

Gulf Coast Marine Exploration For: Cadettes



Steps

1. The Science of the Beach and the Water.
2. Marine Wildlife.
3. Protection and Conservation.
4. Marine Careers.
5. Take a Trip.

Purpose: When I’ve earned this badge, I’ll have an appreciation for marine life and conservation.

Step one: The Science of the Beach and the Water

- Shell classification – collect Gulf Coast shells and classify by:
 - Gastropod vs. bivalve > bivalve=two parts, gastropod=single piece
 - Spiral vs. no grooves
 - Grooves vs. no grooves
 - Solid color vs. pattern
- Tides
 - Look up how gravity affects the tides.
 - Choose a beach and determine using published resources when it will experience high and low tide on a shoreline.
 - Observe the effect of high or low tide on a shoreline.
- Art Project
 - Do a rubbing on paper with crayons or colored pencils.
 - Make a necklace out of shells you find with a hole.
 - Compose a beach scene in a shadow box.

Step Two: Research Marine Wildlife

CHOICES – DO AT LEAST ONE

Research in the Gulf of Mexico....

- **Dolphins**
 - What is the most common species along the Alabama Gulf Coast?
 - What is asymmetric slow wave sleep?
 - What species of Gulf Coast dolphins are endangered?
- **Sea Turtles**
 - What’s the largest type of turtle in the Gulf of Mexico?

- How long can these sea turtles live?
- Which species are endangered in the Gulf of Mexico?
- **Fish**
 - How many species of fish are in the Gulf of Mexico?
 - Which type is the biggest? Which is the smallest?
 - What fish are commercially fished?

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YES, STRANGE THINGS LURK IN THESE WATERS.....

Don't judge a book by its cover, especially in the case of the vampire squid (*Vampyroteuthis infernalis*). The poor squid gets its name from its dark color, the webbing between its tentacles that resembles a cloak, and its red eyes, not because it eats blood. It actually eats copepods, prawns, and cnidarians.

The vampire squid has its own scientific order — Vampyromorphida — and is known as a living fossil because it has not evolved or changed in the 300 million years it has existed on earth. It lives more than half a mile deep in the Gulf, and has very interesting defensive maneuvers, such as flashing bioluminescent spots on its tentacles that look like eyes, zooming away from predators (with an acceleration time of five seconds), and *turning itself inside out*.



Step Three: Protection and Conservation

CHOICES – DO AT LEAST ONE

- Beach Cleanup > Participate in an organized clean up (www.alcoastalcleanup.org) or conduct one with your troop.
- Invite a speaker to talk about beach conservation to your troop.
- Make a presentation about beach conservation and Post it online.

ONLINE SAFETY ALERT!!

Please read and sign the Girl Scout Internet Safety Pledge for All Girl Scouts before getting online. You can find the pledge here: <http://www.girlscouts.org/en/help/help/internet-safety-pledge.html>

Step Four: Marine Careers

List of Careers

- | | | |
|--------------------|----------------------|-----------------------|
| •Marine Biologist | •Marine Geologist | •Underwater welder |
| •Veterinarian | •Fish & game warden | •Marine archaeologist |
| •Oceanographer | •Ecologist | •Underwater filmmaker |
| •Commercial Driver | •Marine entomologist | •Chemist |
| •Hydrologist | •Marine engineer | |

CHOICES – DO AT LEAST ONE

- Research three of the careers and determine what education is required to have that career and what a job in that field entails.
- Invite a speaker who works in one of these careers to speak to your troop.
- Play the game – Who am I? with the rules that follow.

WHO AM I RULES

1. Choose a career from the list above
 - a. Without naming the career, say at least three characteristics
> do charades to act out a task performed by someone in that career.
2. Other players guess who you are.
3. Correct guesser gets the next turn.

Step 5: TAKE A TRIP!

To.....

- Any public beach on the Gulf of Mexico
- Participate in a GSSA event at the Institute for Marine Mammal Studies in Gulf Port, Mississippi or at Dauphin Island Sea Lab in Dauphin, Alabama.
- Visit the Nature Center at Gulf State Park in Gulf Shores, Alabama.