Jamal, Carla, Tom and Keisha stepped onto the soft, pale sand and gazed around them. This was the most perfect stretch of beach any of them had ever seen! A swath of pure white sand cut between lush green palm trees and shimmering blue sea, dotted every few hundred feet with a colorful beach umbrella or sunbather. Every now and then tiny white triangles were visible on the horizon, the sails of local boats taking tourists out to fish.

"Jamal," said Carla, "this was a great idea for an after-graduation trip. In fact, this is the greatest idea you've ever had!"

"No kidding," Tom agreed. "This is going to be the best two weeks of our whole lives!"

The four teens had been friends since they'd met in the first grade, and had just graduated high school a few weeks before. They'd never been apart for more than a few weeks, and they'd all just had their eighteenth birthdays this spring. Now, they were spending their last summer together. Jamal was headed off to New York University in the fall, while Tom had gotten a great job working for his uncle's construction company. Keisha had received a full scholarship to the University of South Florida, and Carla planned to enlist in the Navy.

They were all really excited about their new lives, but they would miss each other a lot, and wanted to make the most of the summer. So when Jamal's aunt invited him and his friends to visit her on Martinique, they all jumped on the opportunity. Now, as they looked around, they understood why Jamal's aunt said that everyone on the island kept this beach a secret from the tourists. It was magnificent, and almost deserted.

"So what are we waiting for?" cried Keisha. "Let's go!" And with that, they all ran along the sand towards the water, laughing and talking about all the fun they were going to have.

"Hold up a sec!"

Keisha, Jamal and Tom turned around and saw Carla kneeling in the sand, looking at something in her hands.

"What is it?" called Tom. "Are you hurt?"

"Nope," Carla said as they all jogged over the where she was crouched. She looked up at them and grinned, holding out her hand. "I think I just found a doubloon."

They all looked at each other, eyes wide. A doubloon on the beach? That could only mean one thing!

Thar Be Treasure: Scene 1 Box Chart

<u>Facts</u>	Questions		
(What we know right now)	(Based on current knowledge)		
	Where is Martinique? Why are the kids there? What is a doubloon? What do you think it means?		
Hypotheses	Learning Issues		
(Based on facts and questions)	(What we need to learn)		

"Tante Sabine! You'll never believe what we found on the beach!"

Jamal and the rest of the crew ran straight back to his aunt's house down the road once they'd seen Carla's discovery. Now they found Tante Sabine in the kitchen, frying plantains and peeling shrimp for dinner that evening. She looked up from her cutting board and smiled at them as she wiped her hands on her apron.

"Now, Jamal," she said. "What's so important that it cut short your beach trip? And on such a beautiful day!"

Carla held out her hand and showed Tante Sabine the doubloon. Tante Sabine held it up to the window for better light. "Well, well," she said. "You children found a pirate coin. What luck!"

"Does that mean there's buried treasure on that beach?" Keisha cried. "We could be rich!"

"Well," said Tante Sabine, "there have always been stories about a pirate ship that sank a mile or so off of the jetty at the north end of the beach. None of the locals have ever thought to dive down that deep, and we certainly don't want a bunch of tourists and treasure hunters swarming all over the place. I suppose if the stories are true, it's still out there."

Jamal snapped his fingers. "That's it, then. We'll rent a boat and some SCUBA gear and find that ship!" The other kids echoed in support. This vacation was shaping up into a real adventure!

Tante Sabine shook her finger at them. "Hold on just a minute. You all need to do some planning before you go diving into the water like a bunch of fishes! That ship would be far off the shore, and there's a BIG difference between swimming at the shore and swimming down a hundred or two hundred feet deep. If you're not careful, you could hurt yourselves, even die."

"Don't worry, Tante Sabine," said Carla. "We'll go look online and figure out what we need to do. Is it okay if we use your computer?"

"Of course, dearie," said Tante Sabine. "And when you're done, we can have lunch and I can tell you where you need to go to get supplies."

Thar Be Treasure: Scene 2 Box Chart

Facts	Questions
(What we know right now)	(Based on current knowledge)
,	
	What is SCUBA?
	What is so dangerous about deep water?
Hypotheses (C)	Learning Issues
(Based on facts and questions)	(What we need to learn)

"Wow," Tom said. "I didn't realize how different the ocean was once you get out past the beach."

"Yeah, seriously," agreed Keisha. "It's dark and cold, even near a tropical island like this! Plus, did you see this site right here" – she typed in an address and pulled up the site – "where it says that the water pressure at really big depths is so great that it can crush things? That's crazy!"

"Well, if the ship is a mile or so off shore, then this map says that it would be about 150 feet under the water. That means we'll have to deal with the cold temperature, the depth and the dark. I wonder how far light can travel at that depth. We might need a serious flashlight."

"Yeah, and this site says we'll need to wear something to maintain 'thermoregulation.' I wonder what that means?"

"I know what it means."

The kids looked up from the computer and saw Tante Sabine in the doorway.

"What does it mean, Tante Sabine?"

"It means you kids need to come have some lunch, and then do some more research. Then, later this afternoon, go talk to my friend Remy at the SCUBA supply store. He's got plenty of equipment, but he's a very busy man, so you need to know exactly what you need before you head over to see him. Once you have what you need, you can borrow my boat. It's nothing special and pretty small, but it will do you just fine. Now come into the kitchen, I made some nice sandwiches and iced tea."

"We did it! We found the treasure!"

The friends ran into Tante Sabine's house, their hands full of gold doubloons and jewels. They were still in their diving gear, and had run all the way back to the house once they'd tied up Tante's boat at the beach.

"My goodness, Jamal. Look at what you and your friends found! I'm going to call the local TV news station and tell them all about it. Maybe we'll even meet some oceanographers like the one who found the Titanic a few years ago. I can't believe you did it, and you're back here safe and sound. I'm so proud of you!"

* * *

"This is Cecilia LeRoix, reporting live from the home of local resident Sabine du Lac, where I've just been told that her nephew Jamal and his three friends have found a sunken pirate ship, overflowing with pirate booty, about a mile off shore at a nearby beach. I'm here now with the four young explorers, whose exciting discovery is sure to make headlines around the world."

Jamal, Carla, Keisha and Tom beamed. They were going to be famous. And even though they were donating most of the treasure to the Smithsonian Museum of American History, the few jewels that they'd kept would make them all rich!

"Tell us, kids. You went into some pretty deep water to find that ship, and yet you made it there and back safely. How did you know what to do to keep yourselves from getting hurt? The world wants to know!"

Thar Be Treasure: Box Chart

Facts	Questions
(What we know right now)	(Desert on summent tracylledge)
(What we know right now)	(Based on current knowledge)
Hypotheses	Learning Issues
<u>Hypotheses</u> (Based on facts and questions)	<u>Learning Issues</u> (What we need to learn)
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Hypotheses (Based on facts and questions)	Learning Issues (What we need to learn)

Thar Be Treasure: Assignment

Each person in your group is going to role-play as the four teens in this story. For your interview with the local newscaster, you will need to design a presentation that details how you used your knowledge of pressure and density, temperature and light to work out exactly what you needed to wear, bring along and do while diving for the pirate ship. Include some information about SCUBA and how it's used to help divers deal with some or all of these issues in the water. You should plan on your interview taking about 15 minutes, and you will probably want to make some visual aids, such as a poster or some handouts, although what exactly you use is up to you

Da	nte	Self/Group Eva	<u>luation</u>		
	our Name:		roup #		
		rcle the response with wh r teacher and will not be			evaluation
1.	How would you rate	your participation in grou	p discussion ar	nd group worl	κ?
	5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
2.	How would you rate	your effort in completing	the case:		
	5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
3.	Did <u>you</u> complete the If no, explain why:	e assigned homework?	Yes	No	
4.	How well did you wo	ork with everyone in your	group:		
	5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor

5. Overall, how would you rate <u>your</u> performance in this case?

5 Excellent 4 Very Good 3 Good 2 Fair 1 Poor

6. Your total score

7. Rate each group member on a scale of 1-5

Group Member	Participation	Completed	Worked	Overall	Total
	in group	Assigned	well within	performance	Score
	discussion	Task	group		