

Summary Description

This is the eighth in a series of 11 lessons that introduces the student to Biology.

Learning Objectives

To have the student learn a few key facts about fish.

Approximate Time for Lesson

25 minutes

Suggested Maturity Level for Instruction

Student should be able to read simple words and perform simple addition and subtraction. Also, student should be able to sit still and engage in one-on-one conversation.

References:

Fish on Yahoo Kids - <http://kids.yahoo.com/animals/fishes>

Fish on Yahoo Education - <http://education.yahoo.com/reference/encyclopedia/entry/16962>

Materials Needed

1. Internet Access – Pull up the following:
 - a. Picture of a fish (go to http://www.fedflyfishers.org/Portals/0/Conservation%20Images/Fish_Fly_Williams.JPG)
 - b. Picture of a sea horse (go to <http://photos.somd.com/data/500/medium/seahorse.jpg>)
 - c. Picture of a camouflaged fish (go to <http://conservationreport.files.wordpress.com/2008/10/camouflaged-fish.jpg>)
 - d. Picture of a blowfish (go to http://patdollard.com/wp-content/uploads/siod_041119_blowfish_04.jpg)
 - e. Picture of a lionfish (go to <http://www.naturephoto-cz.com/photos/others/red-lionfish-3907.jpg>)

Preparation

Make sure you have materials open, printed and/or available prior to beginning the lesson.

Script

Introduction (5 minutes)

1. Teacher: So last lesson we learned about amphibians. Can you tell me some facts about these slippery animals? [[Engage the Student in conversation](#)]
2. Teacher: Great. Now today, we're going to learn about animals that live in both fresh water and salt water – we're going to learn about fish. So, are you ready to learn about fish? [[Get positive response from Student and begin lesson](#)]

Lesson (15 minutes)

1. Teacher: Great. Now, I know you've seen fish before, and maybe even eaten them also, but have you ever thought about what fish really are? For example, if an alien from another planet came down to Earth and asked you what a fish was, what would you tell the alien? [\[Engage the Student in conversation\]](#)
2. Teacher: Those are good explanations. Now, let me tell you exactly what a fish is. A fish is a vertebrate (a "vertebrate" is an animal that has a backbone – humans are vertebrates, too) with scaly skin that has gills which are used to breathe underwater (although a few fish actually have both lungs and gills so they can breathe in water and on land). Fish are cold-blooded, which means that their bodies are a same temperature as their surroundings. Also, fish have no limbs, that is, they have no arms and legs but instead, have fins. Why do you think fish have fins instead of arms and legs? [\[Engage the Student in conversation but come to the point that fins help fish swim faster than if they had arms and legs and because of this, fish have fins\]](#)
3. Teacher: That's right, since fins are more useful for getting around in the water, fish are born with fins. Now, there are over 20,000 kinds of fish! And because of this, some fish can look very different from each other. For example, take a look at this fish [\[Show the Student the picture of a fish\]](#)
4. Teacher: Now, take a look at this animal, called a seahorse, which is also a fish [\[Show the Student the picture of a sea horse\]](#)
5. Teacher: See how different they look? They are both fishes but they look very different from each other.
6. Teacher: Well, not only do fishes look different from each other, they also live differently. For example, some fish like salmon lay eggs and other fish, like sharks, carry their live babies in their stomachs until they're ready to be born.
7. Teacher: Now, since fish are a part of many animals' food chains (including human food chains!), these fish had to find a way to defend against being eaten. Besides just having sharp teeth to fight with, like sharks, some fish use camouflage to hide from their enemies. Camouflage is a way of hiding someone or something from your enemies. For example, check out this picture of a fish that uses camouflage to hide [\[Show the Student a picture of the camouflaged fish\]](#)
8. Teacher: It's hard to see, but the camouflaged fish is right there in the middle of the picture. So you see, camouflage is really a good way of hiding from enemies. Another way to defending is by making yourself look bigger than you really are. For example, look at this blowfish, blowing itself up to look bigger in front of the scuba diver [\[Show the Student a picture of the blowfish\]](#). Now if the human didn't know any better, he would probably think again before trying to eat and swallow the blowfish.

9. Teacher: Still another way that fish use to defend themselves is poison. Check out this lionfish, one of the most poisonous fish in the sea. [\[Show the Student a picture of the lionfish\]](#) If any of those spines poke through your skin, you'll be in some big trouble.

10. Teacher: Now as for senses, fish have the same 5 senses as us humans do, with some differences. First of all, fish don't have ears, but they still can hear very well. And not only do can they hear, but they also have something called a lateral line that can feel the vibrations in the water - this is helpful for when there is wiggly food swimming near the fish. Second, some fish taste not with their tongues, like humans do, but with their entire bodies! That's right. So when you're holding a fish in your hands, he's probably getting a good taste of your hands.

11. Teacher: Ok - so, by now I've given you a good lesson on what fishes are all about. Can you tell me why fish are so important us humans? [\[Engage the Student in conversation but come to the point that fish are a vital part of many animals' food chains\]](#)

12. Teacher: That's right. Without fish, the earth may also lose some animals that feed on fish. And so, we must do what we can to make sure that places where fish live, like in oceans and lakes are kept clean. So one thing we can do for the fish is not to throw away any of our trash into lakes, rivers, and oceans - all places where fish live.

13. Teacher: Ok - time for review. Stand up and get in front of the class (consider inviting other members of the family also to set the stage). [\[Ask Student the following:](#)
 - a. [Can you tell me a few things about how to know if an animal is a fish? Any one of the following: A fish is a vertebrate, cold-blooded, have no limbs, and have gills for breathing](#)
 - b. [Do fish lay eggs or have live babies? Both \(sorry, that was kind of a trick question\)](#)
 - c. [What is one way that a fish defends itself? Any one of the following: 1\) using its teeth, 2\) camouflage, 3\) looking bigger than it really is, and 4\) poison](#)
 - d. [What's different about the way that fish taste their food compared to how humans taste their food? Fish taste with their entire bodies while humans taste with their tongues](#)
 - e. [What's something we can do to help fish survive in their homes? We can make sure that we do not throw our trash in lakes, rivers, oceans, and other waters where fish live.](#)

Teacher reviews any questions that the Student missed].

Wrap Up (5 minutes)

Teacher: [\[Clapping\]](#) You did GREAT! Wonderful job! Are there any questions that you have regarding fish? [\[Engage in conversation with the Student and follow up with questions you cannot answer by researching the Internet\]](#)