



Unit 3: Charismatic Marine Megafauna

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Course Description: This unit was designed to supplement existing science coursework. Students will learn about various biomes around the planet. They will then learn about specific ecosystems that can be found in or near marine areas as well as the various roles organisms experience.

Course Objective:

1. Students will be able to understand the importance of marine megafauna
2. Students will be able to understand the different threats megafauna face
3. Students will gain a better understanding of the natural world.

Attendance:

Students are able to complete this at their own pace. There are no deadlines for materials, and it is up to the student and parent/teacher to keep said student on their desired pace.

Internet Etiquette:

Reef Relief staff has enabled commenting on the materials. The comment sections shall be used to ask legitimate questions or voice formatting/ technological issues. Should there be any concern about this please contact us.

Materials:

All course materials and worksheets are provided in an online PDF format. If your student does not have access to a printer, feel free to write down your answers on a separate piece of paper. If needed, Reef Relief can also mail you supplemental materials.

Technical Difficulties:

Please contact us via email or phone to let us know about any technical difficulties, we will be more than happy to assist!

Course Work:

Reef Relief has provided many different videos and activities for the students. Students are not required to complete all of the materials in this unit, it is ultimately up to the student, parent or teacher. Educators will be adding new coursework periodically. When that happens you will receive an email notification.

Skill Level:

Many activities are labeled Beginner, Medium, or Advanced and it is up to the adult to decide what they would like their student to complete. We recommend the following to evaluate:

- Beginner: Someone new to marine science or is between the ages of 5-8.
- Medium: Someone who has received a moderate amount of science education or between the ages of 9-11.
- Advanced: Someone who is comfortable with more in depth science topics or between the ages of 12-17.

Grading:

Reef Relief will not be implementing any grading. Parents and teachers may make the personal decision to grade their student's work. There will be a section labeled answer keys that can be used to check your student's work.

Sharing of material:

Please do not share classroom materials with others. This includes but is not limited to the class password, the class link, worksheets, video, etc.

Office Hours:

Reef Relief is open Monday- Friday from 10:00 AM until 4:00PM EST. Outside events may change these hours however we will do our best to respond as promptly as possible.

Course Schedule:

The following is Reef Reliefs recommended order to participate.

UNIT 2

Pre-Quiz: We encourage every student to take the pre-quiz at the beginning of the course to evaluate their basic knowledge. The information compiled from this quiz will be used for Reef Relief's general knowledge and grant purposes.

Sea Turtles

- Lesson 1: Sea Turtles
 - Learn facts about sea turtles, their life cycle, the various species, threats they face, and how we can help them.
- Lesson Notes: Sea Turtles
 - Complete during or after the lesson for an easy way to review main topics from the lesson.
- Lesson 1.5: Beginner Sea Turtles
 - Lower level version of sea turtle lesson.
- Beginner Sea Turtle Lesson Notes
 - Complete during or after the lesson for an easy way to review main topics from the beginner version of the sea turtle lesson.

- Worksheet: Sea Turtle Coloring (Beginner)
- Worksheet: Species Identification (Medium)
 - Use the hints to guess which sea turtle species applies.
- Worksheet: Sea Turtle Scutes (advanced)
 - Practice your identification with the sea turtle scute count.
- Question: What is your favorite sea turtle species?
- Activity: Sea Turtle Craft (all levels)
 - Pick your favorite sea turtle you learned about and recreated it as a craft.
- Interview with a Scientist: Ian Silver- Gorges
 - Ph.D. candidate from Florida State University discusses his research on the Loggerhead Sea Turtle (*Caretta caretta*).
- Movie: Sea Turtles- The Lost Years
 - Watch this episode of Changing Seas to learn about sea turtles' mysterious lives.
- Presenter Notes: Sea Turtles
 - Additional study guide/notes.
- Presenter Notes: Beginner Sea Turtles
 - Additional study guide/notes for beginner lesson.

Manatees & Dugongs (Sirenians)

- Lesson 2: Manatees & Dugongs (Sirenians)
- Lesson Notes: Manatees & Dugongs (Sirenians)
 - Complete during or after the lesson for an easy way to review main topics from the lesson.
- Worksheet: License Plate Coloring (Beginner)
 - Brought to you by the state of Florida and their manatee conservation efforts.
- Activity: Propeller Scar Identification (Medium to Advanced)
 - Be a scientist and practice identifying individual manatees based on their prop scar markings.
- Worksheet: Manatees vs Dugongs (Medium)
 - Compare the two based on the information you learned from the lesson.
- Bonus Video: Manatee Vocalizations
- Bonus Video: Manatee Tagging
- Movie: Manatees- Conserving a Marine Mammal
 - Watch this episode of Changing Seas to learn about the population of manatees.
- Presenter Notes: Manatees & Dugongs (Sirenians)
 - Study Guide/Notes

Cetaceans: Whales & Dolphins

- Lesson 3: Introduction to Cetaceans
 - We will learn about all types of whales including toothed and baleen whales.
- Lesson Notes: Whales & Dolphins
 - Complete during or after the lesson for an easy way to review main topics from the lesson.
- Worksheet: Dolphin or Porpoise? (Beginner)
 - Write which you think each animal is in the line above them, and color them in.
- Worksheet: Dolphin or Porpoise? (Medium)
 - Under each animal, circle the characteristics that belong to it. Then write on the line above each animal if you think it is the dolphin or porpoise, and color them in.
- Worksheet: Toothed vs Baleen Whales (Medium)
 - Compare and contrast toothed vs baleen whales in the Venn diagram
- Worksheet: Whale Identification (Advanced)
 - Name the whale species and its corresponding features
- Movie: Mystery of the Humpback Whale Song
- Movie: Dolphins
- Movie: Sentinels of the Sea
- Presenter Notes: Cetaceans
 - Study Guide/Notes

Seabirds

- Lesson 4: Seabirds
 - Time to learn about flight, wing shape, feathers, and the marine bird species.
- Lesson Notes: Seabirds
 - Use this as a study guide/notes to go along with the video lesson
- Lesson 4.5: Seabirds (Beginner level)
 - Time to learn about flight, wing shape, feathers, and the marine bird species. Lower level lesson, suitable for ~2nd-3rd grade.
- Lesson Notes: Seabirds (Beginner level)
 - Use this as a study guide/notes to go along with the beginner level video lesson
- Mini Lesson: Seabird Flying & Foraging Styles
 - Watch this mini lesson to learn about the different types of flight and hunting styles seabirds can use.
- Worksheet: Create Your Own Marine Bird (Beginner)
 - Decide what your marine bird is going to look like and draw it
- Worksheet: Match the Marine Bird (Medium)
 - Draw a line from the marine bird to their wing type
- Worksheet: Fill in the Blanks and Critical Thinking (Advanced)
 - Fill in the spaces with terms learned throughout the lesson, and make a plan to

help conserve marine birds

- Additional Resource: Birding- eBird
 - Create an account with eBird to track the birds you see and hear
- Interview with a Scientist: Dr. Pamela Rasmussen
 - Dr. Rasmussen talks about seabirds and shorebirds and some of her associated projects. We also learn that marine birds are threatened, but we can help!
- Movie: Peru's Desert Penguins
- Presenter Notes: Seabirds
 - Study guide/notes
- Presenter Notes: Beginner Seabirds
 - Study guide/notes

Pinnipeds (Seals, Sea Lions & Fur Seals, Walruses)

- Lesson 5: Pinnipeds
- Lesson Notes: Pinnipeds
 - Complete during or after the lesson for an easy way to review main topics from the lesson.
- Worksheet: Pinniped Coloring and Questions (Beginner)
 - Color in the types of pinnipeds and answer the questions about them.
- Worksheet: Is it a Seal, Sea Lion/Fur Seal, or Walrus? (Medium)
 - Label each pinniped and organize the characteristics under the pinniped they belong to.
- Worksheet: Pinniped Venn Diagram (Advanced)
 - Organize the characteristics of each pinniped to match the category they belong to. The areas where the circles overlap are characteristics those two types of pinnipeds share.
- Expert Interview: Hannah Zwalve, New Zealand Sea Lion Trust
 - Join us in talking to Hannah to learn about the common pinniped species found in New Zealand, the issues they face, and the New Zealand Sea Lion Trust's work to help them.
- Presenter Notes: Pinnipeds
 - Study guide/notes.

Marine Animal Rescue, Rehabilitation, and Release

- Lesson 6: Rescue, Rehab, Release
- Lesson Notes: Rescue, Rehab, Release
 - Complete during or after the lesson for an easy way to review main topics from the lesson.
- Activity: Discussion, Wildlife Interactions (Beginner)
- Worksheet: Rescue, Rehab, Release Word Search (Medium)
 - Complete this word search for terms discussed in this lesson.
- Worksheet: Rescue, Rehab, Release Crossword (Advanced)

- Complete this crossword puzzle for terms discussed in this lesson.
- Interview with a Scientist: Lindsey Reisz
 - Listen in as we talk to Lindsey Reisz about her career in marine mammal and sea turtle rescue and rehabilitation at MOTE Marine Laboratory.
- Presenter Notes: Rescue, Rehab, Release
 - Study Guide/Notes

Tracking (Seen in Unit 2)

- Lesson 7: Tracking
 - For those that did not order access to Unit 2: Something's Fishy. This topic can be applied to both fish and marine megafauna.
- Lesson Notes: Tracking
 - Complete during or after the lesson for an easy way to review main topics from the lesson.
- Worksheet: Crossword Puzzle (Medium)
- Activity: OCEARCH
 - Track animals in real time!
- Interview With A Scientist: Sarah Burnsed
 - Check out this interview with researcher Sarah Burnsed who works with active and passive tracking in Fort Meyers, FL.
- Bonus Video: How Does the Argos Doppler and Satellite Tracking Systems Actually Work?
- Bonus Video: Deploying Camera Tags on Sharks
- Presenter Notes: Tracking
 - Additional Study Guide/Notes

Post Quiz: We encourage every student to take the post-quiz at the beginning of the course to evaluate their basic knowledge. The information compiled from this quiz will be used for Reef Relief's general knowledge and grant purposes.

Answer Key: We have provided answers to most worksheet activities and have combined them into this folder for parents and teachers to check their student's work.

Archive: A bank of old versions of lessons and worksheets