SHARKS

At the ABQ BioPark Aquarium

Teacher Resource Guide

ABQ BIOPARK

CITY OF ALBUQUERQUE · NEW MEXICO · 1706

Before Your Visit
Background Building Lessons

Making Sense of Sharks
Source: Shedd Aquarium
Lesson Summary: From dark, deep waters to shallow sandy beaches, sharks' incredibly sharp senses make them the ocean's most successful predators. Get a sense of how sharks use their senses. Students will explain how sharks use an integrated system of senses to locate prey and compare human and shark senses.
Grade Level: 1-5
Go to: http://www.sheddaquarium.org/sea/search_results.cfm

Read a Fish
Source: Shedd Aquarium
Lesson Summary: You can learn a lot about a fish just by looking at it. Students will be able to explain how features of fishes can reveal information about them, begin to develop a sense of the diversity of fishes and learn to record their findings by starting a fish journal.
Grade Level: K-2
Go to: http://www.sheddaquarium.org/sea/search_results.cfm

Sharks: Should They Be Afraid of Us?
Source: National Geographic Education
Lesson Summary: In this lesson, students will learn some interesting facts about different kinds of sharks and discuss the reasons why people are both afraid of and interested in sharks. They will consider sharks' importance in nature and create brochures to educate beach visitors about sharks.
Grade Level: K-2
Go To: http://education.nationalgeographic.com/archive/xpeditions/lessons/14/gk2/scaredshark.html?ar_a=1

Sharks and Tropical Weather
Source: Mote Marine Laboratory
Lesson Summary: Students will be able to tell how changes in weather affect shark movement and behavior. Students will read information given about weather and shark movement, answer related questions, and create corresponding charts and graphs.
Grade Level: grades 8-12
Go To:
http://www.mote.org/index.php?src=gendocs&link=lesson%20plan%2C%20tropical%20weather&category=Shark%20Research

Sharks: Setting the Record Straight
Source: National Geographic Education
Lesson Summary: In this lesson, students will investigate sharks' importance to the ecosystem, recent shark attacks and legislation regarding shark feeding, and the geographical distribution of shark attacks in the United States. Students will write outlines for TV programs to educate the public about sharks.
Grade Level: Suggested grade level 9-12, however could easily be adapted or simplified for younger students.
Go To: http://education.nationalgeographic.com/archive/xpeditions/lessons/14/g912/recordsharks.html?ar_a=1

Shark Q&A

Q: What is a shark?

A: All sharks are fish. Like any other fish sharks have gills for breathing, a backbone, and live in water. Unlike bony fish, sharks and their cousins the stingrays and skates have skeletons made of cartilage instead of bone. The only part of their body that is hard like bone is their teeth.

Q: How do sharks breathe under water?

A: Sharks swim through the ocean all day, even while they are sleeping. Most sharks must swim continuously in order to keep passing water over their gills for oxygen; this is called 'ram jet ventilation'. As the shark swims water passes through the mouth and is forced through the gills. A few species are able to pump the water over their gills enabling them to rest on the sandy bottom for long periods. Most sharks have 5 gill slits but there are a few species that have 6 or 7 gill slits.

Q: What senses does a shark have?

A: Sharks are highly adapted predators. They have a keen sense of smell, strong vision, and even electrical sensors to help them find struggling prey. Sharks have nostrils, or a nose, but they don't breathe with it. It is only used to smell. A shark also has electrical receptors on its nose called 'ampullae of lorenzini' which are used to detect electrical impulse emitted by struggling prey. You can sometimes spot these sensors on the snout of a shark; they look something like freckles or enlarged pores.

Q: Do sharks blink?

A: No. Sharks do not have eyelids, and so do not blink in the way humans and most land animals do. Some sharks do have a protective covering called a 'nictitating membrane' which acts like a shield for the eye, only coming down when the shark needs it. Some species protect their eyes by rolling them back in their heads.

Q: How many teeth does a shark have?

A: Some sharks can have up to 3,000 teeth at one time. This is because sharks have rows of teeth since they bite into prey with such great force that their teeth may break. When this occurs, the next tooth in line takes the place of the broken one ahead of it as if on a conveyor belt, and the cycle continues. Shark teeth are not for chewing food, but for breaking and tearing prey into bite sized pieces which the shark swallows whole. Some species of shark have adapted to eat shellfish and have crushing jaws rather than ripping and tearing teeth. Most shark jaws are made so that the top part of the jaw works as a fork, grabbing and immobilizing the prey, while the bottom jaw, working as a knife, bites and rips the prey into pieces the animal can swallow.

Q: What is a shark skeleton made of?

A: Unlike humans, whales, dolphins, and many fish, sharks do not have a bony skeleton but rather a cartilaginous one. Sharks are in the same scientific group as rays and skates called Elasmobranchii, or cartilaginous fishes.

Q: Do sharks have scales like other fish?

A: Although with the naked eye you can't tell, sharks do have scales. Unlike bony fish, whose scales grow bigger with age, sharks grow more scales as they grow bigger. The type of scales a shark has, called placoid scales, are tube shaped. This type of scale helps the shark stay hydrodynamic and glide easily through the water. If you ran your hand along a shark's skin from head to tail it would feel relatively smooth, but going the opposite direction it would feel rough, like sandpaper.

Q: Where can I see a shark in the wild?

A: Sharks can be found in all the oceans
of the world! Some sharks have even been known to venture into fresh water, travelling up rivers for miles and even into lakes!

Q: What kinds of sharks will I see at the aquarium?

A: The Albuquerque BioPark Aquarium houses seven species of shark: the sandbar, the blacktip, the sandtiger, the nurse shark, the zebra shark, the brown banded bamboo shark, and the white spotted bamboo shark.

Q: Why don't the sharks eat everything else in their tank?

A: Our sharks don't eat the fish in their exhibit because they are very well fed. In fact, we feed our sharks every other day to ensure they get proper nutrition and stay healthy. Each shark is fed by an aquarist using a feeding pole to ensure that each individual gets exactly the right amount of food at each feeding, and does not over eat or get out-competed for food.

Q: Are sharks threatened in the wild?

A: Yes. Many species of shark are in danger due to fishing and the destruction of their habitats. Sharks are often caught as 'by-catch' when fisherman use large trawler nets to haul in fish. Special nets were made to allow dolphins and sea turtles to escape, but sharks get tangled up in the nets and suffocate since they are unable move forward to force oxygen through their gill slits. Another danger to sharks is known as finning. Shark fin soup is still a popular dish in many countries, and the practice of hauling sharks in and harvesting only their fins before throwing them back in the ocean to drown is common.

Q: Can I help?

A: Certainly! By educating yourself and spreading the word about sharks and their ocean home you can help save them. Making smart sustainable seafood choices, recycling, never polluting, and raising awareness of harmful fishing practices are all great ways to help sharks. Find more information in the 'further reading' section of this packet, at your local library, and of course the ABQ BioPark Aquarium.

The Story of the Aquarium –
The Rio Grande's Journey to the Sea

As the Rio Grande flows south to the Gulf of Mexico, it provides precious water for all the plants and animals that depend upon it for survival. When you travel through the aquarium, remember that the fresh water that is passing through Albuquerque today will someday reach the Gulf of Mexico, mix with the salt water and nourish the inhabitants of that great body of water. The river is our liquid link to the sea.

Your journey begins in the Rio Grande as it flows under the Central Bridge. The Rio has changed dramatically in the last 200 years, the two tanks in the lobby display the historical and present day conditions of this habitat.

As you continue on you will pass by a section of the fast-flowing Upper Rio Grande, complete with native trout!

Next stop, salt marsh! This exhibit mimics the rising and falling tides found along the coast. Salt marshes serve as nurseries for larger species of fish which live in the open ocean as adults. Keep an eye out for the larger adult versions of the juvenile fish you see in this habitat in the other exhibits.

Once you have left the salt marsh you will reach the shallow water habitats of the Gulf of Mexico. You will see two very different views of the Gulf habitat; the Gulf Coast Past exhibit represents the Gulf at a time when it was a healthy environment that supported a diverse amount of species. Compare this tank to the Gulf Coast Present. What caused the change in surroundings?

As you continue you Gulf exploration you will see two man-made habitats; the jetty and the oil rig. The jetty exhibit is a replica of an artificial breakwater that provides erosion control at the mouth of channels. It is also home for many fish and invertebrates. The offshore oil rig represents the rigs that can benefit Gulf species by providing another *artificial habitat.* These communities enrich surrounding waters by attracting little fish that in turn attract larger predators. The federal "Rigs to Reefs" program arranges for non-functioning rigs to be sunk on site rather than hauled away.

If you step outside before continuing on your aquatic adventure you will see the only shrimp boat in New Mexico! The Candy M is complete a TED, or turtle excluder device, attached to its net. The TED is a metal grid of bars. Shrimp slip through the bars and into the net, but large animals, like sea turtles, strike the grid bars and are ejected through the device and out of the net.

Past the jetties you can experience the motion of the ocean in the Surf Zone! Ocean water is always in motion. How do different animals react to the pounding waves? Many clams, crabs and worms live beneath the sand. Fish often swim to water that is deeper and calmer. Barnacles and sea anemones cling to hard surfaces.

Across from the Surf Zone are the Shallows and Shores, this region is one of the most diverse and productive in the Gulf of Mexico. Daily tides, waves, off- shore currents and strong winds continually reshape dunes, shores and shallow sea beds. This habitat is home to a number of rays, which are cartilaginous fish much like their cousins the sharks.

Travel down the hallway of Gulf species and you will come to the Atlantic Coral Reef. The only reef in the Gulf of Mexico, the Flower Garden Banks, is located about 110 miles southeast of Galveston, Texas. Coral reefs are teeming with diverse and delicate life. They are also very vulnerable to pollution, over-fishing, and damage from boat anchors and oil spills.

Time for a big leap! Journey now across a vast ocean, and a few land masses too, and you will arrive at the Pacific Coral Reef. Note the variety of coral, and fishes. Their bright colors and array of shapes are adaptations to help them survive in this ecosystem. As you explore the South Pacific Gallery you will also see the sea anemones, sea horses, pipefish, cuttlefish, shrimp and living coral that call this habitat their home. Don't forget to visit the hagfish and Shark and Ray encounter while you are in the neighborhood!

Return now to the Gulf of Mexico. You are now in the open ocean, and will see some of the stranger denizens of the sea as you make your way onwards. The jellies are made up of 95% water themselves, and travel along the currents eating plankton, small fish, and sometimes other jellies!

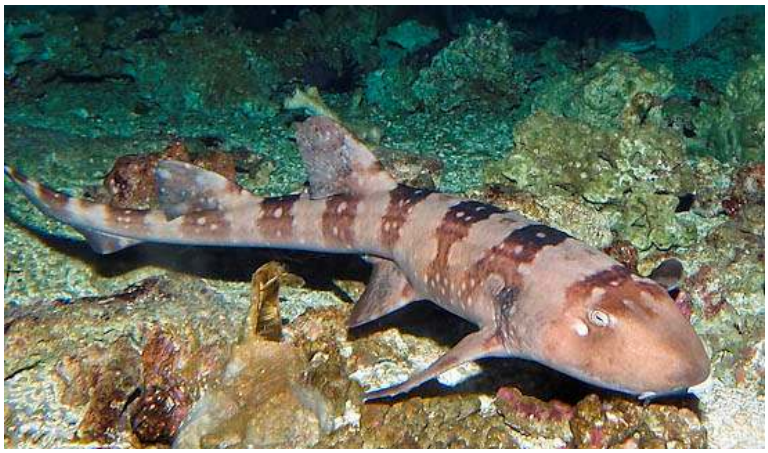
Pass by a shipwreck inhabited by lobsters, and you will have reached the Open Ocean. This is the habitat of a vast number of animals, notably several species of sharks! At the end of your journey, take time to see how many species you can find in this small slice of the Gulf.

Shark Field Guide

White-Spotted Bamboo Shark

- Also called white-spotted cat shark
- Small and slender
- Lives among coral reefs
- About 2 ft. long
- Has white spots and dark brown bands
- Feeds at night on small fish and invertebrates

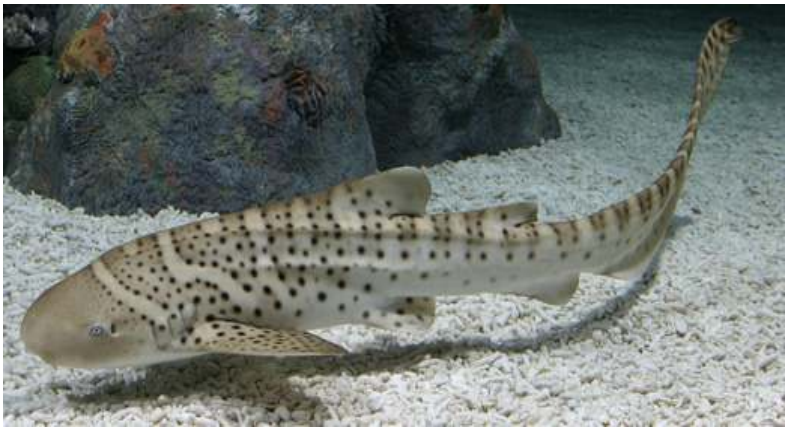
Brown-Banded Bamboo Shark



- Small shark with broad body and slender tail
- About 2 ft. long
- Has brown bands with young, loses coloration as it gets older
- Eats small fish and bottom dwelling invertebrates

Zebra Shark

- Long tail (as long as it's body)
- Rounded noses and stout bodies
- Adult zebra sharks are light colored with dark spots
- Young zebra sharks have black and white stripes



Nurse Shark

- Often rests or swims near the bottom of the tank
- Broad flat head
- Yellowish brown or grey color
- Large tail fin
- Eat bottom dwelling fish, shrimp, squid, octopus, sea snails, lobsters, sea urchins and even coral
- Hunt mostly at night

Blacktip Shark

» Also known as Spinner Shark

» Black tipped fins, dark grey bodies with white bellies

» Attack their prey from below at high speeds and often break the water surface and do 3-4 spins in the air before falling back to the water

» Eat small school fish like herring and sardines

Sandbar Shark

« Medium size shark

« Round snout

« Prominent front dorsal fin (located on the back)

« 7 ½ feet long

« Eat mostly small bottom dwelling fish

Sandtiger Shark

- Light brown color on top, white belly
- Often inhabit rocky coral reefs
- Eat bony fish, small sharks, squids
- Long sharp teeth protruding from its mouth

Compare and Contrast Sharks and Bony Fish

Standards Addressed:
Strand 2:Content of science.
Life science: Students will understand the properties, structures and processes of living things and the interdependence of living things and their environments.

K-4 BENCHMARK 1 : know that living things have diverse forms, structures, functions and habitats;

Grade K performance standards:

(i) Identify major structures of common living organisms , **(ii)** Observe that differences exist among individual living organisms

Grade 1 performance standards:

(ii) Know that living organisms inhabit various environments and have various external features to help them satisfy their needs, **(iii)** Describe the differences and similarities among living organisms

Grade 2 performance standards:

(i) Observe that diversity exists among individuals within a population;

Grade 3 performance standards:

(i) Know that an adaptation in physical structure or behavior can improve an organism's chance for survival

(ii) Observe that plants and animals have structures that serve different functions

(iii) Classify common animals according to their observable characteristics

Grade 4 performance standards:

(i) Explain that different living organisms have distinctive structures and body systems that serve specific functions

K-4 BENCHMARK 2: know that living things have similarities and differences, and that living things change over time;

Grade K performance standards:

(i) Observe and describe similarities and differences in the appearance and behaviors of living organisms

Grade 1 performance standards:

(i) Identify differences between living and non-living things;

Grade 2 performance standards:

(iii) Observe how the environment influences some characteristics of living things

Grade 4 performance standards:

(i) Know that, in any particular environment, some kinds of plants and animals survive well, some survive less well and others cannot survive at all;

(ii) Know that a change in physical structure or behavior can improve an organism's chance of survival

Lesson Summary: Students will research and then compare and contrast sharks with bony fish. Students will extend by thinking about shark adaptations, and why sharks may have evolved to have these differences (ie; cartilaginous skeletons vs. bony skeletons. What is the advantage?)

Grade Level: K-12 with adaptations.

Objectives:
Students will be able to understand and describe the differences and similarities between sharks and bony fishes. Students will explore the advantages of sharks' adaptations, and be able to name the key features of sharks and bony fishes.

Materials:
» Paper/ Pencils
» Research materials ie; books about sharks and rays or computers with internet access.
» Poster paper or power point
» Markers, crayons, etc.

Activity:

1. Engage- Have students form small groups and create lists of what they already know about sharks. Discuss whole group.

2. Explore- Explain to students that they will be researching sharks to find out exactly what makes a shark a shark. They will need to read about sharks and fill out the following table about shark attributes. Students may work in small teams or alone depending on their grade level etc. After students have all completed the shark attribute table gather the class to discuss findings, and create a class poster with the shark features. Answer the question: 'what makes a shark a shark?' Have students discuss why they think some of these attributes are useful for a shark, for example what is the benefit of having placoid scales, or multiple external gill slits. Students will then research the same attributes for bony fishes. You may want to explain this term to students before hand or have them discover the meaning through their research. After students have described the bony fishes' attributes bring the class together to discuss the similarities and differences as well as advantages and disadvantages each attribute may have.

3. Assess- Each student or group will be responsible for making a poster illustrating the key differences between sharks and bony fishes, students should draw a shark and an example of a bony fish including labels describing the key features. Students should also be able to discuss the advantages and disadvantages of the attributes as discussed in whole group. Have groups or individuals present their work to the class. Students could also choose to create a power point presentation to share their findings, or write a research paper.

4. Extensions/Adaptations- Some attributes may be omitted for younger students, for example you may wish to have younger students focus on the swimming, gills, and fins or other easy to observe attributes and exclude buoyancy and reproduction. For K-2 students the activity may be simplified by having students focus on comparing a shark with any other kind of sea creature without defining the differences between sharks and bony fishes explicitly ie; compare the physical features of sharks and jellyfish. To increase the level of difficulty for older students add sensory organs to the attribute list.

5**. Resources**- See 'Other Resources' section of this packet

Research each of these attributes and describe what it looks like for a shark, and for bony fishes. What does this attribute do for the animal/ why might it be helpful? Example: Skeleton- A shark's skeleton is made of _____. I think having this kind of skeleton helps

Sharks	Bony Fish
Swimming:	
Buoyancy (floating):	
Gills:	
Reproduction:	
Skin:	

During Your Visit

Resources for enriching your aquarium visit

Shark Ethogram

Shark Observation

Researchers and scientists often study the behavior of animals both in the wild and captivity in a systematic way by filling out an *ethogram* or observation sheet. The information is used to help better understand the animal's needs. Choose *one* shark to observe for 5 minutes. Every thirty seconds, record that shark's (and only that shark's) behavior. If the shark goes to a place where you cannot see it, just record it as "out of view." Don't switch sharks midway through your observation period. (Idea: to compare behavior of two different species, complete two separate 5 min. observations, each on a different animal. Record each on a separate observation sheet).

Shark's location in exhibit:_____Date:_____

Species of shark you are observing: _____

Time of first observation:_____

Sketch the shark you are observing:

Time	Behavior Observed
Example: 30 sec.	Swimming along the edge of the exhibit
Example: 1 min.	Swims to the top of the tank
30 sec.	
1 min.	
1 min. 30 sec.	
2 min.	
2 min. 30 sec.	
3 min.	
3 min. 30 sec.	
4 min.	
4 min. 30 sec.	
5 min.	

Additional Observations/Notes:

ABQ BioPark Aquarium
SCAVENGER HUNT

Team Members:

Time _____Answers Checked _____

» Can you name a fish that is no longer found in the Rio Grande?

» Describe the habitat where you can find the Rio Grande Cutthroat Trout, New Mexico's state fish.

» You can touch me in the "Touch Pool". I am called an i _ _ _ _ _ _ _ _ _ _ _ because I have no _____.

» Can you name the fish whose name is the same as a tool that is in the theater?

» What "artificial" structure is used to *stabilize inlet channels* and *protect beaches from constantly shifting currents*?

» In which exhibit do you have a "Permit" to see?

» Locate and name the only marine mammal found in the Aquarium.*hint* It's not alive.

» What ecosystem in the ocean is as diverse as a rain forest?

» Find the remora mounted on the wall in the "fish tunnel." What part of its body does it use to attach to a shark in the ocean (or the glass in our aquarium)? (A docent can help you.)

» What animals would eat a jelly?

» Why are some of the sharks constantly swimming (Blacktip) and others are not (Nurse)? *hint* Ask a docent.

» Green moray eels are not really green! Ask a docent to tell you what color they REALLY are, and write down that color.

» What do seahorses do to stay in one place underwater?

» Locate and name the behemoth and largest mollusk on Earth. *hint* When I feel threatened I close up tight!

» What can you do to help save the oceans? *hint* Suggestions may be found on a lighted sign at the end of the Aquarium.

Aquarium Scavenger Hunt

Answers

» Can you name a fish that is no longer found in the Rio Grande?
1) Shovel Nose Sturgeon 2) Blue Sucker 3) Longnose Gar 4) Gray Red Horse 5) Phantom Shiner 6) Rio Grande Blunt Nose Shiner

» Describe the habitat where you can find the Rio Grande Cutthroat Trout, New Mexico's state fish.
Clear, cold streams and lakes

» You can touch me in the "Touch Pool". I am called an i _ _ _ _ _ _ _ _ _ _ because I have no _____.
invertebrate, spine

» Can you name the fish whose name is the same as a tool that is in the theater? **Hammer Head**

» What "artificial" structure is used to *stabilize inlet channels* and *protect beaches from constantly shifting currents*?
Jetty

» In which exhibit do you have a "Permit" to see? **Surf Zone**

» Locate and name the only marine mammal found in the Aquarium.*hint* It's not alive.
Bottle Nose Dolphins – sculptures hanging above the salt marsh.

» What ecosystem in the ocean is as diverse as a rain forest? **Coral Reef**

» Find the remora mounted on the wall in the "fish tunnel." What part of its body does it use to attach to a shark in the ocean (or the glass in our aquarium)? *hint* A docent can help you.
Modified dorsal fin on top of head.

» What animals would eat a jelly? **Sea Turtles**

» Why are some of the sharks constantly swimming (**Blacktip**) and others are not (**Nurse**)? *hint* Ask a docent.

» Green moray eels are not really green! Ask a docent to tell you what color they REALLY are, and write down that color.
Blue skin/yellow "slime"

» What do seahorses do to stay in one place underwater?
Use their specialized tails to grip coral and plants

» Locate and name the behemoth and largest mollusk on Earth. *hint* When I feel threatened I close up tight! **Giant clam**

» What can you do to help save the oceans? *hint* Suggestions may be found on a lighted sign at the end of the Aquarium.
1) Be a smart shopper 2) Conserve water 3) Reduce household pollution 4) Reduce run-of 5) Recycle 6) Reduce oil pollution 7) Be considerate of ocean wildlife 8) Learn all you can.

Compare and Contrast

Choose a shark in the exhibit to compare and contrast with another animal in the aquarium. How are they the same? How are they different? Do they swim the same way? Do they look the same? Do they eat the same way?

Species 1:	Both:	Species 2:
Example: The nurse shark has longer fins than the porcupine puffer fish	Both fish have fins.	The porcupine puffer has small fins that look more flexible than the shark's.

1. Fact or Fiction: A shark is a fish.

2. Fact or Fiction: A shark does not have a bone in its body.

3. Fact or Fiction: Sharks eat a lot.

4. Fact or Fiction: Sharks have good eyesight and some can see in the dark.

5. Fact or Fiction: Sharks have a poor sense of smell.

6. Fact or Fiction: Most shark attacks on humans are deadly.

7. Fact or Fiction: Sharks never lose their teeth.

8. Fact or Fiction: Sharks are poor predators.

9. Fact or Fiction: Sharks often attack humans.

10. Fact or Fiction: Sharks have lived in the oceans for millions of years.

11. Fact or Fiction: Sharks get cancer.

12. Fact or Fiction: Like people, sharks have five senses.

Shark Fact or Fiction

Answers

1. **FACT**. Like other fish, a shark has a backbone, lives in water, and breathes through gills.

2. **FACT.** The shark skeleton is made of cartilage -- a tough, lightweight, flexible material.

3. **FICTION.** Sharks do not eat a lot. A shark eats about two percent of its body weight per day -- slightly less than a human eats.

4. **FACT.** Many people believe sharks have poor eyesight. In fact, sharks see very well. Sharks have better night vision than people do. Research indicates that some sharks can even see color.

5. **FICTION.** Sharks have a very sensitive sense of smell. They can detect the scent from a drop of blood in 25 gallons of seawater.

6. **FICTION.** About 10 out of 75 shark attacks in a typical year prove fatal.

7. **FICTION.** A shark may lose thousands of teeth in its lifetime. Sharks have several rows of teeth constantly growing and replacing the ones they lose. When a tooth is lost, the tooth behind it moves forward as though on a conveyor belt. A lost tooth can be replaced within 24 hours.

8. **FICTION.** Sharks are very effective, highly specialized predators, which are well adapted to life in the sea. They have sharp teeth, strong jaws, streamlined bodies, and powerful senses.

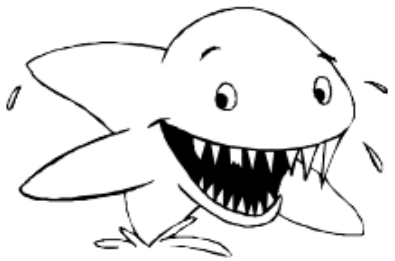
9. **FICTION.** Sharks do not often attack people. Large sharks are not that common. Humans do not fit the hunting and feeding strategies of sharks. This indicates that sharks do not usually perceive people as prey. Even so, it is best to practice caution and respect whenever sharks are nearby.

10. **FACT.** The first sharks appeared in ancient oceans 400 million years ago. The early sharks were quite different from the sleek and swift species of today's pelagic sharks.

11. **FACT.** Contrary to popular belief, sharks do get some kinds of cancer, according to the National Cancer Institute.

12. **FICTION.** Sharks have a sixth sense—electro sensory perception—which allows them to perceive electric fields.

My Itsy Bitsy Shark Book



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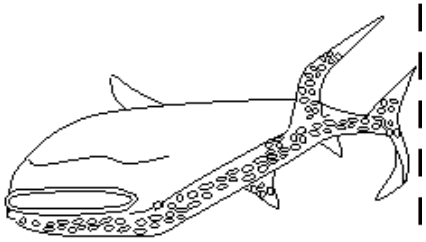
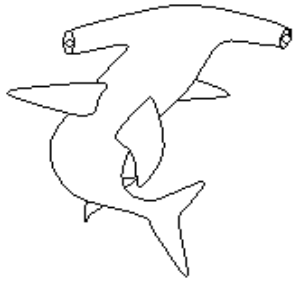
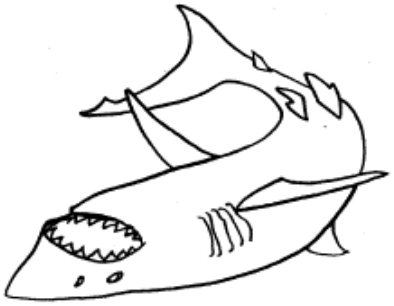


This is a Whale shark.

This is a Whitetip shark.



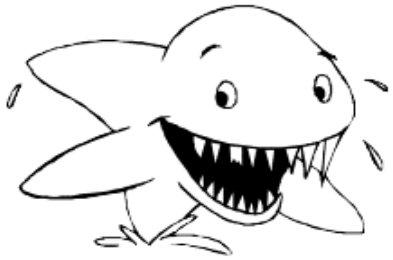
This is a Hammerhead shark



This is a Great White shark.

KidZone.ws
Itsy Bitsy Books

Free printables from:
http://www.kidzone.ws



Sharks are really cool!
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This is a Thresher shark.
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How can you help care for sharks?

1. OUR OCEANS NEED SHARKS

Sharks keep the oceans healthy – and have for over 450 million years. Scientists have found that the removal of sharks causes disaster - including the death of coral reefs and collapse of fisheries. And the oceans are critical to our survival – we don't want to mess with that!

2. SHARKS ARE DISAPPEARING

Sharks are hunted by fishermen around the world and also caught accidentally as bycatch. Millions of them are caught each year primarily for their fins. And they can't stand the pressure. Unlike bony fish like tuna, sharks take a very long time to grow up and some can only have a single pup every year and a half.

3. SHARKS ARE WORTH A LOT!

Diving with sharks is an important income for many countries. A shark in Palau earns a whopping $179,000 per year in tourism revenue. This could add up to as much as $1.9 million during its lifetime! But a fisherman may only be paid a few dollars for that single shark's fin.

4. SHARKS AREN'T MONSTERS

TV shows make sharks out to be much more dangerous than they are. Sharks kill fewer than 4 humans on average each year. You're more likely to be killed by a lightning strike, bee sting, falling coconut or falling vending machine than a shark bite. Of the over 500 species, only a few sharks have been known to bite humans – they don't even like how we taste!

5. WHO WANTS TO EAT SHARKS?

Shark isn't even healthy! In fact, sharks often contain high levels of poisonous mercury and toxins. Many health organizations warn against consuming sharks – especially for kids. Many people don't know this – and eat shark products because they believe it will make them strong and healthy. But its not true.

Source: www.sharkangels.org

1. Do sharks have bones?

2. How can you tell a male shark from a female shark?

3. Sharks are closely related to what other type of fish?

4. What do sharks eat?

5. Do sharks have scales?

6. Name two threats to shark survival in the wild:

ABQ BIOPARK

Other Resources

Websites

•http://www.aquariumofpacific.org/onlinelearningcenter An extensive list of species found at the Aquarium of the Pacific and beyond. Each animal profile has images and in depth species profiles as well as at-a-glance information. There are a number of other educational resources on this website as well.
•http://animals.nationalgeographic.com/animals/sharks/ The National Geographic Society website has excellent content on many animal species including this extensive section on sharks. It has engaging graphics as well as quality content.
•http://www.montereybayaquarium.org/lc/teachers_place/resources.aspx The Monterey Bay Aquarium website features animal profiles, lesson plans, games, activities, and more.
•http://www.georgiaaquarium.org/explore-the-aquarium/interact/web-cams.aspx The Georgia Aquarium website offers a live-feed webcam into the 'Ocean Voyager' exhibit, this exhibit houses whale sharks and a number of other pelagic species. There are also educator resources and student resources on this website.
•http://www.oceanconservancy.org/ This website is dedicated to ocean conservation and various issues facing marine habitats worldwide.
•http://www.montereybayaquarium.org/cr/seafoodwatch.aspx Information about how to make sustainable seafood choices.

•http://news.discovery.com/animals/top-5-best-shark-researching-tasks-120815.htm Information about internships ironwork with sharks.

•http://www.elasmo-research.org/education/students/researcher.htm Information on careers working with/ studying sharks.

Webquests

•http://www.reefed.edu.au/home/students/web_quest/save_our_sharks This webquest focuses on shark information and conservation. Geared towards middle school aged students but may be appropriate for upper elementary students as well.
•http://www.angelfire.com/planet/sharkquest/ Students are asked to think like marine biologists, their task is to become shark experts in order to give tours or presentations at their local aquarium. Appropriate for upper elementary students.
•http://www.zunal.com/webquest.php?w=31162 This webquest is designed for grades 3-5, students will learn shark facts and produce informational posters about a species of shark.

Books

(The following books may be found at one or more ABQ public library locations).

•The Encyclopedia of Sharks by Steve and Jane Parker
•Sharks & Rays by Timothy C. Tricas … [et al.]
•Outside and Inside Sharks by Sandra Markle
•Shark in the Sea by Joanne Ryder
•Eugenie Clark: Adventures of a Shark Scientist by Ellen Butts