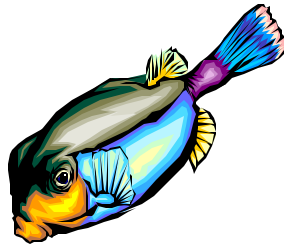


# **Lesson Plan**

## **Grades 7-8**

### **Follow a Fish**



**HCPS**  
**Unity and Diversity**  
**Benchmarks SC.7.5.4 and SC.7.5.6**



**Created by Maui Digital Bus**



## **Follow a Fish**

### **STANDARDS: HCPS**

#### **Topic**

**Unity and Diversity**

**Benchmark SC.7.5.4**

**Analyze how organisms' body structures contribute to their ability to survive and reproduce**

**Benchmark SC.7.5.6**

**Explain why variation(s) in a species' gene pool contribute to their survival.**

#### **SUMMARY / OBJECTIVES:**

**Students choose a fish from anywhere within the Ocean Center, observe it for a given period of time, while recording its behavior. Students will understand the concept that living things have individual characteristics that enable them to live in their environment.**

**FOCUS AREA: Animal behaviors**

**DURATION: 1 hour**

**MATERIALS: Follow a Fish worksheet, Fish Adaptations sheet, Maui Ocean Center park map, clipboards, pencils, lined paper**



## **BACKGROUND**

**The tropical oceans of the world are home to fish, mammals, and birds as well as a myriad of invertebrates. Many beautiful and fragile animals have adapted to the warm waters of coral reefs. Because the reefs offer natural protection to many of the fish, many interesting adaptations have taken place. The result is some of the most bizarre and beautiful creatures found in the sea.**

### **Adaptations**

**Why do you think the Stonefish evolved to look the way it does? Adaptations appear over time because certain shapes and colors create camouflage which protect an organism from its predators. Looking like a stone can help the Stonefish avoid being another animal's lunch!**

## **ACTIVITY**

**Each student will choose one fish from any exhibit. They will write down its name, observe the animal in its environment for at least 15 minutes and record their observations on the worksheet. They will take their information and compile it in a short report.**

## **ASSESSMENT**

**Completed report giving specific details about the behavior of the individual fish and how it relates to its environment.**



## EXTENSIONS

**Conduct additional research on the fish using books and the Internet.**

**Ask students to draw a picture of one of the animals they learned about in this lesson. Then have them write a paragraph or two describing the animal (what it looks like, what it eats, in what part of the ocean it lives) and explaining why it is important to protect it. What would the ocean be like without this animal?**

## REFERENCES

**Into the Ocean**

**<http://www.nationalgeographic.com/xpeditions/lessons/18/gk2/doubletocean.html>**

**What's it Like Where You Live?**

**<http://mbgnet.mobot.org/salt/index.htm>**

**Mahaney, Casey, 1993, *Hawaiian Reef Fish, An Identification Book*, Blue Kirio, Nevada.**

**Pitkin, Linda, 2001, *Coral Fish*, Natural History Museum, London.**



## Adaptations in Fish

Body Part	Adaptation	Purpose
Mouth	at the end of the snout, symmetrical	Open water feeder
	angled downward/longer upper jaw	feeds on prey below it, bottom feeder
	angled upward/longer lower jaw	feeds on prey above it, surface feeder
	strong jaws - teeth	preys on other fish
	sucker-shaped	Eats small plants and animals
	Barbells	feeds off bottom, senses food in murky water
	duckbill jaws	grasps its prey
	no teeth	Eats plankton
	very large mouth	surrounds prey
Eyes	both on the same side of the head	lies flat on the bottom of the ocean
	Small	shallow water fish
	Large	usually deep water fish
Fins	Large, forked caudal fin	strong, fast swimmer
	spines on fins	protection, more difficult to swallow, can be poisonous
	large pelvic fins	bottom dweller
	small pelvic fins	Open water swimmer
Body shape	Round	difficult to swallow, slow swimmer
	flat bottomed	feeds on the bottom
	long, eel-like	hides in rocks and weeds
	torpedo shaped	high speed swimmer
	flat from side to side	almost invisible from the front and rear, feeds above and below
	flat from top to bottom	hides on the bottom
	hump backed	stable in fast moving water

## Adaptations in Fish

Body Part	Adaptation	Purpose
Scales	Large	Uses its scales for protection
	Small	Fast swimmer
Coloration	no markings	swims in the open water
	Stripes	hides in seaweeds and grasses
	Mottled	hides in rocks or on the bottom
	countershading - dark on top, light on bottom	less visible to predators above and below
	stripe through eye	helps to camouflage fish by hiding the eye
	false eye spot	predator will attack tail giving fish a greater chance to escape

## Adaptations in Fish

### Follow A Fish

Sketch your animal. Be sure to include unusual markings.

**Common Name:** \_\_\_\_\_

**Hawaiian Name:** \_\_\_\_\_

### APPEARANCE – What does it look like?

**Color:**

**Body Shape:**

**Markings:**

**Size:**

**Texture:**

**Fins:**

**Special features:**



## **Adaptations in Fish**

**Follow A Fish**

**BEHAVIOR – How does your fish behave?**

**Swimming pattern:**

**Defense mechanisms?**

**Does it travel alone or with others?**

**Where in the tank does it go?**

**Notes:**

**Conclusions:**

**How do this fish's characteristics enable it to live in its environment?**

