With barbels</li> </ul>	Feeds off the bottom; Can sense food in murky water	Catfish, bullhead, stonecat, sturgeon

Eyes			
• Large	Feeds by sight	Walleye, perch, goldeye, bass	
• Small	Likely feeds off the bottom and relies on barbels to detect food	Catfish, bullhead, stonecat, sturgeon	
Spines	For protection or to stiffen fins for swimming	Catfish, bullhead, stonecat, perch, walleye, bass, sturgeon	
Body Shape			
• Rounder, flat bellied	Feeds off or rests on the bottom; less conspicuous to predators	Sucker, catfish, sturgeon	
• Oval, fairly long	Prefers more open water or a few weeds	Walleye	
• Oval, very long, eel-like	Fast-moving in quick bursts; Agile around rocks and weeds	Northern pike, burbot	
• Thin, shorter, disc-shaped	Agile around rocks/weeds; round shape harder for predators to swallow	Bass, perch	
• Torpedo-shaped	Stream-lined for high speed or swimming in currents	Brook trout, rainbow trout, arctic char	
Scales			

<ul style="list-style-type: none"> <li>• Large</li> </ul>	Used for protection; speed not needed to catch food	Carp, sucker
<ul style="list-style-type: none"> <li>• Small or non-existent</li> </ul>	Fish more streamlined and fast-moving to catch prey	Northern pike, catfish, burbot
<p>Colouration</p> <ul style="list-style-type: none"> <li>• Fairly uniform, no markings</li> </ul>	Swims in open water	Walleye, goldeye
<ul style="list-style-type: none"> <li>• Stripes</li> </ul>	Hides in weeds for protection or to ambush prey	Perch, smallmouth bass, rock bass
<ul style="list-style-type: none"> <li>• Mottled</li> </ul>	Hides in rocks or on bottom	Northern pike, young sturgeon
<ul style="list-style-type: none"> <li>• Dark on top</li> </ul>	Less visible to predators above it	Catfish, sturgeon, carp
<ul style="list-style-type: none"> <li>• Light coloured belly</li> </ul>	Less visible to predators below it	Perch, walleye, sturgeon, sucker, catfish