

# Morphology Worksheet Answer Key



# Body Shape Adaptation Chart

Body Shape	Description	Example
Fusiform	<p><u><i>Search: description of fusiform body shape</i></u></p> <p><u>Streamlined and cylindrical; very fast and can swim continuously for long distances</u></p>	<p><u><i>Search: examples of fish with fusiform body shape</i></u></p> <p><u>Marlin, tuna, anchovy</u></p>
Depressed	<p>Flattened from back to belly like a pancake; use short bursts of speed to ambush prey; common in bottom dwelling fish</p>	<p><u><i>Search: examples of bottom dwelling fish with depressed body shape</i></u></p> <p><u>Halibut, rays (not technically a fish but still counts for the purpose of this exercise)</u></p>
Globiform	<p><u><i>Search: description of globiform body shape</i></u></p> <p><u>Rounded; slow swimmers; use light and lures to attract their prey</u></p>	<p><u><i>Search: examples of fish with globiform body shape</i></u></p> <p><u>Pufferfish, boxfish</u></p>
Ribbon	<p>Snake-like; slow swimmers but move easily through small cracks and crevices where they hide to ambush prey</p>	<p>Eels</p>
Compressed	<p><u><i>Search: description of compressed body shape</i></u></p> <p><u>Flattened from side to side; make sharp, quick turns; very maneuverable</u></p>	<p>Flounders, sergeant majors</p>



# Tail Shape Adaptation Chart

Tail Shape	Description	Example
Lunate (fastest)	<p><u><i>Search: description of lunate tail shape in fish</i></u></p> <p><u>Crescent shape; fastest swimmers, maximum speed with minimum effort over long distances</u></p>	<p><u><i>Search: examples of fish with lunate tail shape</i></u></p> <p><u>Marlin, swordfish, mako shark (not technically a fish but still counts for the purpose of this exercise)</u></p>
Forked	<p><u><i>Search: description of forked tail shape in fish</i></u></p> <p><u>Moderately fast, continuous swimmers</u></p>	<p><u><i>Search: examples of fish with forked tail shape</i></u></p> <p><u>Striped bass</u></p>
Squared	<p><u><i>Search: description of squared tail shape in fish</i></u></p> <p><u>Very maneuverable, capable of bursts of speed for short distances</u></p>	<p><u><i>Search: examples of fish with squared tail shape</i></u></p> <p><u>Catfish, rockfish, salmon</u></p>
Rounded	<p>Very maneuverable, capable of bursts of speed for short distances</p>	<p>Goby</p>
Tapered	<p>Slow swimmers, use body undulations to swim</p>	<p>Moray eel</p>



# Color Pattern Adaptation Chart

Color Pattern	Description	Example
Camouflage	<p><u><i>Search: description of camouflage color pattern IN FISH. Note- see Wikipedia article on "Fish coloration"</i></u></p> <p><u>Match surroundings to blend in and hide</u></p>	<p><u><i>Search: examples of fish with camouflage color pattern</i></u></p> <p><u>Reef stonefish, cuttlefish</u></p>
Advertising	Warning to stay away from poisons or spines; attract mates, defend territories, clean other fish	Hawaiian cleaner wrasse
Disruptive	<p><u><i>Search: description of disruptive color pattern</i></u></p> <p><u>Spots, stripes, and patches of color breakup and diffuse the actual outline</u></p>	<p><u><i>Search: examples of fish with disruptive color pattern</i></u></p> <p><u>Jack-knife fish, sergeant-major</u></p>
Deceiving	Resembling an object or fish that is not of interest to a predator; markings that confuse predator	Butterfly fish, prettyfins
Countershading	<p><u><i>Search: description of countershading color pattern</i></u></p> <p><u>Dark back and lighter belly hides fish from predators as sunlight penetrates from above</u></p>	<p><u><i>Search: examples of fish with countershading color pattern</i></u></p> <p><u>Tuna</u></p>



# Mouth Shape Adaptation Chart

Mouth Shape	Description	Example
Superior	<p><u><i>Search: description of fish with downward mouth shape</i></u></p> <p><u>Upward shape; suggests surface feeder; waits for prey to appear above them</u></p>	<p><u><i>Search: examples of fish with downward mouth shape</i></u></p> <p><u>Hatchetfish; Arowana</u></p>
Terminal	<p>Middle of head; points forward; feed on organisms floating in water column</p>	<p><u><i>Search: examples of fish with terminal mouth shape</i></u></p> <p><u>Tetras, cichlids</u></p>
Inferior	<p>Downwards shape; suggests bottom-feeder; often have barbels that assist in locating food particles</p>	<p><u><i>Search: examples of fish with inferior mouth shape</i></u></p> <p><u>Sturgeon, catfish</u></p>
Protruding	<p><u><i>Search: description of fish with protruding mouth shape</i></u></p> <p><u>Extends reach; creating a vacuum to suck in their prey</u></p>	<p>Minnows, goldfish</p>
Elongated	<p><u><i>Search: description of fish with elongated mouth shape</i></u></p> <p><u>Pokes mouth into small holes and crevices; can be used to dig for prey or scoop from surface</u></p>	<p>Gar; Needlefish</p>



# Teeth and Gill Raker Adaptation Chart

Teeth and Gill Raker Features	Description	Example
Pointed Teeth	<p><u><i>Search: description of fish with pointed teeth</i></u></p> <p><u>Eats other fish; designed to puncture, hold or cut prey</u></p>	<p><u><i>Search: examples of fish with pointed teeth</i></u></p> <p><u>Barracuda; angler fish</u></p>
Tooth Plates	<p><u><i>Search: description of fish with tooth plates</i></u></p> <p><u>Feed on shelled animals; use tooth plates to crush shells to get the meat inside</u></p>	<p><u><i>Search: examples of fish with tooth plates</i></u></p> <p><u>Bat ray fish, redear sunfish</u></p>
Beak -like Teeth	Crush prey items; suggests it feeds items like on plants or coral	Parrotfish; pufferfish
Comb-like Gill Rakers	<p><u><i>Search: description of fish with comb-like gill rakers</i></u></p> <p><u>Efficient at filtering tiny prey</u></p>	<p><u><i>Search: examples of fish with comb-like gill rakers</i></u></p> <p><u>American shad; anchovy</u></p>
Large, course Gill Rakers	Protects gills when they eat from large prey items	Lingcod

