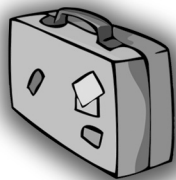




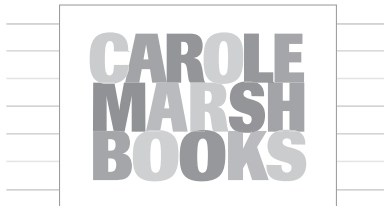
The Mystery of the
GRAVEYARD
OF THE
ATLANTIC



Teacher's Guide
 by
Carole Marsh



Editor: Chantelle Pruett • Art & Design: Cindy Quamme



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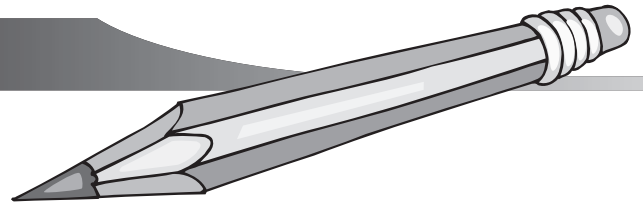
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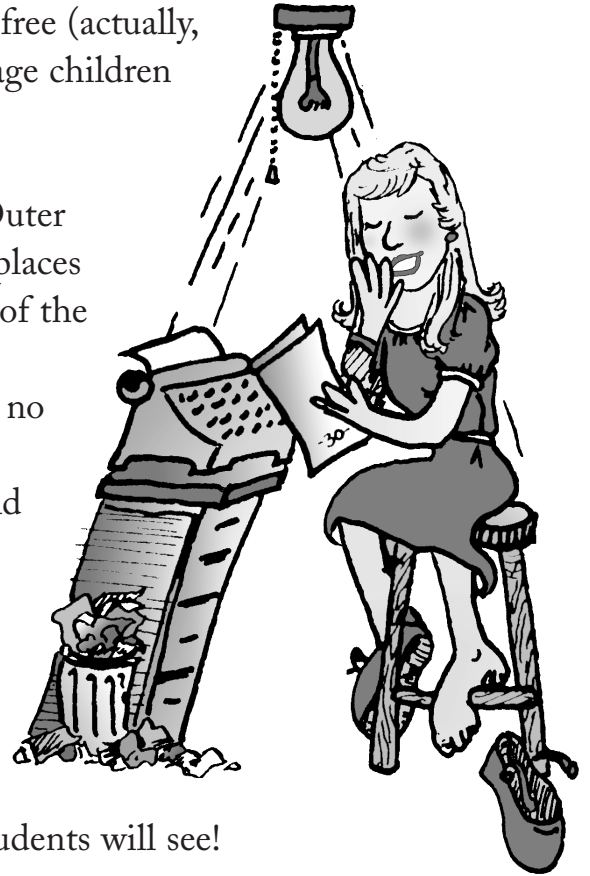
A Word from the Author



Dear Teachers,

In 1979, I began writing children's mysteries set at historic sites that still existed—primarily so that kids could go and see what they had read about. Frankly, I found no more fun, educational, and stress-free (actually, just plain joyful!) activity to do with my then school-age children than to visit a fascinating historic site!

I once lived on the lower end of the amazing Outer Banks along the Atlantic Coast. One of my favorite places was Diamond Shoals, site of the so-called Graveyard of the Atlantic! It's hard to imagine way back when no lighthouses warned you away from sandy shores...and no Coast Guard was at-the-ready to rescue you. It was man versus sea...and often man versus man in this wild and watery place. And not just men: in addition to explorers, travelers, and pirates, women and children and families also often found themselves at the mercy of the treacherous tides, shifting sandbars, dark and stormy nights, and luck, or not, as destiny decided your fate. Great place for a mystery! And real history is so interesting, as your students will see!



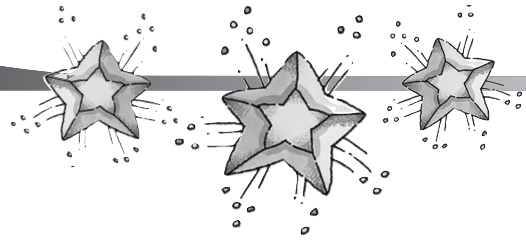
We learned a lot, but what we learned best is that kids and adults can learn together. Reading and going and seeing and doing is what education is all about, and most especially, that “adopting” a subject or place leads to a lifelong interest in an era, a place, the people, and all the fascinating facts that made up their lives. We learned that history is still “living” and is not lost on kids! In fact, it is quite a revelation!

Enjoy your Graveyard of the Atlantic mystery adventure!

Carole Marsh



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The Mystery of the **GRAVEYARD** OF THE **ATLANTIC**

30 Years Ago...

As a mother and an author, one of the fondest periods of my life was when I decided to write mystery books for children. At this time (1979), kids were pretty much glued to the TV, something parents and teachers complained about the same way they do today.

I decided to set each mystery in a real place—a place kids could go and visit for themselves after reading the book. And I also used real children as characters. Usually a couple of my own children served as characters, and I had no trouble recruiting kids from the book's location to also be characters.

Also, I wanted all the kids—boys and girls of all ages—to participate in solving the mystery. I wanted kids to learn something as they read. Something about the history of the location. And, I wanted the stories to be funny.

That formula of real+scary+smart+fun served me well. The kids and I had a great time visiting each site, and many of the events in the stories actually came out of our experiences there.

I love getting letters from teachers and parents who say they read the book with their class or child, then visited the historic site and saw all the places in the mystery for themselves. What's so great about that? What's great is that you and your children have an experience that bonds you together forever. Something you shared. Something you both cared about at the time. Something that crossed all age levels—a good story, a good scare, a good laugh!

30 years later,

Carole Marsh



Things to Do in Cape Hatteras

The Cape Hatteras lighthouse is just one thing to see in Cape Hatteras. But what are some others?



Here's a sampling:



Fishing/ boating

Swimming



Searching for seashells

Bird-watching

Camping

Windsurfing



Chapter	Subject	EXPLORE!
1	Geography	A “sandbar” is formed in a river or along a shore by the action of waves or currents.
1	Aviation	The “cockpit” is the space in an aircraft where the pilot and co-pilot sit. 
1	Etymology	Etymology is the historical development of a word or phrase. Do you wonder where the phrase .cat got your tongue. came from? One theory, it came from the English sailing ship days. A cat of nine tails was a type of whip that was used to punish sailors. Fear of a whipping could paralyze a person into silence!
1	History 	The USS Monitor fought only one battle during the Civil War. The battle was with another ironclad ship, the CSS Virginia, and it was a draw. In December 1862, the Monitor foundered in a storm off Cape Hatteras. Her remains weren't discovered until 1974.
1	Nautical	A “hull” is the frame or body of a ship.
1	Nautical	A “gun turret” is an armored structure on a warship that contains one or more guns.
1	Vocabulary	Have you ever looked forward to something? If you have, then you have felt “anticipation.”

Outer Banks



The Outer Banks is a chain of barrier islands that sweep out into the Atlantic Ocean. Not only are there plenty of water activities to enjoy, but there are also several historical attractions on the Outer Banks islands!

- ◆ *Travel back in time to the first English Colony!*
- ◆ *See where flight was made possible by 2 brothers!*
- ◆ *See the tallest sand dunes on the East Coast!*



- ◆ *Learn more about shipwrecks!*
- ◆ *Climb to the top of the country's tallest lighthouse!*



Chapter	Subject	EXPLORE!
1	Vocabulary	To “collide” with something is to come together with it violently.
1	Vocabulary	A “protruding” object is something that sticks out.
1	Nautical	The “bridge” of a ship is the area where the ship is controlled.
2	Aviation	The “yoke” of a plane is like the steering wheel of a car.
2	Vocabulary	“Apprehension” is an uneasy feeling.
2	Aviation	“Turbulence” is the motion of the atmosphere that interrupts the flow of the wind. It’s what you feel when you’re flying and the plane bounces around.
2	Writing	An onomatopoeia is a “sound word” that imitates the sound it represents. Examples of onomatopoeia are hiss, buzz, beep, splat, and plop.
2	Aviation	“Altitude” is the height above the earth’s surface.
2	Feelings	Have you ever felt “goosebumps”? Write about a time when you did.
3	Vocabulary	An “embankment” is a mound of earth or stone that holds back water or supports a roadway.



Idioms

An idiom is a fun figure of speech. It is a word or phrase with a meaning that is not related to the individual words. This means that sometimes the meanings of idioms can be tricky to figure out, especially for people who are just learning the language! There are several idioms in *The Mystery of the Graveyard of the Atlantic* including “hit the sack,” and “break the ice.”

See if you can match these idioms with the correct meaning.

1. He’s a real penny-pincher.
 2. She’s the apple of my eye.
 3. I’m having a bad hair day.
 4. Break a leg!
 5. That baby is as cute as a bug’s ear!
 6. She got up on the wrong side of the bed today!
 7. Hold your horses!
 8. You’ve been running around like a chicken with its head cut off.
 9. It’s time to put on your thinking cap.
 10. It’s been raining cats and dogs all day!
- a. Think carefully about something
 - b. Something or someone that is very special
 - c. Woke up in a grumpy mood
 - d. Raining hard
 - e. Someone who is thrifty
 - f. Wait
 - g. Running around in a crazy way
 - h. Messy hair
 - i. Good luck!
 - j. Small and adorable

Answers: 1. E; 2. B; 3. H; 4. I; 5. J; 6. C; 7. F; 8. G; 9. A; 10. D



Chapter	Subject	EXPLORE!
3	Health	Have you ever twisted your ankle or broken a bone? Write a short paragraph about your experience.
4	Vocabulary	To “trudge” is to walk in a heavy-footed way, as if you don’t want to arrive at your destination. It’s the way you might walk into the dentist’s office!
4	Vocabulary	To be “unfortunate” is to be unlucky.
4	Aviation	A “rudder” is used on an airplane or a boat to affect direction.
4	Fauna	The “Macaw parrot” is found mainly in Central and South America. Some people keep them as pets. Do you think a parrot would make a good pet?
4	History	The U.S. Coast Guard is one of the country’s five armed forces (Army, Navy, Air Force, and Marines are the other four). The Coast Guard traces its history all the way back to 1790!
4	Etymology	Why do we say “Mayday” when we’re in distress? It comes from the French word <i>m’aider</i> , which means “come to my aid” or “come help me.”
5	Acronym	An “acronym” is a word formed from the initial letters of a several words. “EMT” is an acronym for Emergency Medical Technician.



Buried Treasure Cookies



Ingredients

1 roll of refrigerator cookie dough

One 5 ½ oz. box of chocolate mint candies

Directions

- ✓ Preheat the oven to 350 degrees.
- ✓ Cut the roll of dough into one-inch-thick slices.
- ✓ Bury one piece of candy in the center of each slice of dough.
- ✓ Form a ball around the candy and set the balls 3 inches apart on a lightly greased cookie sheet.
- ✓ Bake for about 10 minutes or until light brown. Let cool.

REMEMBER!
Ask for an adult’s help when cooking.





Chapter	Subject	EXPLORE!
6	Climate	“Humidity” is the dampness we feel in the air.
6	Science	The moon’s gravity pulls on the water in the oceans, causing bulges. When the moon is directly overhead, we see a “high tide,” which means the ocean is at its highest level. As the earth and the moon rotate, the bulges move, which means some places experience low tide. High tides and low tides happen twice a day.
6	Word usage	To know something very well is to know it like “the back of my hand.”
7	Vocabulary	A “spiral” is a curve that winds around a fixed center point.
7	Word usage	“Second nature” means that you have practiced something so long that it seems innate, or natural.
7	Vocabulary	Something that is “majestic” has nobility or grandeur.
7	Fun & Games	Are you good with riddles like Grant? See if you can stump a friend with a really good one!
7	Vocabulary	To have a “raspy” voice is to sound hoarse, as if you have a sore throat.
7	Survival	Do you like to camp and hike? It’s always a good idea to know basic survival skills, including how to make a shelter. Research some survival skills.



- Cutter**
- Schooner**
- Sailboat**
- Ferry**
- Rowboat**
- Yacht**



Make a list of as many types of sailing vessel as you can think of. Research each one for the times they were used or are still being used. From your data, construct a timeline. What conclusions can you draw from it?

Chapter	Subject	EXPLORE!
8	Science	<p>A “prism” is a crystal form consisting of 3 or more faces parallel to a single axis. If you hold a prism just right, you can see the colors of the rainbow!</p> 
8	Vocabulary	A “beacon” is another name for a light.
8	History	<p>Have you ever wondered why a barber’s pole is a red and white twist? Originally, barber’s shops were used for bloodletting. (This means that people’s arms were cut on purpose! It was considered good medicine to let sickness out.) The two spiral ribbons painted around the pole represented the 2 long bandages used—one before bleeding and the other to bind the wound afterward. Aren’t you glad we don’t do that anymore?</p>
8	Vocabulary	“Occasional” means every once in a while.
8	Nautical	<p>To “run aground” means the ship’s underside is stuck on the shore.</p> 
8	Vocabulary	To “bellow” is to yell.
9	Vocabulary	A “hermit” is a person who lives alone.
9	Vocabulary	MM’s “rickety” boat is likely to fall apart, which makes it unsafe.

Solve a Mystery

Can you solve the mystery of the Carroll A. Deering? She is also known as the “Ghost Ship of Diamond Shoals”!



Here’s her story:

The Carroll A. Deering was a beautiful, 5-mast schooner. It was launched on April 4, 1919 from Bath, Maine. Twenty-one months later, she was found high aground on Hatteras’ Diamond Shoals. She was under full rigging and sail, but not a soul was to be found!

So, what happened? This still remains one of the greatest unsolved maritime mysteries of all time! Do some research;

find out who was involved, what the circumstances were, etc. Who knows? Maybe you can help solve this intriguing mystery!



Chapter	Subject	EXPLORE!
10	Genealogy	Genealogy is the record of a person's ancestors and "descendants"—in other words, the family members who came before and after that person. Make a family tree of your family. See how many generations you can go back.
10	Idiom	To "bring up the rear" means to be the last in line.
10	Vocabulary	An "interruption" happens when someone stops a conversation.
10	Flora	"Sea oats" are a tall coastal grass found in the southeast U.S., Mexico, and the West Indies.
12	Vocabulary	"Frothy" is another word for foamy.
12	Vocabulary	To be "withered" is to be dried up from a lack of moisture.
12	Vocabulary	"Stature" is the natural height of a person or animal.
12	First aid	"Resuscitation" is a method used to get a person breathing again. The rescuer presses his or her mouth over the victim's and forces air into the lungs.
12	Vocabulary	To be "mesmerized" is to be spellbound.
12	Nautical	A "buoy" is a float moored in water to mark a location or to warn of danger.




Cape Hatteras Lighthouse

Here are some fun facts about the Cape Hatteras Lighthouse:

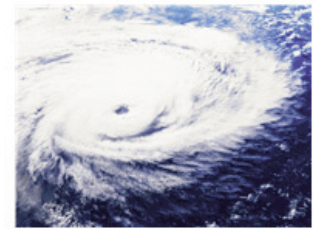


- ❖ At 208 feet, it is the tallest lighthouse in the United States.
- ❖ The first lighthouse was built in 1803, but it was damaged during the Civil War.
- ❖ The second one was built in 1870.
- ❖ It is painted with black and white stripes to make it easier to see in the daytime.
- ❖ Because of shore erosion, the lighthouse was moved 2,900 feet farther away from the ocean in 1998.

Chapter	Subject	EXPLORE!
12	Vocabulary	“Heroics” means brave behavior or action.
12	Vocabulary	If something occurs “annually,” then it happens once a year. What do you think “bi-annually” means?
13	Idioms	The “early bird catches the worm” is a saying that dates back to the 17th century. It means that success comes to those who prepare well and put in effort.
14	Vocabulary	A “rhythmic motion” is a movement that happens with measured regularity.
14	Nautical	To “plot a new course” means to find a different way to reach a destination.
14	Vocabulary	 <p>Pirates would “plunder” treasure, meaning they would take what was not rightfully theirs.</p>
14	Vocabulary	An “abandoned” item or person is something or someone that has been left alone.
14	Vocabulary	To “wedge” something means to make it tight and secure.
14	Vocabulary	“Scurrying” means moving fast; it’s like scampering.
14	Nautical	A “helm” is the steering gear of a ship. When someone says “take the helm,” he means “you can drive.”

A Hurricane is Coming!

Scientists have only been studying hurricanes for about 100 years, but geological evidence suggests that hurricanes have occurred for longer than that!



Hurricanes are classified into 5 categories, based on the strength of their winds and potential to cause damage.

A “hurricane watch” means that a hurricane is possible within 36 hours. A “hurricane warning” means that a hurricane is expected within 24 hours.

Are you prepared? Here are some things you might need to ride out a hurricane:

- ◆ Bottled water
- ◆ Canned food
- ◆ Manual can opener
- ◆ Scissors
- ◆ First aid kit
- ◆ Clothing
- ◆ Tools
- ◆ Blankets

Also, be sure to tie down any loose items outside so they don’t blow through a window or blow away and hurt someone!



Chapter Subject

EXPLORE!

15 Acronym



Your “initials” can be an acronym! Just take the first letter of your first name and the first letter of your last name and put them together!

16 Geography

Ocracoke Island is part of the Outer Banks chain of islands. It is a wonderful place to visit with a beautiful lighthouse and plenty of things to do! It’s also where Blackbeard is supposed to have buried his treasure. Happy hunting!

16 Vocabulary

To be “riveted” means to be wholly absorbed, or captivated, by something.

16 Fauna

“Ospreys” are fish-eating hawks.

17 Nautical

The “forecastle” is the section of the upper deck of a ship that is located at the front, forward of the foremast.



17 Nautical

The “quarterdeck” is the after part of the upper deck of a ship, usually reserved for officers.

17 Nautical

The “weather deck” is a ship’s deck that is open to the sky.

17 Nautical

The “rigging” of a sailing ship is the network of chains, ropes, and pulleys used to raise the sails.

18 Vocabulary

“Illegal” means against the law. We have laws to keep us safe.

Genealogy

Tracing a person’s roots is a lot like sleuthing! You can unlock the mysteries of other cultures and places!



As you learn more about your family origins, you actually learn more about yourself!

Find a large map of the United States. Using push pins and small labels, track your family’s migration across the country. Why did your family settle where they are now? Have they lived anywhere else? What conclusions can you draw from your research?



Chapter	Subject	EXPLORE!
20	Vocabulary	To “pelt” means to bombard.
20	Nautical	The “steward” of a ship is in charge of provisions.
20	Nautical	The “bow” is the front section of a ship.
21	Vocabulary	“Stark” is another word for bare.
21	Vocabulary	To have “survived” means to have stayed alive.
21	Vocabulary	“Bleak” is another word for gloomy or somber.
21	Vocabulary	“Decipher” means to read or interpret. Sometimes it’s hard to decipher a person’s handwriting!
21	Vocabulary	“Scrawny” is another word for skinny.
22	Vocabulary	To be “remarkable” is to be worthy of notice.
24	Math	The driving distance from Peachtree City, Georgia to Cape Hatteras, North Carolina is about 675 miles. As the crow (or Mystery Girl) flies, it is about 534 miles. How many more miles is the driving distance than the flying distance? Why is driving distance usually more than flying distance?
24	Vocabulary	A “reward” is something special given for worthy behavior.



Pirates!

Blackbeard wasn't the only pirate in history, just one of the best-known. Here is a list of other notorious pirates:



Black Bart—also known as Bartholomew Roberts. He was probably the most successful, capturing over 400 ships and about 50 million pounds of loot!

Henry Morgan—not actually a pirate, but a privateer. This means he was hired to fight the Spanish for England, but was paid with whatever he could steal from the Spanish!



Anne Bonny—probably the most famous woman pirate. After her pirate days, she and her husband joined a party of pioneers heading west, never to be heard from again.

Captain Kidd—Captain William Kidd was actually a pirate hunter turned pirate! He was later hanged for his crimes.

Discussion Questions

- ❖ Sean enjoys collecting seashells. Do you collect anything? What do you collect? Why do you enjoy collecting? Do you have your collection displayed somewhere in your room?



- ❖ Papa breaks his ankle. Have you ever broken a bone? How did you do it?
- ❖ When was the last time you were at the aquarium? Did you see any sea turtles? What kinds of fish and animals did you see? Do you think they were happy to live there? Why or why not?
- ❖ The Cape Hatteras lighthouse is one of the best-known lighthouses in the United States. Have you ever seen a lighthouse in person? Did you try climbing to the top? Why or why not?
- ❖ The Outer Banks is known as the “Graveyard of the Atlantic.” Does your town have a nickname? If not, what nickname would you give it?
- ❖ Old Man Billy mesmerizes the kids with his storytelling. Is there anyone in your family who is a good storyteller? What makes that person so interesting to listen to?
- ❖ The kids explore an old shipwreck, looking for treasure. Have you ever searched for lost treasure? What did you find?
- ❖ Mimi, Papa, and the kids tour the Barque Eagle. Have you ever been on a boat? Do you think you’d like to be a sailor? Why or why not?



Make Your Own Iceboat!

Materials needed

- ♦ Pint juice carton
- ♦ Water
- ♦ Measuring cups
- ♦ Food coloring
- ♦ Duct tape
- ♦ Craft knife (adult use only)
- ♦ 12-inch wooden dowel
- ♦ Colored cellophane
- ♦ Scissors
- ♦ Ruler
- ♦ Tape
- ♦ Large tub

Instructions

1. Fill the carton with 1 1/2 cups of water, and add several drops of food coloring. Seal the top of the carton with duct tape, and shake it gently.
2. Lay the sealed carton on its side, and use a craft knife to cut a small X through the center of the side facing up. Push the dowel through the opening, and set the carton in the freezer overnight.
3. Cut out a cellophane sail that is 8 inches high, 7 inches across the base, and 11 inches along the diagonal.
4. When the water is completely frozen, cut the carton away from the ice. Fold the 8-inch side of the sail around the dowel, and tape it in place.
5. Fill a large tub with water, and let the boat begin to float!

For more fun, create multiple boats and have some exciting boat races with your friends!

Secret Code: Solve It!

Use the decoder key at the bottom of the page to solve the mystery phrase.



A B C D E F G H I J K L M N



O P Q R S T U V W X Y Z



Purifying Water

Imagine you are shipwrecked on a desert island in the middle of the ocean. The most important thing you need to survive is fresh water, and although you've looked everywhere, there are no streams or pools. Now what do you do? Well, you can purify your own water! Let's see if you can do it. Be sure to check with an adult before you start.

Materials needed

- Large bowl
- Short glass or cup
- Tape
- Plastic wrap
- Small rock
- Pitcher of water
- Salt
- Long spoon for stirring

Instructions

1. First make saltwater by adding salt to fresh water. Stir the water until the salt dissolves.
2. Now pour about two inches of saltwater into a large bowl.
3. Take an empty glass and put it in the bowl. The top of the glass should be shorter than the top of the bowl, but higher than the saltwater.
4. Put plastic wrap over the top of the bowl. You may need to use tape to make sure the seal is tight.
5. The last step is to put something heavy right in the center of the plastic wrap, over the empty glass, that will weigh the plastic down and help you collect the water. Now you've made a solar still.
6. Leave your still outside in the sun. Leave it alone for a few hours, or even a whole day. The longer you leave it out, the more water you'll collect.
7. When you're ready to check your still, take the plastic wrap off and look at the water that's collected in the cup. Do you think it's salty or fresh? Taste it, or use a saltwater tester to find out!

Mathematics: Calculate It!

1. Things cost more over time. A hotel room for a tourist might have cost \$25 per night in the 1970s. A hotel room today might cost \$150 per night. How much more does one night in a hotel cost now than in the 1970s? Why do you think things get more expensive?
2. If Mimi writes 2 books a year for 5 years, how many books will she have written in all?
3. There are 268 stairs leading to the top of the Cape Hatteras lighthouse. If you were halfway up, what number stair would you be on?
4. Average is the medium value of a series of numbers. To determine the average, simply add all the numbers in a series and divide by the number of numbers in the series. A man working at the U.S. Lifesaving Service worked 10 hours on Monday, 8 hours on Tuesday, 12 hours on Wednesday, 14 hours on Thursday, 6 hours on Friday, and 10 hours on Saturday. How many hours per day did he average for the week?
5. If a mother turtle laid eggs on June 10th and they hatched 65 days later, on what day were those baby turtles born? (Remember that there are 30 days in June and 31 days in July!)
6. Probability is the likelihood that an event will occur. The probability of an event can be described using these words: likely, unlikely, certain, impossible. Use one of these words to describe the probability of each of the following events.
 - a. *What is the probability that it will rain today?*
 - b. *What is the probability that you are alive?*
 - c. *What is the probability that a dinosaur will stomp into your town today?*
 - d. *What is the probability that you will be in a shipwreck today?*



Endangered Species



Sean and Sally are very excited to see the sea turtle eggs. Sea turtles are an endangered species and must be protected. Why?

Because without protection, sea turtles might become extinct. This means that they wouldn't exist as a species now or ever.

Do you think protecting endangered species is a good idea? Why or why not? Is helping endangered species something that interests you? How could you help out?



English: Write It!

1. Pretend you are invited to be a character in this book. Make a packing list of the things you'll need on this fantastic vacation. Remember that you'll be doing a lot of different activities! Be sure to check the weather, too!



2. The building of the second Cape Hatteras lighthouse was an important event in North Carolina's history. Pretend that you are a reporter for the News-Journal. Write a newspaper article about the lighthouse. Make sure the article answers the questions Who? What? Where? When? Why?

3. Make a poster encouraging tourists to visit Cape Hatteras and the Outer Banks. Be sure your poster is exciting and captures people's attention!

4. Imagine you have survived a shipwreck. Write a letter to your best friend describing the experience. Be sure to give lots of details such as the weather, other survivors, interesting things you see, and anything else you can imagine.

5. Pretend you are an English sailor in the 18th century, and you are getting ready to do battle with Blackbeard the pirate. Describe your feelings as you prepare for battle. Are you excited? Nervous?



6. Pretend you are a treasure hunter who has just discovered the whereabouts of Blackbeard's treasure. Write a letter home to tell about your discovery!



7. Imagine you are taking a vacation to the Outer Banks. You and your family will take a train to North Carolina, but you will drive back home. Make a list of ways that the two trips would be the same. Make a list of how the trips would be different.



Silver Lining!

Climates

The world has many different climates—which one would you like to live in?



Polar: Ice Caps
Polar: Tundra
Subtropical: Dry Summer
Subtropical: Dry Winter
Subtropical: Humid
Subtropical: Marine West Coast
Subtropical: Mediterranean
Subtropical: Wet
Tropical: Monsoon
Tropical: Savannah/Grasslands
Tropical: Wet



Research the above climate types. What kind of climate is Cape Hatteras in? What kind of climate do you live in?



Vocabulary: Spell It!

Study the words below. All of them are taken from the mystery book. Fold the page in half and take a spelling test. Look up your word in a dictionary and write its definition on a separate piece of paper.

EXPERIENCE

COWL

SKELETON

DESCEND

SHRIEK

TURBULENCE

VIOLENT

FRIGHTENING

SEPARATE

PENETRATE

TECHNICIAN

TOMORROW

LIEUTENANT

COORDINATES

DISSOLVED

COLLECTOR

WEIRD

ACCLIMATED

NAVIGATION

OCCASIONAL

DISTRESS

DIVERSION

ILLUMINATED

PREJUDICE

DECIPHER

Fingerprints

You can examine fingerprints just like the FBI.



You will need the following items:

- pencil and paper
- transparent tape
- magnifying glass

1. Scribble on a piece of paper until you have a heavy black mark.
2. Rub your index finger on the mark.
3. Put a piece of tape over your finger, press down, then pull off the tape.
4. Put the tape on a clean piece of paper so you can see your fingerprint.
5. Examine your fingerprints for loops, whirls, and arches.
7. Fingerprint your friends and compare their prints with yours!

• Check out these books for more information on fingerprints:

Fingerprint Evidence
by Barbara B. Rollins
and Michael Dahl

Fingerprints: Crime-Solving
Science Experiments
by Kenneth G. Rainis



Art: Create It!

Create a diorama of the Outer Banks. Here are some ideas to get you started:



1. Paint or cover the inside of a shoebox. You can paint or cover the outside too if you want.
2. Draw or paint the “back wall” of the diorama to show the scenery. Are there ships in the distance? Is it a clear or stormy day? Are there any seabirds flying?
3. Use colored paper to create the sea and the shore.
4. Draw and cut out figures of people to go in your diorama.
5. Draw and cut out figures of shipwrecks to go in your diorama.
6. Add real sand, rocks, shells, and other props to create a realistic-looking scene.
7. Try adding a lighthouse to your diorama.

Fooled!

If you're looking for gold treasure, don't be fooled! Pyrite is a mineral that looks a lot like gold with a similar shape and color. So many people have mistaken it for gold that it is known as Fool's Gold.

Here's how to tell fool's gold from real gold:

1. Pyrite often has striations, or ridges, on it.
2. Try a streak test. If you rub real gold on white paper, it leaves a golden or yellow streak. Pyrite leaves a greenish-black streak.
3. Gold is much softer than pyrite. It can be scratched with a paperclip or knife. Pyrite cannot be scratched.
4. If you rub pyrite with a hard object, it has a sulphurous smell like rotten eggs. Gold does not have an odor.
5. If you strike pure gold with a steel hammer, it will flatten without breaking. Pyrite is so hard that it gives off sparks when struck.

Pirates knew that gold was soft. They would bite a gold coin to see if it was pure gold. If it was too hard, the pirate would know that it was not pure gold.



Science: Cook It!

Grant and Christina enjoyed (almost) everything at the crab boil. See if you can make your own fresh crab cakes!

FRESH CRAB CAKES



Ingredients

- ◆ 3 teaspoons butter
- ◆ 1 tablespoon flour
- ◆ $\frac{1}{3}$ cup milk
- ◆ Dry mustard or cayenne pepper
- ◆ 3 tablespoons breadcrumbs
- ◆ $\frac{3}{4}$ cup picked, cooked fresh crabmeat (about 4 ounces)
- ◆ Freshly ground black pepper
- ◆ $\frac{1}{2}$ lemon or lime

Directions

1. Heat 2 teaspoons of the butter in a small saucepan. Once heated, remove from the stove and stir in the flour. Return the pan to the heat and cook over low heat, stirring constantly, for 1 minute. Add the milk and cook, stirring constantly, until the mixture is thick.
2. Remove the pan from the heat and add a pinch of dry mustard or cayenne pepper, 2 tablespoons of the breadcrumbs, the crabmeat, and freshly ground black pepper to taste. Stir until thoroughly mixed.
3. Wet your hands and shape 2 crab cakes. The mixture will be somewhat sticky. Put the remaining breadcrumbs on a plate and dip the cakes in the crumbs to coat both sides.
4. Heat the remaining 1 teaspoon of butter in a skillet. Add the crab cakes and cook 1-2 minutes on each side, or until the surfaces are browned.
5. Serve with wedges of lemon or lime on the side.



NOTE: The preparation of all dishes should be carried out with the supervision of an adult.



Sing a Pirate Song

The Pirate Song! What comes to mind when you hear those words? Most likely it will be the "Fifteen Men" Pirate Song, which was made famous in Robert Louis Stevenson's book about pirates, *Treasure Island*!

The most famous words make up the first four lines of this pirate song:

*Fifteen men on
a dead man's chest
Yo ho ho and
a bottle of rum
Drink and the devil
had done for the rest
Yo ho ho and
a bottle of rum.*

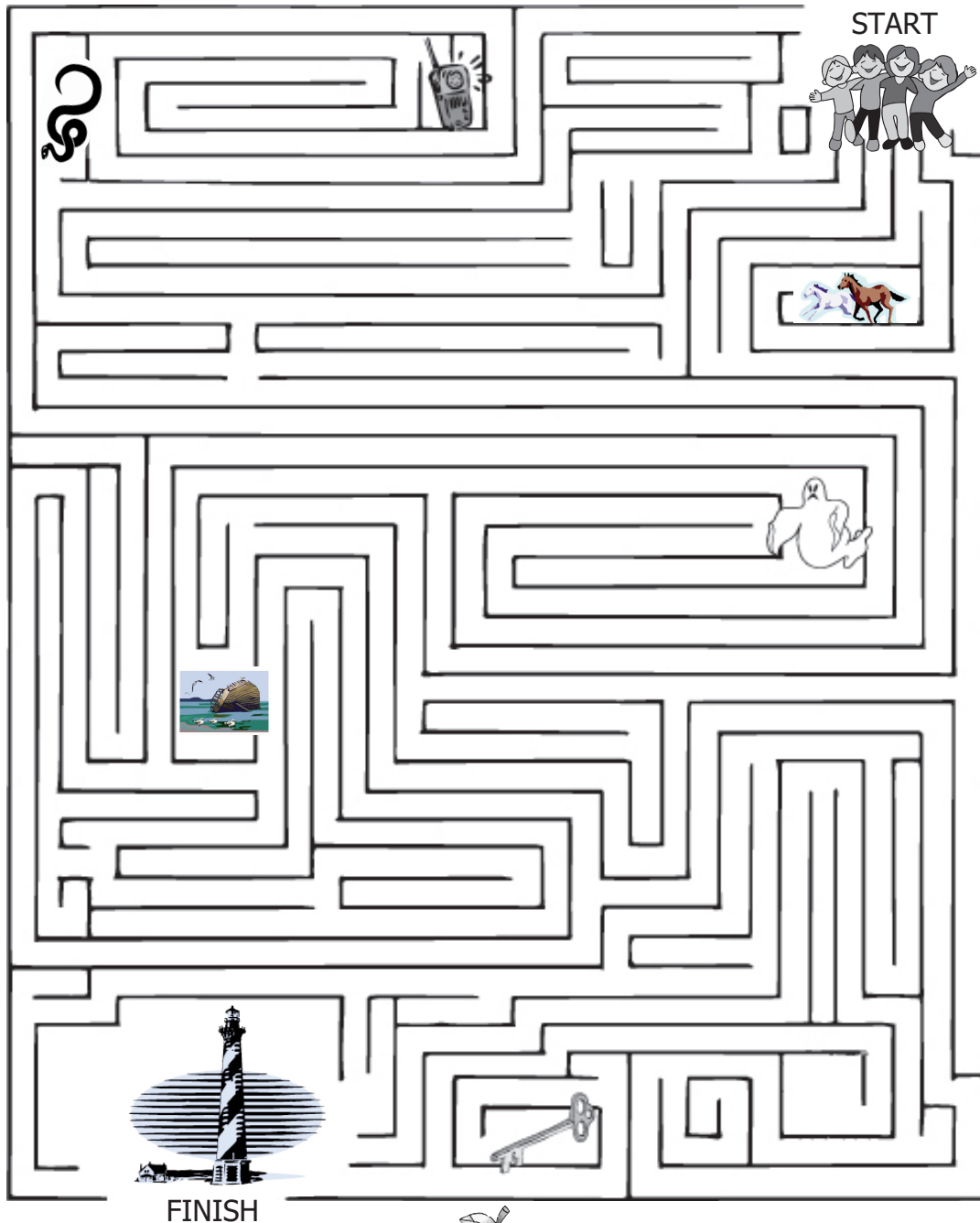
Treasure Island was published in 1883. Dead Man's Chest is a small island that forms part of the British Virgin Islands in the Caribbean Sea. Pirate legends of the Caribbean claim that the notorious pirate, Blackbeard, marooned 15 of his pirate crew on 'Dead Man's Chest' as a punishment for their mutiny and desertion.

And now you know what The Pirate Song means!

The Mystery of the Graveyard of the Atlantic Maze



Help Christina, Grant, Sean, and Sally find their way from Shackleford Banks to Cape Hatteras. Watch out for snakes! And shipwrecks! And wild ponies!



The Mystery of the Graveyard of the Atlantic Pair Up



Match the words on the left with the correct words on the right!

Outer

Carolina



Cape

Sound

Crab

Boil



Macaw

Banks

Giant

Shoals

Wild

Guard

Diamond

Hatteras

North

Tun



Coast

Ponies

Pamlico

Parrot



The Mystery of the Graveyard of the Atlantic Activity



Christina and Grant are able to determine the identity of the Outer Banks Angel. Try this fun activity to sharpen your sleuthing skills!

1. Write the names of your favorite movie, book, or cartoon characters on 3 x 5 cards.
2. Tape a card to the back of each player. Don't tell anyone the name on the card that is taped to his or her back.
3. Players must figure out who their character is by asking other players questions. Players may only ask "yes" or "no" questions, and they may only ask each player two questions. The first player to guess his or her character wins!



The Mystery of the Graveyard of the Atlantic Scramble



Unscramble the words below to find the mystery clues!

1. PEMO



2. RPTARO

3. RETOU NKSAB GELNA

4. WPICKHER

5. KGMNIA SCUMI



6. MHRETI

7. TOSMR

8. VRUSROIV

9. CRUEES

10. YSTMRYE



The Mystery of the Graveyard of the Atlantic Word Search



Search for the mysteriously hidden words below!



R C R A B O N S R E T O R R A P C
O U E Q T R E A S U R E A E K Y A
W P O N I E S U N E E R N R I T R
B M N A E C O U M O U R P U S I O
O R I R I H B S O R U C D T F D L
A O D R T L L E H S A E S N U I I
T T T H A T T E R A S P I E G M N
W S G G U O D T O O T O J V R U A
O I S H I P W R E C K C F D C H E
L H G H D R A Y E V A R G A E L T

CAROLINA

CRAB

GRAVEYARD

OCEAN

HATTERAS

ADVENTURE

TREASURE

ROWBOAT

LIGHTHOUSE

RESCUE

SHIPWRECK

HUMIDITY

SEASHELL

PONIES

STORM

PARROT



The Mystery of the Graveyard of the Atlantic

Fill-in-the-Blank



Fill in the blanks to answer the questions.



- Mimi, Papa, and the kids arrive at Cape Hatteras in the:
 ___ Y ___ ___ ___ Y ___ I ___ ___
- Sean is a big collector of these:
 S ___ ___ ___ ___ E ___ ___ ___
- The wild ponies of Shackleford Banks are actually small:
 ___ O ___ ___ ___ ___
- At the crab boil, Grant doesn't like the taste of these:
 ___ Y ___ ___ E ___ ___
- This person survived a shipwreck when he was a young boy:
 ___ H ___ ___ ___ S ___ A ___ ___ N
- Papa breaks his:
 ___ ___ K ___ ___
- Before anyone knew who he was, Thomas Mason was known as the:
 O ___ ___ ___ ___ ___ N ___ ___ ___ N ___ ___ L



The Mystery of the Graveyard of the Atlantic Matching Characters



Match these mystery characters with their descriptions!



- | | |
|------------------|-------------------------------|
| 1. Mimi | a. pilots the Mystery Girl |
| 2. Grant | b. mystery book writer |
| 3. Christina | c. hosts an annual crab boil |
| 4. Papa | d. a rescues people at sea |
| 5. Sean | e. a boy from North Carolina |
| 6. Sally | f. good at solving mysteries |
| 7. Thomas Mason | g. finds a rare seashell |
| 8. Old Man Billy | h. a girl from North Carolina |



The Mystery of the Graveyard of the Atlantic Quiz



Use the clues to recall some interesting information about Cape Hatteras!



1. Cape Hatteras is located in the state of:

2. This part of the Outer Banks is known as the:

3. Wild ponies call this island home:

4. The *USS Monitor* sank at:

5. This landmark is 208 feet tall:

6. This crew was responsible for rescuing the crew of the *E.S. Newman*:

7. It's rumored that Blackbeard the pirate buried his treasure on this island:

8. This ship is the only active, commissioned sailing vessel in the U.S. armed services:

9. This branch of the armed services protects our shorelines:

10. These dangerously shifting forms are responsible for many shipwrecks:



The Mystery of the Graveyard of the Atlantic True or False



Mark each statement true or false.

_____ 1. The CSS Virginia was the name of the ship that sank in December 1862.

_____ 2. Papa breaks his ankle.



_____ 3. The Outer Banks is also known as the Graveyard of the Atlantic.

_____ 4. A parakeet keeps landing near Grant and Christina, giving them clues to a riddle.

_____ 5. The Scotch Bonnet is the North Carolina state shell.

_____ 6. The Cape Hatteras lighthouse still uses a whale oil lamp to light its beacon.

_____ 7. Mimi, Papa, and the kids make an emergency landing on a sandbar.

_____ 8. Richard Etheridge was the first African American man to work as a keeper in the U.S. Lifesaving Service at the Pea Island station.

_____ 9. Blackbeard's ship was called the Adventure.

_____ 10. It takes 14 days for a sea turtle egg to hatch.



Answer Key...



The Mystery of the Graveyard of the Atlantic Activities

Math Activities:

1. \$125; Things get more expensive because the cost of making or producing them increases. 2. 10 3. 134th 4. 10 hours per day 5. August 14th 6. Answers may vary.

The Mystery of the Graveyard of the Atlantic Pair Up:

Outer Banks; Cape Hatteras; crab boil; Macaw parrot; Giant Tun; wild ponies; Diamond Shoals; North Carolina; Coast Guard; Pamlico Sound

The Mystery of the Graveyard of the Atlantic Clue Scramble:

1. poem 2. parrot 3. Outer Banks Angel 4. shipwreck 5. Making Music 6. hermit
7. storm 8. survivor 9. rescue 10. mystery

The Mystery of the Graveyard of the Atlantic Fill-in-the-Blank:

1. Mystery Girl 2. seashells 3. horses 4. oysters 5. Thomas Mason 6. ankle
7. Outer Banks Angel

The Mystery of the Graveyard of the Atlantic Matching Characters:

1. B 2. G 3. F 4. A 5. E 6. H 7. D 8. C

The Mystery of the Graveyard of the Atlantic Quiz:

1. North Carolina 2. Graveyard of the Atlantic 3. Shackleford Banks 4. Diamond Shoals
5. Cape Hatteras lighthouse 6. U.S. Lifesaving Service at Pea Island
7. Ocracoke Island 8. Barque Eagle 9. Coast Guard 10. sandbars

The Mystery of the Graveyard of the Atlantic True or False:

1. F 2. T 3. T 4. F 5. T 6. F 7. T 8. T 9. T 10. F

