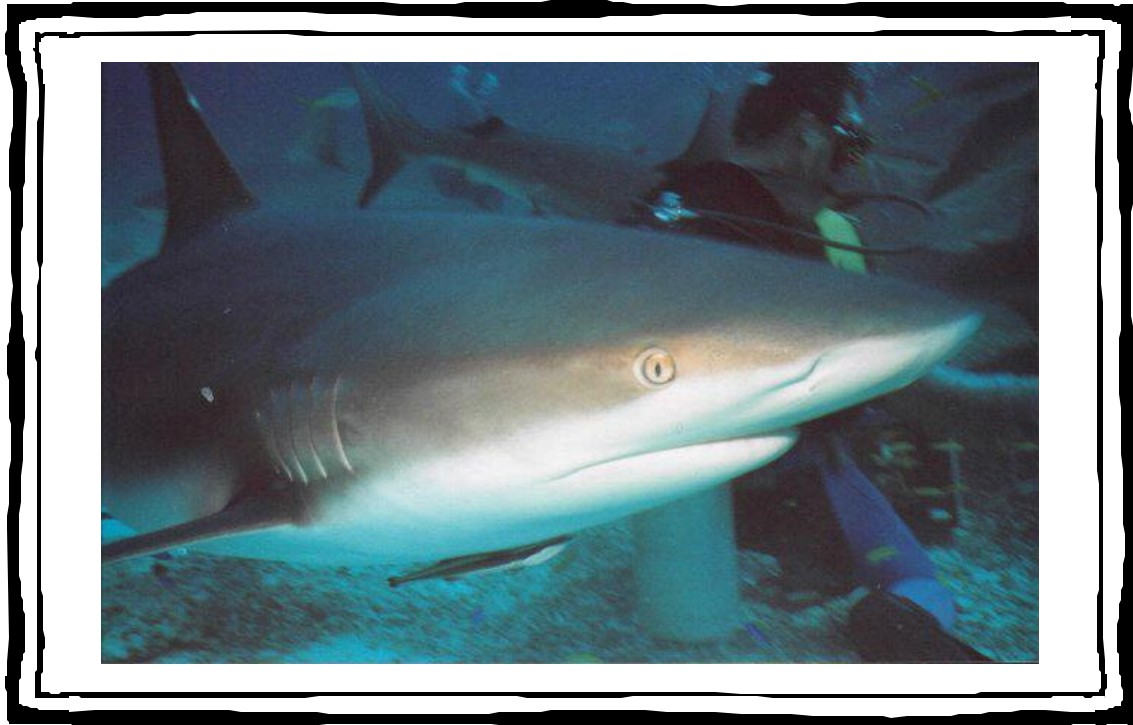


SHARKS DEVOURING THE MYTHS



SEATREK

Distance Learning Program

Sharks: Devouring the Myths

Unit Overview

MAIN UNIT OBJECTIVES:

- The student will learn facts about sharks and their behavior through proving and disproving statements.
- The student will learn about what Mote Marine Laboratory is doing to further the study of sharks.
- The student will design a science experiment about sharks.

MAIN UNIT STANDARDS**:

1. (SC.H.1.2.3) The student knows that to work collaboratively, all team members should be free to reach, explain, and justify their own individual conclusions.
2. (SC.F.1.2.3) The student knows that living things are different but share similar structures.
3. (SC.G.1.2.2) The student knows that living things compete in a climatic region with other living things and that structural adaptations make them fit for an environment.

** See Appendix A for National Standards and Appendix B for Sunshine State Standards.

UNIT OVERVIEW:

In this unit, students will use myths about sharks to learn what is true and what are really myths. Students will learn the importance of sharks in marine habitats. During the videoconference, the students will learn about sharks, see what scientists are doing in research, and find out what they can do to help conserve sharks.

UNIT PRE-QUESTIONS:

1. What do you know about sharks?
2. Are sharks more dangerous to us or are we more dangerous to them?
3. Are sharks endangered? If so, why and what can you do about it?

CONTENTS:

<u>Shark Websites</u>	<u>4</u>
<u>Lesson 1: Devouring Shark Myths</u>	<u>5</u>
Description: Students will be introduced to statements about sharks and must begin to determine which are true and which are false.	
Activity: Class discussion, shark journal making, Venn diagram	
<u>Lesson 2: How Dangerous Are Sharks?</u>	<u>8</u>
Description: Students will read information and charts to determine how dangerous sharks really are.	
Activity: Class discussion, reading sheets, graphing activity	
<u>Lesson 3: Videoconference</u>	<u>16</u>
Description: This lesson will provide an interactive component with Mote educators to reinforce concepts about sharks.	
Activity: Videoconference	
<u>Lesson 4: Shark Infomercial</u>	<u>17</u>
Description: This lesson will allow the students to develop an infomercial about sharks.	
Activity: Design and presentation of commercials	
<u>Lesson 5: Shark Inquiry</u>	<u>18</u>
Description: This lesson will allow the student to design an experiment on sharks.	
Activity: Designing an experiment	
<u>Appendix A: National Standards</u>	<u>21</u>
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UNIT EVALUATION:

Pre/post test

UNIT FOLLOW-UP DISCUSSION:

1. What are the differences between bony and cartilaginous fish?
2. How many sharks are killed by humans each year?
3. What are the 6 senses sharks have?

Mote Marine Laboratory/SeaTrek grants the right to photocopy any or all of these materials for educational purposes.



SHARK WEBSITES



Mote Marine Laboratory– Center for Shark Research
<http://www.mote.org/~rhueter/sharks/shark.phtml>

San Diego Natural History Museum
<http://www.sdnhm.org/kids/sharks/index.html>

Enchanted Learning
<http://www.enchantedlearning.com/subjects/sharks>

Florida Museum of Natural History
<http://www.flmnh.ufl.edu/fish/Sharks/sharks.htm>

National Geographic
<http://www.nationalgeographic.com/features/97/sharks/>

NOVA: Shark Attack
<http://www.pbs.org/wgbh/nova/sharks/>

Discovery School's Search for Ancient Sharks
<http://school.discovery.com/schooladventures/prehistoricsharks/>

Discovery Science Shark Week
<http://www.discovery.com/stories/nature/sharkweek/sharkweek.html>

Kid Science
<http://www.kidzone.ws/sharks/>



Lesson 1

Devouring Shark Myths

Objective: Students will be introduced to statements about sharks and will begin to determine which are true and which are false.

Time Required: 1 class period

Materials:

- journal making materials (card stock, construction paper, markers, etc.)
- “Shark Myth or Shark Fact” Sheet (copies for each student optional)
- paper, plain white or lined
- access to print or Internet materials for research
- copies of Venn diagram

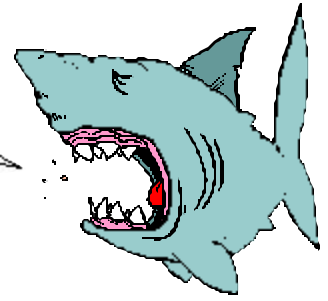
Procedure:

1. Ask students what they know about sharks.
2. When they have exhausted their background, handout, show, or read the “Shark Myth or Shark Fact” Sheet.
3. Each student will need to write the statements on a piece of paper. How many statements per page and writing front/back is determined by the teacher.
4. Tell the students that over the course of the next week, they will research and learn which statements are true and which are myths. In their journals, they will need to list if the statement is a fact or a myth and where they found their answer.
5. Handout the Venn diagram and have your students find a minimum of 5 things that are different and 5 things that are the same about cartilaginous fish and bony fish using print or Internet information materials.
6. Allow students have time to assemble their journals. Additional sheets will be added throughout the unit.

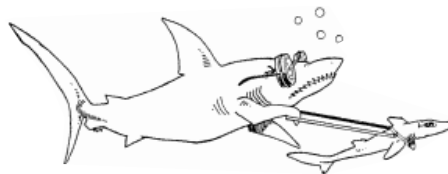
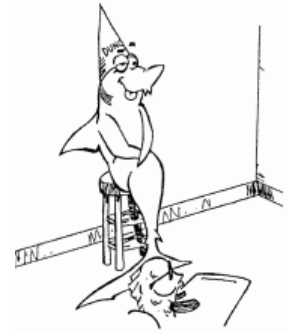
About the list of statements: The students will have answers to some of the statements given to them in the videoconference. Also, these statements, and the answers, are located on the Mote Marine Website at www.mote.org/~rhueter/sharks/shark.phtml.



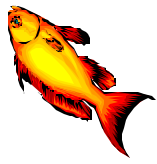
SHARK MYTH OR SHARK FACT?!



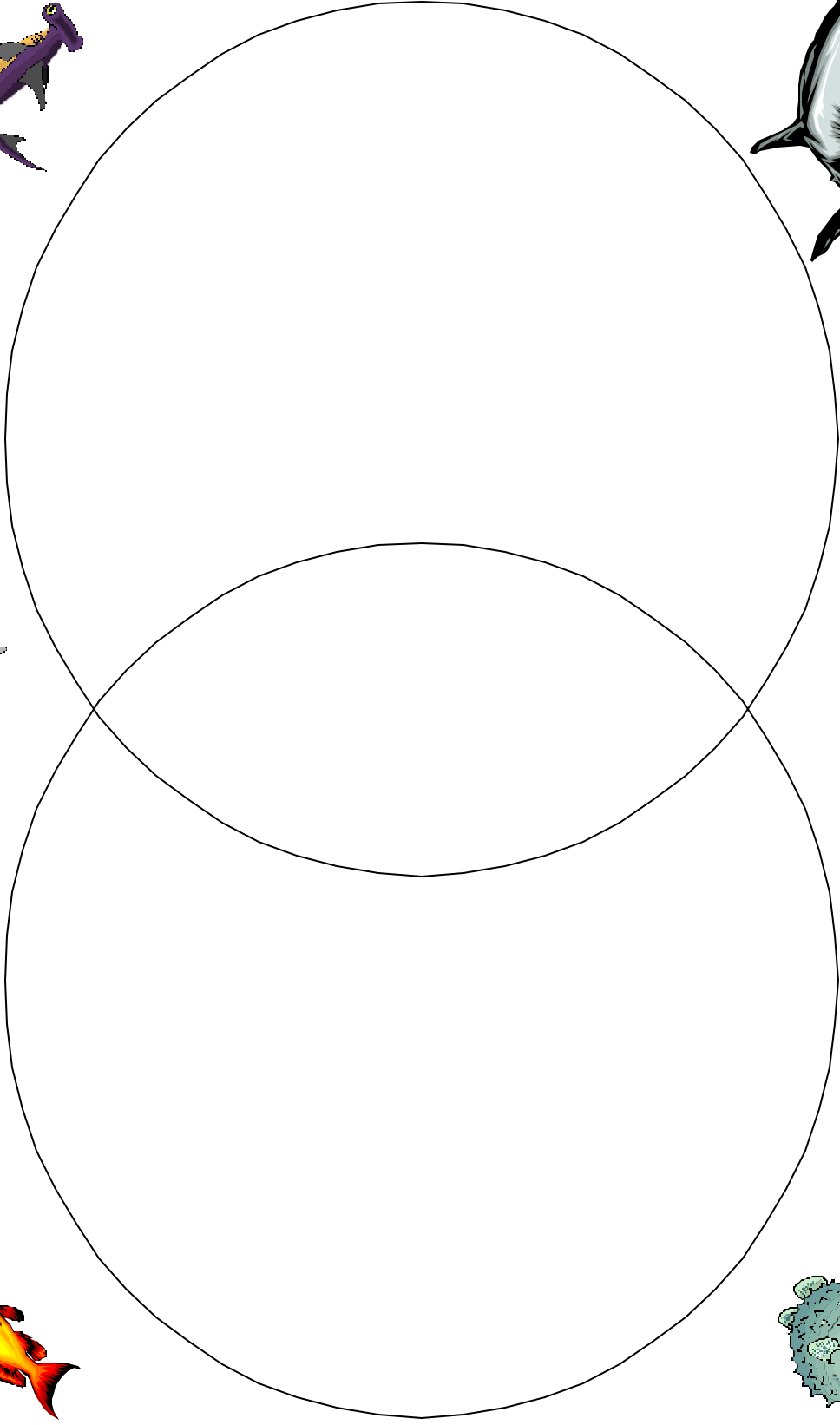
1. Most sharks are harmful to people.
2. Sharks must roll on their sides to bite.
3. Sharks eat continuously.
4. Sharks prefer human blood.
5. Sharks are not discriminating eaters and scavenge the sea.
6. Whale sharks, the largest species of shark, are voracious predators.
7. The great white shark is a common, abundant species found off most beaches visited by humans.
8. Sharks are not found in freshwater.
9. Most sharks cruise at high speed when they swim.
10. Shark meat is poisonous to people.
11. Sharks have peanut-sized brains and are incapable of learning.
12. All sharks have to swim constantly.
13. Sharks are mammals.
14. Sharks are hard to kill.
15. If you've seen one shark, you've seen them all.
16. Sharks are trash fish.
17. Great White sharks are 40-50 feet long.
18. Sharks have poor vision.



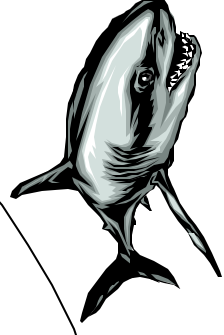
Bony Fish



Sharks



Venn Diagram for Fish and Sharks



Lesson 2

How Dangerous Are Sharks?

Objective: Students will research and evaluate data to find out how dangerous sharks really are to humans.

Time Required: 1 class period

Materials:

- “Shark Attack Facts!” reading sheets
- “Sharks in the News!” reading and questions sheets
- Graph paper
- “Shark Attack Data” sheet
- “Worldwide Shark Attacks” sheet (optional)
- “Florida Shark Attacks” sheet (optional)

Procedure:

1. Handout the reading sheets to the students. Have them read the sheets individually or in groups.
2. Handout copies (or put an overhead up) of the “Shark Attack Data” sheet. The students should pick a non-shark injury to compare to shark injuries.
3. Have the students make a graph comparing the number of shark attacks as compared to other injuries. Optional: have the students make a graph comparing the number of shark attacks from various places during a chosen year from the “Worldwide Shark Attacks” and “Florida Shark Attacks” information sheets.
4. Have the students answer the “Sharks in the News!” questions.
5. Have the students put their graphs, reading sheets, and questions sheet in their journals.



Worldwide Shark Attacks

Attacks are listed first, with deaths in parentheses



Nation	1997	1998	1999	2000
Australia	5	1 (1)	2 (1)	7 (3)
Bahamas	3	1	1	4
Brazil	4 (1)	4 (2)	4	0
Djibouti	1 (1)	0	0	0
Fiji	1	0	0	1 (1)
Galapagos Islands	0	0	0	1
Guadeloupe	0	1	0	0
Japan	2 (2)	0	0	1 (1)
Kiribati	0	0	0	1
Mexico	1 (1)	0	1	0
Mozambique	0	1(1)	0	0
New Caledonia	0	0	0	1 (1)
New Zealand	0	0	3	0
Papau New Guinea	2 (2)	0	0	2 (1)
Reunion	1 (1)	0	0	2
Saudi Arabia	0	0	1 (1)	0
South Africa	3 (2)	18 (1)	9 (2)	5
Tanzania	0	0	0	2 (2)
Tonga	0	0	0	1
United States	32	24 (1)	37	51 (1)
Vanuatu	1 (1)	0	0	0
Not reported	0	8	0	0
Total	56 (11)	51 (6)	58 (4)	79 (10)



Information from the International Shark Attack File:
<http://www.flmnh.ufl.edu/fish/Sharks/attacks/relarisk.htm>



Florida Shark Attacks

Attacks are listed first, with deaths in parentheses



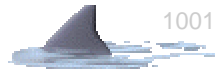
County	1997	1998	1999	2000
Volusia	14	11	9	6
Brevard	0	1	4	4
Palm Beach	2	1	4	0
Martin	1	3	2	0
Duval	0	0	1	0
Escambia	0	0	1	0
Franklin	0	0	1	0
Monroe	0	0	1	3
St. John's	0	0	1	2
St. Lucie	2	0	1	1
Santa Rosa	0	0	0	1
Indian River	0	2 (1)	0	2
Lee	0	1	0	1
Flagler	3	0	0	0
Broward	2	0	0	0
Manatee	0	0	0	1
Pinellas	0	0	0	1 (1)
Totals	24 (0)	19 (1)	25 (0)	22 (1)



Information from the International Shark Attack File:
<http://www.flmnh.ufl.edu/fish/Sharks/attacks/relarisk.htm>



Shark Attack Data



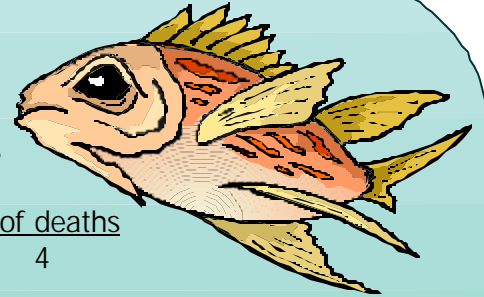
1001 011 0011 1010010101 0
00111 0 1 0 01101 01000 1

Florida, 1959-1990

Human Lightning Strikes

vs.

Shark Attacks



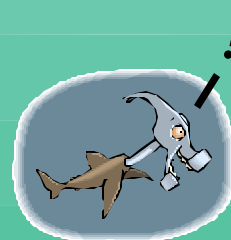
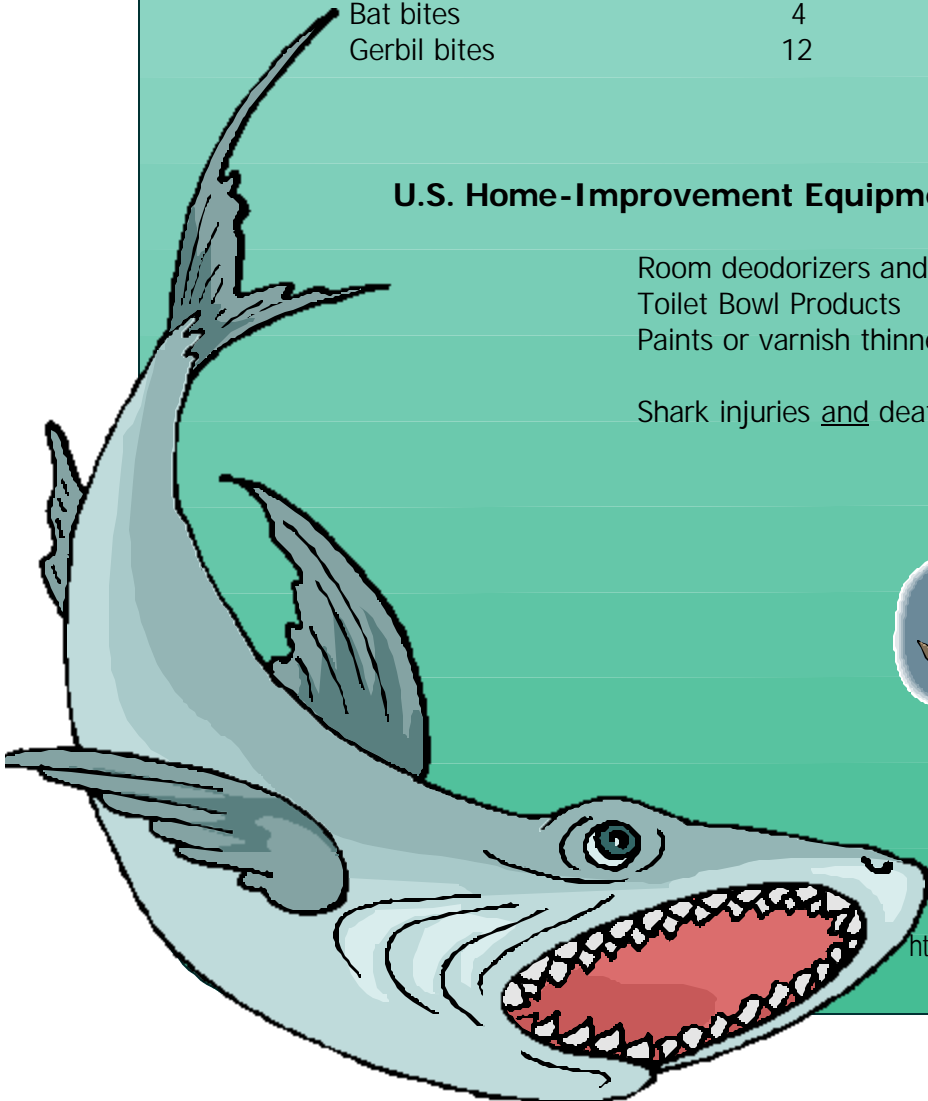
# of strikes	# of deaths	# of shark attacks	# of deaths
1,115	313	180	4

Animal Bites vs. Shark Attacks in 1985

New York City		United States	
Dog bites	9,809	Shark injuries	12
Cat bites	879		
Human bites	1,591		
Wild rat bites	311		
Bat bites	4		
Gerbil bites	12		

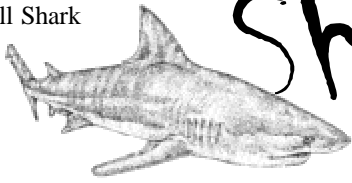
U.S. Home-Improvement Equipment Injuries vs. Shark Attacks in 1996

Room deodorizers and fresheners	2,599
Toilet Bowl Products	1,567
Paints or varnish thinners	1,549
Shark injuries <u>and</u> deaths	18



Information from the International Shark Attack File:
<http://www.flmnh.ufl.edu/fish/Sharks/attacks/relarisk.htm>

Bull Shark



Shark Attack Facts!

Warning!
Facts ahead!

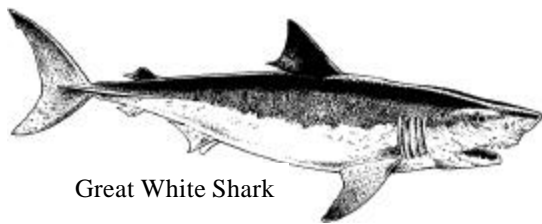
Everyone hears about shark attacks on the TV and in newspapers. It seems like they happen every week, but realistically, they only happen every once in a while. And actually, sharks only kill 8-12 people per year all over the world!

If you look at a list of what sharks eat, humans are not on the menu! Usually, sharks eat small fish, crabs, and shrimp, and the larger sharks will eat sea lions, seals, and even other sharks! Although sharks are looking for food most of the time (like most animals), sharks do not go into a feeding frenzy every time they see a fish or even a sea lion.



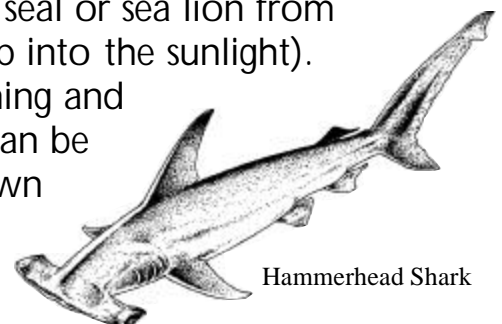
Tiger Shark

Just like other animals, including humans, sharks will show “fight or flight” behavior when surprised or threatened. This is where the shark will either fight (bite) or swim away. By nature, most sharks are timid and will leave an unknown situation. Most sharks will swim away from people in the water. However, they may attack if they feel threatened or feel the need to defend their territory. If a human threatens a shark, the human may be bitten.



Great White Shark

Most scientists believe that humans are bitten at other times due to mistaken identity, such as when a swimmer is among fish where a shark is feeding. Often, sharks, like the Great White, that feed on seals and sea lions mistake humans for their natural prey. People floating on surfboards at the surface may look surprisingly like a seal or sea lion from the shark’s point of view (looking from below, up into the sunlight). Also, swimmers who thrash around while swimming and wear shiny things (including shiny bathing suits) can be mistaken for fish. Most shark attacks occur at dawn and dusk when most sharks hunt for food.



Hammerhead Shark



Humans actually attack sharks more often than sharks attack humans. Around the world, sharks attack only 70-80 people per year and kill only 8-12 per year. Yet humans, for several reasons, attack and kill 100 million sharks per year. Most of these deaths are in fishery by-catch, the left-overs after fisherman get the fish they want out of their nets. Sharks are killed for many other reasons, including **fear**, **food**, **sport** (just for fun!), and **greed**. Humans use sharks to make shark-fin soup in spite of the fact that the fins have little flavor or nutritional value. The soup is considered a delicacy in Asia and may sell for \$100 a bowl!

In contrast to most fish, which reach maturity in only a few years and produce thousands or millions of eggs per year, sharks take many years to reach maturity and produce few young per year. Some shark species may not begin to have pups until they are fifteen years old, and some species produce only two pups every two years. So, when sharks are over-fished, it takes many, many years for them to recover.

So, why should we protect sharks? What if they all die off? Sharks are a keystone species. Keystone species are animals that other animals and the habitat rely on. If sharks didn't eat fish and other marine creatures in their habitat, these creatures would soon reproduce out of control. Then there would be too many of them and too little food in the habitat. These, and possibly other creatures, would then starve to death or possibly get sick and spread disease.

To help us learn more about the shark's role in the environment, scientists at Mote Marine Laboratory study breeding patterns and perform population studies. They track sharks using tags and small radio transmitters to find out where they migrate and to find out what areas may need to be protected for these sharks.

CHEW ON THIS!!!



Sharks have powerful tails, called caudal fins, to propel themselves forward, sometimes at enormous speeds. Shortfin makos have been clocked at 35 miles per hour!!!

Sharks in the News!



Sharks Swarm off Pasco County

Veteran marine patrol deputies say they've never seen so many sharks in the area.

Posted 8/15/01, Sarasota Herald Tribune, By TOM BAYLES

Hundreds of sharks prowled the waters off Pasco County on Tuesday, contributing to a "Jaws"-style mania being fueled by recent attacks in the state and subsequent national media coverage.

"It's an impressive group of sharks," said Bob Hueter, director of the Center for Shark Research at Sarasota's Mote Marine Laboratory. "It's common for blacktips to come together in groups, but to be seen this close to shore is not that common."

Some of the sharks are as long as 10 feet and were swarming Tuesday in less than 8 feet of water.

Nobody had been bitten, but Pasco County officials warned swimmers to stay out of the water near Anclote Key, which is 65 miles north of Sarasota. Pasco County Sheriff's Office spokesman Kevin Doll said veteran marine patrol deputies have said they've never seen this many sharks in the area.

The local marine patrol reported seeing bull sharks, hammerheads and nurse sharks, which would mean the gathering was quite a rare event.

"You have a large collection of blacktip sharks in an area where there are other sharks anyway," Hueter said.

The shark gathering comes at a time when Floridians are already extremely wary of sharks.

A 6 1/2-foot bull shark tore off 8-year-old Jessie Arbogast's right arm while the boy was in the waters off Langdon Beach in the Fort Pickens area of the Gulf Islands National Seashore on July 6.

Last August, a 69-year-old man was killed by a shark while swimming in 5 feet of water just off the dock outside his home on Boca Ciega Bay, in Pinellas County.

Last week, those attacks and others prompted Time magazine to declare this summer the "Season of The Shark," complete with a ferocious-looking cover photo.

"It's like the release of (the movie) 'Jaws,' everybody kind of worried about it," Hueter said of the shark fears. "But whether or not we've got something going on in the shark population is hard to say."

Tuesday was the second day that marine officials reported seeing the shark posse off Anclote Key. Hueter planned on taking a helicopter to the site Tuesday evening, but the school had broken up before he could get airborne.

"My hope is that they are back there (this) morning because I want to go see them," he said.

The Associated Press contributed to this report.

Name: _____ Date: _____

Sharks in the News!

Directions: Read the "Sharks Swarm off Pasco County" article from the Sarasota Herald-Tribune and answer the questions below.

1. List three sentences where opinion was presented.

1. _____

2. _____

3. _____

2. What is the main idea of the article? _____

3. What are three supporting ideas in the article? _____

4. What four types of sharks were seen in the water? _____

5. Why do you think the writer interviewed Bob Hueter? _____

6. What prompted Time magazine to declare this summer the "Season of The Shark?" _____

7. Why does the author write about the two shark attacks in an article about swarming sharks? _____

8. Re-write the title of the article from a very scared beachgoer point-of-view.

Lesson 3

Videoconference

Objective: The students will learn about the behavior of sharks, types of sharks, and the anatomy and physiology of sharks (including the senses).

Time Required: 1 class period

Materials:

- shark journals

In the videoconference, Mote Marine Laboratory will present a 50-minute media-rich videoconference on sharks.

Topics in videoconference:

- Feeding and contrasting behaviors
- Types of sharks
- Senses– electroreception
- Anatomy/Physiology– bony vs. cartilaginous skeleton, buoyancy



Lesson 4

Shark Infomercial

Objective: The students will produce a commercial promoting sharks.

Time Required: 1 class period

Materials:

- shark journals
- information on sharks—Internet or print
- props needed for commercial

Procedure:

1. Break the students into groups of 3-4 (or let them do it themselves).
2. Assign (or let each group choose) a species of shark to research and perform on or let them write a commercial about sharks in general.
3. Have them write and practice a 1 minute commercial (either TV or radio commercial).
4. Have them perform the commercials for the rest of the class, other classes, and invited guests.
5. Have the students put a written copy of their commercial in their journal.



Lesson 5

Shark Inquiry

Objective: The student will design an inquiry-based problem about sharks.

Time Required: 1-2 class periods

Materials:

- information on sharks—Internet or print
- paper or copies of “Experiment Planning” sheets

Procedure:

1. Ask the students some of the things they have learned during the shark unit.
2. Ask if any of them have questions about sharks that did not get answered.
3. Pass out (or put on overhead) the Experiment Planning sheet.
4. Have the students determine a question to which they want to know the answer—it does not have to be one for which they are expected to be able to get an answer. The point of this activity is to have them design an experiment.
5. Have the students write their question, identify needed background information, write a hypothesis and reason, materials needed, and a procedure.
6. Have the students put the copy of their experiment in their journals.



What I Want to Know about Sharks

Most of the time someone teaches you something, you wonder about other things that they didn't tell you. This activity is to help you design an experiment to find out something about sharks you haven't learned yet. The point is NOT to actually do the experiment, so you don't have to worry about how much money you need to spend or what equipment you would need. Just think about something you would like to know about sharks that you could find out by doing an experiment.



My Question

One thing I would like to find out about sharks is: _____

_____.

My Hypothesis

I think this would be the result:

_____.
I think this because _____

_____.

Research

These are things I need to know before I can do my experiment:

1. _____
2. _____
3. _____
4. _____

Materials

These are the things I need to do my experiment: _____

_____.

Time Required:

It will take:
_____ weeks
_____ months
_____ years
to do my experiment.

People to Help:

_____ oceanographer
_____ boat captain

_____.

Procedure— What I will do:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Add additional sheets of paper with more steps if needed.

Conclusion:

If my hypothesis were correct, my data would show: _____

My data could be used in conservation efforts because: _____

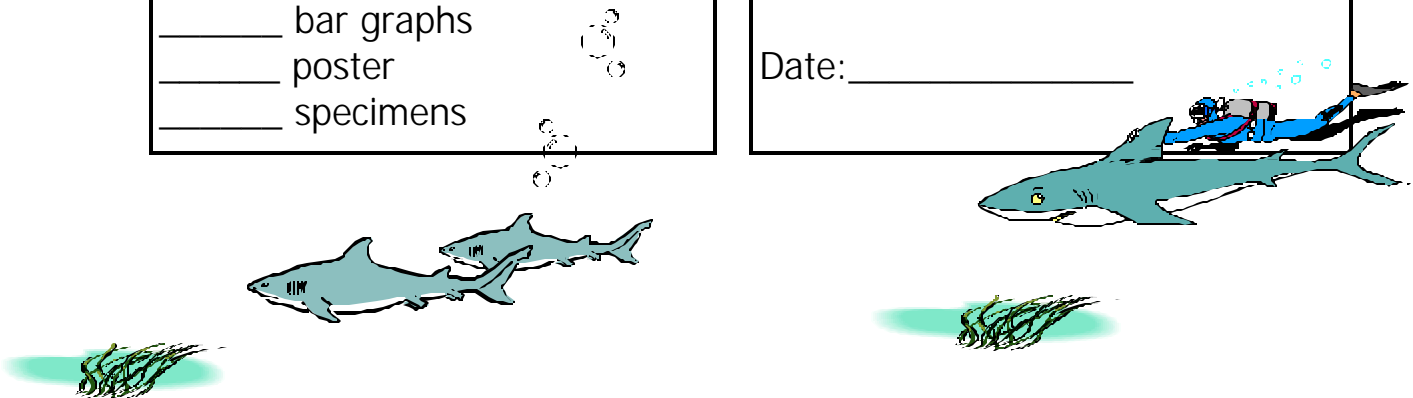
Presenting Data:

I will present my data by using:

- _____ a report
- _____ line graphs
- _____ circle graphs
- _____ bar graphs
- _____ poster
- _____ specimens

This research idea is proposed by:

Date: _____



Appendix A– National Education Standards

National Science Education Standards	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Science as Inquiry					
Identify science questions					X
Use math in all phases of inquiry		X			X
Unifying Concepts and Processes					
Form and Function			X		
Life Science					
Regulation and behavior			X		
Population and ecosystems			X		
Diversity and adaptation of organisms			X	X	
History and Nature of Science					
Science as human endeavor					X

National Council of Teachers of English	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Standard 4: Students adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.			X	X	
Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.				X	X
Standard 6: Students apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language, and genre to create, critique, and discuss print and nonprint texts.				X	X
Standard 7: Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.					X
Standard 8: Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.	X		X		X



National Council of Teachers of Mathematics	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Data Analysis and Probability					
Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them		X			X
represent data using tables and graphs such as line plots, bar graphs, and line graphs		X			
Communication Standard					
organize and consolidate their mathematical thinking through communication		X			
communicate their mathematical thinking coherently and clearly to peers, teachers, and others		X			

National Educational Technology Standards	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Social, ethical and human issues					
Students practice responsible use of technology systems, information, and software		X	X		X
Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity			X	X	
Technology productivity tools					
Students use technology tools to enhance learning, increase productivity, and promote creativity			X	X	X
Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works				X	
Technology communications tools					
Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences			X	X	
Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences				X	



Appendix B– Sunshine State Standards

Science Standard	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Processes that Shape the Earth					
SC.D.2.2 The student understands the need for protection of the natural systems on Earth.			X	X	
Processes of Life					
SC.F.1.2 The student describes patterns of structure and function in living things.	X	X	X	X	
SC.F.1.2.3- knows that living things are different but share similar structures	X	X	X	X	
How Living Things Interact with Their Environment					
SC.G.1.2 The student understands the competitive, interdependent, cyclic nature of living things in the environment.		X	X	X	
SC.G.1.2.1- knows ways that plants, animals, and protists interact		X			
SC.G.1.2.2- knows that living things compete in a climatic region with other living things and that the structural adaptations make them fit for an environment		X	X	X	
SC.G.2.2 The student understands the consequences of using limited natural resources.			X		
SC.G.2.2.1- knows that all living things must compete for Earth's limited resources; organisms best adapted to compete for the available resources will be successful and pass their adaptations to their offspring			X		
The Nature of Science					
SC.H.1.2 The student uses the scientific processes and habits of mind to solve problems.					X
SC.H.1.2.2- knows that a successful method to explore the natural world is to observe and record, and then analyze and communicate the results					X
SC.H.3.2 The student understands that science, technology, and society are interwoven and interdependent.			X		X
SC.H.3.2.2- knows that data are collected and interpreted in order to explain an event or concept					X
SC.H.3.2.4- knows that through the use of science processes and knowledge, people can solve problems, make decisions, and form new ideas			X		X



Language Arts Standard	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Reading					
LA.A.2.2 The student constructs meaning from a wide range of texts.		X		X	X
LA.A.2.2.1- reads text and determines the main idea or essential message, identifies relevant supporting details and facts, and arranges events in chronological order		X			
LA.A.2.2.2- identifies the author's purpose in a simple text		X			
LA.A.2.2.3- recognizes when a text is primarily intended to persuade		X			
LA.A.2.2.5- reads and organizes information for a variety of purposes, including making a report, conducting interviews, taking at test, and performing an authentic task				X	X
LA.A.2.2.6- recognizes the difference between fact and opinion presented in a text		X			
LA.A.2.2.8- selects and uses a variety of appropriate reference materials, including multiple representations of information, such as maps, charts and photos, to gather information for research projects					X
Listening, Viewing, and Speaking					
LA.C.1.2 The student uses listening strategies effectively.			X	X	
LA.C.1.2.1- listen and responds to a variety of oral presentations, such as stories, poems, skits, songs, personal accounts, and informational speeches			X	X	
LA.C.1.2.4- listens attentively to the speaker, including making eye contact and facing the speaker			X	X	
LA.C.3.2 The student uses speaking strategies effectively.			X	X	
LA.C.3.2.1- speaks clearly at an understandable rate and uses appropriate volume			X	X	
LA.C.3.2.3- speaks for specific occasions, audiences, and purposes, including conversations, discussions, projects, and informational or imaginative presentations			X	X	
LA.C.3.2.4- uses eye contact and gestures that engage the audience				X	
Language					
LA.D.2.2 The student understands the power of language.		X		X	
LA.D.2.2.1- understands that word choice can shape reaction, perception, and beliefs		X		X	
LA.D.2.2.3- recognizes different techniques used in media messages and their purposes				X	
LA.D.2.2.5- understands that a variety of messages can be conveyed through mass media				X	
Literature					
LA.E.2.2 The student responds critically to fiction, non-fiction, poetry, and drama		X			
LA.E.2.2.4- identifies the major theme in a story or non-fiction text		X			



Math Standard	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Data Analysis and Probability					
MA.E.1.2 The student understands and uses the tools of data analysis for managing information.		X			
MA.E.1.2.1- solves problems by generating, collecting, organizing, displaying, and analyzing data using histograms, bar graphs, circle graphs, line graphs, pictographs, and charts		X			
MA.E.2.2 The student identifies patterns and make predictions from an orderly display of data using concepts of probability and statistics.		X			
MA.E.2.2.1- uses models, such as tree diagrams, to display possible outcomes and to predict events		X			
MA.E.2.2.2- predicts the likelihood of simple events occurring		X			
MA.E.3.2 The student uses statistical methods to make inferences and valid arguments about real-world situations.		X			
MA.E.3.2.1- designs experiments to answer class or personal questions, collects information, and interprets the results using statistics (range, mean, median, and mode) and pictographs, charts, bar graphs, circle graphs, and line graphs.		X			
MA.E.3.2.2- uses statistical data about life situations to make predictions and justifies reasoning		X			

