

Chapter 1 : UCSB Science Line

*If I Could Breathe Like Fishes Do [Jan Stanley, Ron Wennikes] on racedaydvl.com *FREE* shipping on qualifying offers. A fanciful journey into the world below the waves, If I Could Breathe Like Fishes Do tantalizes children with questions of what it would be like if they could breathe the way fish do.*

Next One thing about chemicals is that, once they react in certain ways, they form compounds that are nothing like the original elements. If you react them together another way you get vinegar $C_2H_4O_2$. If you react them another way you get fat see How Fat Works. If you react them another way you get ethanol C_2H_5OH . Glucose, fat, ethanol and vinegar are nothing like each other, but they are all made from the same elements. In the case of hydrogen and oxygen gas, if you react them together one way you get liquid water H_2O . The reason we cannot breathe liquid water is because the oxygen used to make the water is bound to two hydrogen atoms, and we cannot breathe the resulting liquid. The oxygen is useless to our lungs in this form. The oxygen that fish breathe is not the oxygen in H_2O . Instead, the fish are breathing O_2 oxygen gas that is dissolved in the water. Many different gases dissolve in liquids, and we see an example all the time in carbonated beverages. In these beverages, there is so much carbon dioxide gas dissolved in water that it rushes out in the form of bubbles. Fish "breathe" the dissolved oxygen out of the water using their gills. It turns out that extracting the oxygen is not very easy -- air has something like 20 times more oxygen in it than the same volume of water. Plus water is a lot heavier and thicker than air, so it takes a lot more work to move it around. The main reason why gills work for fish is the fact that fish are cold-blooded, which reduces their oxygen demands. Warm-blooded animals like whales breath air like people do because it would be hard to extract enough oxygen using gills. Humans cannot breathe underwater because our lungs do not have enough surface area to absorb enough oxygen from water, and the lining in our lungs is adapted to handle air rather than water. However, there have been experiments with humans breathing other liquids, like fluorocarbons. Fluorocarbons can dissolve enough oxygen and our lungs can draw the oxygen out -- see the last link below for some fascinating details! Here are several interesting links:

Chapter 2 : How do flies breathe? | HowStuffWorks

If I Could Breathe Like Fishes Do. A fanciful journey into the world below the waves, If I Could Breathe Like Fishes Do tantalizes children with questions of what it would be like if they could breathe the way fish do.

Bad breath is also known as halitosis or fetor oris. Odor can come from the mouth, teeth, or as a result of an underlying health problem. Bad breath odor can be a temporary problem or a chronic condition. According to the American Dental Association , at least 50 percent of adults have had halitosis in their lifetime. What Are the Symptoms of Breath Odor? In addition to a bad smell in your mouth, you may also notice a bad taste in your mouth. What Causes Breath Odor? Poor Dental Hygiene Bacteria breaks down food particles trapped in the teeth or mouth. The combination of the bacteria and decaying food in your mouth produces an unpleasant odor. Brushing and flossing regularly removes trapped food before it decays. Plaque buildup can cause cavities and periodontal disease. Strong Foods and Beverages When you eat onions, garlic, or other foods with strong odors, your stomach absorbs oils from the foods during digestion. These oils pass into your bloodstream and travel to your lungs. This produces an odor that others can notice in your breath for up to 72 hours. Drinking beverages with strong odors, such as coffee, can also contribute to bad breath. Smoking Smoking cigarettes or cigars causes a bad odor and dries out your mouth, which can make your breath odor even worse. Saliva helps keep your mouth clean and reduces odor. Dry mouth can be a problem if you have a salivary gland condition, sleep with your mouth open, or take certain medications, including those that treat high blood pressure and urinary conditions. Tartar may cause pockets, or small openings, to form in the area between the teeth and gums. Food, bacteria, and dental plaque can collect in the pockets, causing a strong odor. Sinus, Mouth, or Throat Conditions Bad breath odor may develop if you have: Diseases Unusual breath odor can be a symptom of some diseases, including kidney disease, diabetes, and gastroesophageal reflux disorder GERD. GERD is a relatively common cause of halitosis. If you have kidney or liver failure or diabetes, your breath may smell fishy. How Is Breath Odor Diagnosed? Your dentist will smell your breath and ask you questions about your problem. They may recommend you schedule an appointment for the morning, before you brush your teeth. You can expect to answer questions regarding how often you brush and floss, the kinds of food you eat, and any allergies or diseases you may have. Tell your doctor how often you snore, what medications you take, and when the problem started. Your doctor will smell your mouth, nose, and tongue to diagnose your problem. If breath odor is due to a plaque buildup, a dental cleaning may solve the problem. A deep dental cleaning may be necessary if you have periodontal disease. Treating underlying medical problems, such as a sinus infection or kidney disease, can also help improve breath odor. Your dentist may recommend that you use an artificial saliva product and drink plenty of water if dry mouth causes your odor problem. You should brush your teeth two or more times each day. Floss daily, making sure to get in between all of your teeth. Use antimicrobial mouthwash daily to kill bacteria. Brushing your tongue with a toothbrush or tongue scraper can also help remove bacteria. Staying hydrated can often help to eliminate or prevent breath odor. Drink water to wash away food particles and keep your mouth moist. Quitting smoking if you smoke can also help keep your mouth moist and free of odor. There are several routines that can prevent breath odor. Clean your dentures, mouth guards, and retainers daily. Replace your old toothbrush with a new one every three months, and schedule a dental cleaning and examination every six months.

Chapter 3 : How Do Fish Breathe Underwater? | Wonderopolis

Bad breath is embarrassing! We all know. But a quick breath check can save you from more than just an awkward social situation – it could save your life. Breath-test technology can detect.

Bad breath is embarrassing! But a quick breath check can save you from more than just an awkward social situation – it could save your life. Breath-test technology can detect stomach cancer in its earliest stages, according to an April study published in the journal *Gut*. According to the Mayo Clinic, bad-breath odors vary and depend on the underlying cause. Here are some common bad-breath causes: As food particles break down in the mouth, bacteria increase, resulting in bad odors. Onions, garlic, and certain spices are common bad-breath causes. Smoking tobacco also results in smelly breath, as does chewing tobacco. Not flossing or brushing your teeth regularly is a common cause of bad breath. This happens when tiny bits of food stay trapped in your mouth. Your tongue can be another bad-breath cause as bacteria coats it, causing foul odors. A condition called dry mouth can be a bad-breath cause as saliva in the mouth is reduced. Dry mouth is a common cause of morning breath, especially in people who sleep with their mouth open. Tooth decay, gum disease, surgical wounds, and dying teeth are all causes of bad breath. Mucus that hardens in the tonsils can be a cause of bad breath. Chronic postnasal drip and sinus drainage are also bad-breath causes. An acidic stomach or chronic reflux of stomach acid gastroesophageal reflux disease, or GERD is linked to bad breath. Some types of cancer and metabolic diseases can leave a distinctive breath smell. Talk to your doctor if you detect a metallic or other odor. Even the freshest breath can be screened for various health problems. Read on for more on what your breath can reveal about your health. Thinkstock Stomach Cancer Is a Serious Cause of Bad Breath Routine screening for stomach cancer in the United States is uncommon, largely because the current method – endoscopy – is invasive. But that may change with the development of breath-test technology called nanoarray analysis, which identifies the levels of certain compounds that are linked to stomach cancer. Ninety-nine of the participants had received stomach cancer diagnoses but had not yet begun treatment. Although the study was small and preliminary, a larger trial is currently under way in Europe to determine if nanoarray analysis can be used as an effective screening method. Among smokers, the electronic nose correctly identified people as having lung cancer, misdiagnosing 5. Cleveland Clinic researchers collected breath samples from 41 patients. Twenty-five were officially diagnosed with acute decompensated heart failure. Researchers then used mass spectrometric technology to analyze the breath samples for molecular and chemical compound signs of heart failure. These same infections are what cause bad breath. A mouth that smells like fishy-odor urine, similar to ammonia, may indicate kidney failure. The kidneys are responsible for removing toxic chemicals from the blood by creating urine. When this happens, the dangerous toxins and waste not discharged from the body accumulate and affect nearly every part of the body. The fishy-breath odor can occur when kidney failure affects the respiratory system and causes breathing problems. Saliva production decreases during sleep, which gives odor-producing bacteria an opportunity to multiply and grow. But the slowed production of saliva during sleep can sometimes be caused by leaving your mouth open for long periods of time. Both digestive conditions can delay or prevent food from processing efficiently in the stomach. Small amounts of undigested food may even regurgitate and cause bad breath. Dentists may also detect GERD in patients when they notice an inflamed red throat and acid erosion in the teeth. This nasal congestion may force you to breathe through your mouth, which can lead to dryness and the growth of bacteria that cause foul breath. Thinkstock Stop Bad Breath Linked to Tooth Decay and Gingivitis When the enamel on your teeth erodes, food particles can get deposited in those holes, called dental caries. Gingivitis is another medical condition that is a cause of bad breath. When the gum becomes inflamed with bacteria, it can result in severe pain and funky-smelling discharge.

Chapter 4 : How long can Betta fish live out of water? | Yahoo Answers

As one of the premier rare book sites on the Internet, Alibris has thousands of rare books, first editions, and signed books available. With one of the largest book inventories in the world, find the book you are looking for. To help, we provided some of our favorites. With an active marketplace of.

Next How long can Betta fish live out of water? The reason I ask is because tonight, I was sitting at the computer minding my own business when I see this black thing fly out of the air onto the floor. I immediately freaked out thinking it was a freakishly huge cockroach, after it did not move for a moment I decided to lean closer to it to see if I needed to I immediately freaked out thinking it was a freakishly huge cockroach, after it did not move for a moment I decided to lean closer to it to see if I needed to throw my shoe and scream bloody murder or not. As I leaned in I noticed that it was my adorable lovable little Vinny, my Betta fish. Now, I just cleaned the damn bowl today, and fed the little stinker, so I was upset, not to mention I was excited that my cool fish had even lived as long as it did. I really love this fish. I know its stupid. Anyways, as much as I love my fishy, I was not about to pick it up and try to attempt to get it in its tank, because I am a chicken. So there it laid on my bedroom floor for over 4 hours He was nonchalant and throws him back in the tank so we could bury him tomorrow. How in the world did a FISH survive without water for that long? I immediately got on the search engine and was trying to find an answer So anyways in with the question, this is mainly because I am interested to hear any other stories that may similar to mine. Okay, so I am adding some to this, since you people do not even know me, or the predicament at hand and called me retarded and cruel. And I will admit that yes, it is cruel to leave him lying on the floor for hours. BUT you do not know me, I am 9 months pregnant, can barely even see the floor beneath my feet BUT you do not know me, I am 9 months pregnant, can barely even see the floor beneath my feet regardless bend over and tie my damn shoes. I was simply saying I could not pick him up with my hands I freak out about that kind of stuff and I could not do it. As for the comments about his well being, he is great, he has fresh water, as I stated I had just cleaned his tank, which I do once a week. I filled it more full this time because I could go into labor, so was trying to help make sure he was okay. Today I got him a topper for his tank, and got some Betta medicine just in case he does develop some kind of sickness. Just wanted to add these notes since people want to be jerks and say rude comments 5 following.

Chapter 5 : Fish breathing really fast help?!?!? | Yahoo Answers

Fishes live in nearly every water habitat such as in fresh water like springs, swamps, lagoons, reservoirs, lakes and ponds and in salty water such as the ocean. They can be found in many climatic conditions from near-freezing Arctic waters to the hot desert springs.

Like a fish - underwater breathing system Wednesday, December 14, Inventor Alon Bodner An Israeli Inventor has developed a breathing apparatus that will allow breathing underwater without the assistance of compressed air tanks. This new invention will use the relatively small amounts of air that already exist in water to supply oxygen to both scuba divers and submarines. The invention has already captured the interest of most major diving manufacturers as well as the Israeli Navy. Listen to Interview with Eng. There are a number of limitations to the existing compressed air tank underwater breathing method. The first is the amount of time a diver can stay underwater, which is the result of the compressed air tank capacity. Another limitation is the dependence on compressed air refueling facilities near the diving site which are costly to operate and are used to compress the gas into the tanks which might be dangerous if not handled properly. The final problem has to do with the actual use of compressed air tanks underwater. When these tanks are in use they empty out and change the balance of the diver in the water. Engineers have tried to overcome these limitations for many years now. These systems require very large amounts of energy to operate. For this reason, smaller, diesel fueled submarines cannot use these systems and are required to resurface to re-supply their air tanks every so often. To overcome this limitation an Israeli inventor, Alon Bodner, turned to fish. Fish do not perform chemical separation of oxygen from water; instead they use the dissolved air that exists in the water in order to breathe. In the ocean the wind, waves and underwater currents help spread small amounts of air inside the water. Studies have shown that in a depth of m below the sea there is still about 1. This might not sound like much but it is enough to allow both small and large fish to breathe comfortably underwater. This law states that the amount of gas that can be dissolved in a liquid body is proportional to the pressure on the liquid body. The law works in both directions lowering the pressure will release more gas out of the liquid. This is done by a centrifuge which rotates rapidly thus creating under pressure inside a small sealed chamber containing sea water. The system will be powered by rechargeable batteries. Calculations showed that a one kilo Lithium battery can provide a diver with about one hour of diving time. Bodner has already built and tested a laboratory model and he is on the path to building a full-scale prototype. Patents for the invention have already been granted in Europe and a similar one is currently pending examination in the U. Meetings have already been held with most major diving manufacturers as well as with the Israeli Navy. Initial financial support for the project has been given by Israel Ministry of Industry and Commerce and Bodner is currently looking for private investors to help complete his project. Illustration photo - Maayan Shenhar If everything goes according to plan, in a few years the new tankless breathing system will be operational and will be attached to a diver in the form of a vest that will enable him to stay underwater for a period of many hours. Transcript of the Interview with Alon Bodner: We are speaking now with engineer Alon Bodner. First of all I have to tell you that since we put up your report on IsraCast, we have been inundated with literally millions of people going into our website to find out about your invention. Just where did you get the idea sir? But just how practical is your idea, have you actually tried to run through this prototype in a pool or that kind of thing? In principle it works. I want to distinguish between open diving systems and closed diving systems. With closed systems, such as with breathers for individual divers or submarines or maybe in the future underwater habitats, the required water flow is much smaller, so this device is very suitable. In other words, it could be a portable apparatus? It is supposed to be a portable apparatus, yes. And when you speak of underwater habitats, just what do you have in mind? Well right now there exists several underwater habitats especially for research, off the coast of Florida there is one. In the future, you can have a whole city or many people under a glass dome and breathing air straight from this device. What about the scientific community, have you yourself been approached by scientists and so forth? Well I have, a few people do not understand the concept, they assume that I separate oxygen from the water and they say correctly that it is toxic below a depth of seven meters and

then they ask some technical questions. In this case I want to say again, the device can extract air from the water. It is dissolved air which contains oxygen and nitrogen and so on. It does not extract oxygen from hydrogen. And what are some of the technical problems that you have to overcome at this stage? The main concerns are the power of the batteries I suppose and the water flow. As I said the water flow can be a problem, especially if using open systems, if you want I can elaborate better calculations. If you could, please. A diver can consume about 25 liters per minute of air at the surface. As you go deeper your lungs require more air. At 10 meters depth the air and water flow requirement is double than that on the surface so that means that you will need 2, liters per minute of water, and this is a lot. For closed systems, the calculation is different. In these systems the air is re-circulated and returned to the diver after the carbon dioxide is removed. For this case we calculate the oxygen consumption rate and not the air consumption rate as before. Say a diver consumes one liter per minute of oxygen, and unlike the above calculation your body requires the same amount of oxygen at all depths. So, assume there is about half a percent of dissolved oxygen in the water, this result in the water flow requirement of only liters per minute at all depths, which is not too bad, and we can make a compact machine for this. Engineer Bodner, you are a diver yourself? So you can be a guinea pig for your own invention now? How long do you estimate that it might take before your remarkable invention actually goes on the market, becomes marketable, in a finished product? I expect the complete work the complete working prototype in about two years; this is provided if I get more funding, a commercial product will be ready shortly thereafter. Have you had approaches from manufacturing companies and so forth? Iddo Genuth, Tomer Yaffe.

Buy If I Could Breathe Like Fishes Do by Jan Stanley () by (ISBN:) from Amazon's Book Store. Everyday low prices and free delivery on eligible orders.

Animals which live underwater have no problem in expelling carbon dioxide because it dissolves very easily in water. Their problem is how to obtain enough oxygen. Gills If the animal is not very active it could breathe through its skin as earthworms do on land. If, however, the animal is very active it may find that the skin does not let enough oxygen into the body. Animals which swim a lot need a considerable amount of oxygen to make the muscles work. More oxygen can enter the body if the skin has a greater surface. The skin can be given a bigger surface by making it stick out of the body as folds and projections. A gill is created when these folds and projections are given a blood supply. Because this type of gill sticks out into the water we call it an external gill. You can imagine that this type of gill could get in the way or be damaged if the animal moves around a lot. Fishes have internal gills which are covered by an operculum. To get enough oxygen the fish must make water flow across its gills. The fish does not breathe water in and out of its mouth. The water gives oxygen to the blood in the gill filaments and receives carbon dioxide in exchange. Finally, the water passes out from under the operculum. The gills also come in several layers. They can be very efficient at extracting oxygen from the water, allowing some fish to be very fast swimmers. Many aquatic invertebrates also have gills. Crustaceans, such as the crab, and molluscs, such as the mussel breathe using gills. A mussel also uses its gills for feeding. As the mussel sucks water into its shell to breathe, it also draws in the microscopic plankton which it filters and sends to its mouth. In this way a large mussel may pass 2,5 dm³ of water across its gills in an hour. The Tracheal Gill The young larvae of aquatic insects also have a kind of gill combined with their tracheal system. It is called a tracheal gill. The insects do not have blood vessels passing through their gills, they have tracheae instead. These tracheae are filled with air just like the tracheae of air-breathing insects. They do not, however, open onto the outside world through spiracles. Instead they are completely closed off. Oxygen passes from the water, crossing the gills, and then moves into the air filled tracheae. From there the gas is transported around the body in the tracheal system. The Open Door Web Site is non-profit making. Your donations help towards the cost of maintaining this free service on-line.

Chapter 7 : Unusual Breath Odors & What They Mean – racedaydvl.com

It sounds like either that aren't getting enough oxygen or there water is full of chlorine and nitrites and nitrates. Cleaning all the filter and the graven would be a good idea as well. As for the scratching, it's a sign of lck, and can kill the fish if not treated.

Why cant we breath under water? A good way to think about surface area is to think about painting. When we need to move matter or energy, surface area is an important idea. For example, if you are in cold air, you can curl up tight to decrease your surface area and hold onto your body heat. Sometimes you want more surface area. Capillaries are just tiny blood tubes that connect veins and arteries. Instead, the inside of your lungs is made up of millions of little pouches called alveoli. Each pouch is open to the tubes that bring air into your lungs, and the walls are covered with capillaries. This creates lots of surface area. How much depends on things like temperature warm water hold less oxygen ,how much oxygen is getting mixed in from the air, produced by photosynthesis, or used up. Fish need less oxygen than we do because they are "cold-blooded," what scientists call "exothermic," meaning they get their heat from outside their bodies. We spend a lot of energy making heat, so we need more oxygen. Fish gill look like millions of tiny fingers arranged on curved bars. These provide a lot of surface area of getting oxygen out of the water. These work well when they are in water, which supports these delicate, finger-like things. Can you think of other places that surface area is important? Can you think of ways that surface area would be important for marine mammals like whales? Thanks for asking Answer 2: In order for the cells in our bodies to live, they need Oxygen. The way we get oxygen into our blood and then into our cells, is through our lungs. We we breathe in, our lungs fill up with air. In our lungs are tiny Avioli, that have millions of little blood capillaries right at the surface. Oxygen can then pass into the capillaries, and into our blood stream. The blood is then pumped into the heart and around our body. There are two reasons: You need specialized organs like gills to get enough oxygen out of water to survive on it. Humans use lungs to breathe - our lungs are specialized to exchange oxygen and carbon dioxide. Blood coming into the lungs carries carbon dioxide in the form of bicarbonate bound to a molecule called hemoglobin - when it reaches the cells that are exposed to the air the alveoli , oxygen diffuses through the thin membrane, bumps off the carbon dioxide and binds the hemoglobin. The oxygenated blood is then carried throughout the body. The lungs are specialized for gas exchange from air and rely on pressure changes to ventilate this comes from musculature in the thoracic cavity. In water, there is usually plenty of dissolved oxygen, but our lungs cannot access it - the design is wrong. Not only is it impossible to generate the pressure changes to exchange water in and out of the lungs, but the physical exchange of the gases will not work as the hemoglobin binding is dependent on the diffusion rate of the gases. Another way to address your question is to ask why some other animals CAN breathe underwater. Whales and other cetaceans aquatic mammals can simply hold their breath for a very long time and their body tissues slowly use and exchange oxygen that was inhaled right before the dive. Fish and amphibians are a totally different story. They do not have lungs like mammals. Fish have specialized organs called gills that can extract oxygen from water as it passes over the surface of the tissue. Many amphibians can simply exchange gases through their skin. [Click Here](#) to return to the search form.

Chapter 8 : Breath odor: MedlinePlus Medical Encyclopedia

The bodice was constricting like a corset that gave lift to my bosom, but thankfully I could still breathe. The child was also mouth-breathing, a sign that her adenoids were so enlarged that she was unable to breathe through her nose.

How Do Fish Breathe? Published Saturday, March 04, Sometime ago we looked at the question What happens to marine life when a lake or pond is frozen? But have you ever wondered how fishes breathe in water much less to survive in a frozen pond or lake? Well, if this makes you ponder then read on. Thus, it is the home of various living organisms of which one such is fish. Water provides many functions that are essential to all known forms of life one of which is to provide a medium for aquatic animals to live and call their home. Such a home can be a lake, pond, sea, river and stream just to name a few. What is a fish Fish is any cold-blooded poikilothermic vertebrate animal that lives in water. It typically has jaws, fins, scales, a slender body, a two-chambered heart, and gills for providing oxygen to the blood. Thus, in simple terms, fish is a cold-blooded strictly aquatic vertebrate animal with backbones with gills. Fishes live in nearly every water habitat such as in fresh water like springs, swamps, lagoons, reservoirs, lakes and ponds and in salty water such as the ocean. They can be found in many climatic conditions from near-freezing Arctic waters to the hot desert springs. Click image to enlarge Fish being an aquatic animal, has a respiratory system that is different from that of animals that live on land. It is capable of breathing under water without making frequent trips to the surface to breathe air like marine mammals such as the Whale see discussion below for more details. This is due to the fact that fishes have a breathing organ known as gills. This is made up of thin feathery sheets of tissue membrane containing many blood vessels through which oxygen passes allowing fishes to breathe. Water enters the mouth by a very effective pumping system that involves the mouth and the outer flexible bony flap that cover the gills called the operculum. Conversely, when the fish closes its mouth, the operculum opens and fresh water is then allowed to flow across the gills. The function of the gill rakers is to act as a filter system by sieving out particles such as food or any other foreign particles that may have entered the mouth from the inflow of water. The filtered water then travel through the gill arches thus passing over the gills see above diagram. Here each gill consists of two rows of extremely thin membranes called gill filaments. The structure of the gill filaments consist of sequence rows of a thin, disc-like membrane loaded with a capillary network called lamellae. Gill filaments which are projected out into the water flow allows water to flow across the lamellae. This will result in gas exchange where, oxygen and carbon dioxide are exchanged directly across the capillary membrane. This deoxygenated water is then carried away and out of the body through the operculum. This process repeats itself continually and this is the process by which fish breathe. This process is also known as respiration. Whales and dolphins are they fish? Whales and dolphins are not fish. The definition of a fish is explained and defined in the above article. Fish use their gills to extract oxygen from the surrounding water in which they live but mammals on the other hand such as humans , whales and dolphin get the oxygen they need by breathing air, using their lungs. This explains why they come to the surface of the ocean. They have a hole their nose in the flat part of the middle of their heads called blow holes which closes when the whale or dolphin is under water and it opens when they are at the surface and need to breathe. The reason why warm-blooded animals like whales breath air like humans is due to the fact that it would be hard to extract enough oxygen from their water surrounding using gills. While on the other hand, fish being a cold-blooded animal take on the temperature of their surroundings and uses less energy than that of warm blooded animals which convert the food that they eat into energy to adjust their body temperature. This reduces oxygen demands for fishes thus, gills work best with fishes. It is important to note that although fish have nostrils they play no role in respiration but are rather used only for a sense of smell. Most animals including humans had gills in their early fetal stage of development in the womb. However, they lost this organ further into their development since it has no essential function toward sustaining and maintaining live. Therefore animals, as well as, humans cannot breathe underwater because our lungs do not have enough surface area, that is necessary to absorb enough oxygen from water. Furthermore, the lining in our lungs is adapted to handle air rather than water. Fish on the other hand, retained these gills, which are necessary for

their survival in their environment water medium. Gills are very efficient at removing oxygen from water due to their feathery structure that greatly increases the surface area for gas exchange. Hence, gills play an important role in the anatomy of fish. Where does the oxygen come from that the fish breathes? Water is formed from the combination reaction of hydrogen gas H_2 and oxygen gas O_2 to produce liquid water H_2O . In other words, each molecule of water is made up of two hydrogen atoms and one oxygen atom. However the oxygen that fish breath is not the oxygen found in H_2O - the molecular formula of water. The oxygen in liquid water is bound to two hydrogen atoms forming water molecules, thus oxygen from is not free to take part in respiration. Therefore the fish cannot breathe the resulting liquid water, and the oxygen gas O_2 that the fish breaths comes from that which is dissolved in the water. Hence, fish "breathe" the dissolved oxygen out of the water using their gills. This also means that if there is not enough dissolved oxygen in the water, then the fish can suffocate, just as humans and other animals will if there is not enough oxygen in the air that we breathe. Why some fish thrive in specific habitats? This is due to the fact that some fish require more oxygen than others. This means that different aquatic environments, have different levels of dissolved oxygen content that suits some fish over others, due to the effective pumping system that extracts oxygen from its surrounding. Some fish have an effective pumping system that involves the mouth and the operculum however, there are some such as the tuna that have a much less effective pumping system and requires constant movement to keep oxygenated water flowing over their gills. Other fishes deal with this by finding an ideal habitat. In northern streams the water is very cool thus resulting in the water retaining high levels of dissolved oxygen. An example of a fish that needs this high oxygen content is the trout. It is a very active fish and its demand for oxygen is high so the extra oxygen is a necessity. Conversely, warm water and stagnant water has much less dissolved oxygen content and fish with are not that active and have a slower metabolic rate thrive well in these habitat. Carp is one such fish, their demand for oxygen is relatively low. A seahorse is actually a fish. The largest fish is the great whale shark which can reach fifty feet in length and weigh up to 15 tons. The fastest fish is the sailfish. It can swim at more than 60 miles an hour. A walking catfish can live out of water for days at a time. They have a special chamber in their lungs to help them breathe. There are over 25, identified species of fish on the earth. There are more species of fish than all the species of amphibians, reptiles, birds and mammals combined. Some deep-sea fishes attract prey with specialized light organs. Anglerfish Most fishes sleep with their eyes open. Some species of fish can fly glide others can skip along the surface and others can even climb rock. Fish have a specialized sense organ called the lateral line which works much like radar and helps them navigate in dark or murky water. It also detect changes in water temperature, pressure, current, etc.

Chapter 9 : The Open Door Web Site : Biology : Breathing Underwater

I immediately got on the search engine and was trying to find an racedaydvl.com thing I could find is that they have the ability to breathe atmospheric air, but not for a long period of time, after they are dry, they are dead. this fish was dry, stiff, dead, gone, and racedaydvl.com alive.

If your bad breath is caused by plaque buildup due to poor oral hygiene, visiting the dentist for a cleaning could help. If you suspect you may have a bowel obstruction, seek immediate, emergency medical attention. Your doctor may prescribe bowel rest with IV fluids to treat a partial obstruction. For severe obstructions, surgery may be required. You might also be prescribed antibiotics, pain medication, or medication to reduce nausea. Treatment of vomiting depends on the causes. In most cases of viral infection and food poisoning, the symptoms must be allowed to pass. Sometimes severe vomiting requires anti-nausea medication or IV fluids in the case of dehydration. Most sinus infections are treated with antibiotics prescribed by your doctor. Over-the-counter OTC pain medication may also be required to treat discomfort caused by the infection. GERD may be treated with OTC or prescription medications such as antacids medications that lower acid production , proton pump inhibitors, or medications that help the lower esophageal sphincter stay closed. If you have GERD, you should avoid foods that aggravate your symptoms. In extreme cases, surgery may be necessary. A person experiencing ketoacidosis will receive a combination of treatments in the hospital to normalize blood sugar and insulin levels. This includes insulin therapy, fluid replacement, and electrolyte replacement. You may receive antibiotics if your ketoacidosis was triggered by an infection or other illness. Your doctor may treat acute liver failure with medications that reverse the effects of poisoning or a liver transplant , if your condition is irreversible. For conditions like cirrhosis , which can lead to chronic liver failure, you may be treated for your dependence on alcohol, administered medication for hepatitis, advised to lose weight, or treated with other medications that control the causes and symptoms of cirrhosis. If your condition is not severe, you may treat it at home with simple remedies that may help reduce your breath odor. Some of these home treatments include: Treatment should cure or resolve bad breath within two weeks. If the underlying cause is treated properly, the odor on your breath should be reduced or eliminated. In cases of severe conditions like intestinal obstruction, ketoacidosis, or liver failure, prompt emergency care is vital. These conditions are extremely serious and could be fatal. If you catch any of these conditions early, your long-term outlook can be positive and you may be able to make a full or near-full recovery.