“Iceberg! Right Ahead!”
By the time these words rang out on the RMS Titanic, it was too late. The warning came at 11:40 p.m. on the clear, cold night of April 14, 1912, in the icy seas of the North Atlantic. Within 40 seconds, the ship’s starboard (right) side was raked below the waterline by the submerged spur of an iceberg. Less than three hours later, the Titanic sank beneath the water. At least 1,523 of its roughly 2,228
On the night it sank, the Titanic was making its maiden (first) voyage across the Atlantic Ocean.

Passengers and crew were dead or dying. Had the Titanic missed the iceberg that Sunday, it may have simply been remembered as one of the largest, most luxurious ocean liners of its time. Yet so much went wrong that the Titanic has become a symbol for disaster. The great ship’s story is a drama with a little of everything: heroism and fear, humility and arrogance, wealth and poverty, life and death.

Come aboard the grand ship for a voyage of a lifetime—from the safety of home.
Building a Colossus

Boats have been around from the time of our earliest ancestors. Boats enabled people to cross wide rivers and fish in deep waters. As people began to explore distant lands, they found better ways to build larger and stronger boats.

Around A.D. 1000, Viking explorers from Norway, Sweden, and Denmark sailed to North America in wooden boats no bigger than today’s mobile homes. But traveling the Atlantic then—and for centuries afterward—was dangerous. Icebergs, storms, poor navigational equip-

© 2005 by Stephanie Harvey and Anne Goudvis from The Comprehension Toolkit (Portsmouth, NH: Heinemann). This page may be reproduced for classroom use only.
ment, and unreliable sail power cost thousands of people their lives, as did disease and unsanitary conditions.

By the late 1800s, transatlantic crossings had become more routine. Ships were now powered by steam engines and built of iron and steel. (Ship is the term used for a large seagoing vessel.) Shipping companies began building giant ocean liners. In the early 1900s, the White Star Line was in a heated race with competitors to build even bigger, more impressive ships. In 1912, after three years under construction, the largest moving object in the world—the Titanic—was unveiled.

**FATAL FLAWS**

The British technical journal *The Shipbuilder* was so impressed with Titanic’s bulkheads (left) and other safety features that it pronounced the ship “practically unsinkable.” However, the bulkheads rose only 10 feet above the waterline. Had they been built higher, the ship might not have sunk.

When anyone asks how I can best describe my experience in nearly 40 years at sea, I merely say: uneventful. I never saw a wreck and have never been wrecked nor was I in any predicament that threatened to end in disaster of any sort.” —Titanic Captain Edward J. Smith in 1907

**Lesson 10: Titanic**

**1910** Olympic launched (set afloat).

**1911** Titanic launched. White Star Line continues with changes and improvements that make it the largest ship in the world (left). Olympic makes its maiden voyage.

**AT LEFT ARE THE propellers of Titanic’s sister ship Olympic.** (There are no photographs of the Titanic’s propellers.) It took three thousand men three years to build the Titanic. The work was done in Belfast, Northern Ireland, at the Harland & Queen’s Island Shipyards.

**BULKHEADS are the watertight walls between compartments.**

**THE TITANIC could float if any two of her 16 “watertight” compartments flooded, or even if the first four flooded.** However, if the first five sections flooded, the bow (front) would sink so low that the water in the fifth compartment would overflow into the sixth, and when that section filled, water would overflow into the seventh, and so on.

**A. J. BRUCE ISMAY** was managing director of the White Star Line and a driving force in the creation of the Titanic. Ismay was on board the Titanic during its maiden voyage and escaped the sinking ship in one of the Titanic’s collapsible lifeboats, perhaps thinking that his testimony would be valuable later. However, his reputation suffered after the tragedy. He was accused of saving himself while the captain and others died.

**A. THOMAS ANDREWS** was the Titanic’s designer. He was famous for knowing every detail of the ship. He listened carefully to crew members’ complaints and made changes when possible. Andrews sailed on the Titanic to identify the problems that always come up in a brand-new ship. Like the captain, Andrews perished.

**A. THE TITANIC’s captain, Edward J. Smith, was often called the “millionaires’ captain” because wealthy families asked to book passage on his ships. The White Star Line made him captain of the Olympic and later of the Titanic. In two years, he was to command the Gigantic on its maiden run. He did not survive.**

**J. B. RUCE ISMAY** was managing director of the White Star Line and a driving force in the creation of the Titanic. Ismay was on board the Titanic during its maiden voyage and escaped the sinking ship in one of the Titanic’s collapsible lifeboats, perhaps thinking that his testimony would be valuable later. However, his reputation suffered after the tragedy. He was accused of saving himself while the captain and others died.

**THE DIRECTOR THE DESIGNER**

Lesson 10: Titanic (4 of 12)
People in 1912 were very aware of their class, or position, in society. Class was determined by family background, wealth, and education, among other things. On the *Titanic*, the price of a passenger’s ticket said a lot about that person’s position in society.

**First-class Staircase**

**The White Star Line**
Line spared no expense to make its first-class rooms as opulent as possible. They came complete with thick carpets and overstuffed sofas and chairs. First-class passengers had at their disposal a gymnasium, swimming pool, squash court, Turkish bath, and library.

**The Press Called**
the *Titanic* the “millionaires’ special” because there were so many wealthy people traveling first-class. Their combined fortunes were around $500 million ($9 billion today). Among the rich and famous people were the following:

- **John Jacob Astor**, New York millionaire, and wife **Madeleine** (He died; she survived.)
- **Archibald Butt** Military adviser to President William Howard Taft (He died.)
- **Isidor and Ida Straus** He was a founder of Macy’s department store. (Both died.)
- Scotland’s **Lucy Noel Martha Dyer-Edwards**, The Countess of Rothes (She survived.)
Running a giant machine like the Titanic required more than nine hundred workers. Among them were nine officers to supervise the crew, 390 stewards and stewardesses to serve the passengers’ needs, and 289 firemen, trimmers, and greasers to carry and shovel coal into the boilers and lubricate moving parts of the ship. Seated at far left is Captain Smith.

The Titanic could carry up to 3,547 people, yet it carried only 16 lifeboats and 4 collapsible boats with canvas sides—enough for just 1,178 people. At the time, British laws stated that the Titanic had to carry only 16 lifeboats. By carrying the 4 collapsible boats, the Titanic was actually carrying more than the law required.

The Titanic’s second-class rooms were as good as first-class rooms on other ships. Most second-class passengers were professionals—teachers, doctors, and businessmen. Their rooms were simple but attractive, with mahogany beds and linoleum floors. Second-class passengers also had their own library and several other beautifully decorated public rooms (below).

“Everything was new. New! Our cabin was just like a big hotel room, it was so big. The dining room was beautiful—the linens, all the bright polished silver you can imagine.”

Survivor Ruth Becker, 12-year-old second-class passenger

Most third-class, or steerage, passengers were poor people leaving Europe for a new life in the U.S. Their accommodations on the lower decks were spare. However, the Titanic featured private cabins for two, four, or eight people, not 40, as was the case with many other transatlantic liners.

Steerage passengers came from many different countries. (In fact, the ship carried people of 24 different nationalities.) During the early 1900s, immigration to the U.S. exploded, and shipping companies, like the White Star Line, cashed in on it. On the average, a ticket on the Titanic cost steerage passengers two months’ pay.

APRIL 11 The Titanic leaves Cherbourg on April 10 and arrives at Queens-town (now called Cobh), Ireland, around noon on the 11th to pick up the last of its passengers. Around 1:30 p.m., the Titanic departs for New York.

APRIL 13 The Titanic gets the first of seven ice warnings from other ships.
Disaster Strikes

The night that the *Titanic* sailed into history was cold and moonless. The normally storm-tossed Atlantic Ocean was a flat calm. That Sunday was cold, but it had been a pleasant one for the passengers. They had spent their time attending church services and relaxing. By 11 p.m., most of them were in bed.

First Officer William Murdoch was in charge on the bridge (the control center at the front of a ship) at 11:40 when the *Titanic’s* lookouts spotted the iceberg about 1,500 feet ahead. Murdoch reacted quickly, reversing the engines and ringing the warning bell, but less than 40 seconds later, the ship’s starboard side scraped along the iceberg. From that moment on, the *Titanic* was doomed.

---

**Try This!**

**The iceberg**

punched a series of thin gashes along the first 250 feet of the *Titanic*, damaging six of the “water-tight” compartments, which begin to flood. To get an idea of how this affected the rest of the ship, take an empty ice cube tray and slowly pour water into just one section. As it fills, notice how the water pours over the top into other sections.

---

**When people say, “That’s just the tip of the iceberg,” they mean that it’s part of something much bigger. That’s because only about 10 percent of an iceberg is above water. The 90 percent below water may have sharp edges that could damage a ship’s hull.**

**Atlantic icebergs form when huge pieces of freshwater ice break off from glaciers and float into the sea.**

---

**Fatal Flaws**

During its journey, the *Titanic* received seven messages from other ships warning that icebergs were in the area. The telegraph operators delivered all messages to Captain Smith or the officers, except one, from the *Mesaba*. Smith steered the ship farther south to avoid the icebergs, but he did not slow down. Like many captains at the time, he trusted his lookouts to spot trouble in time.

---

**When people say, “I felt the engines slow and stop. The dancing motion and the vibrations ceased suddenly after being a part of our very existence for four days, and that was the first hint that anything out of the ordinary had happened. I jumped out of bed. I went out of my cabin into the hall. There was a steward leaning against the staircase. I said, ‘Why have we stopped?’ ‘I don’t know sir,’ he replied, ‘but I don’t suppose it’s anything much.’”**

**Survivor Lawrence Beesley, Second-Class Passenger**

---

**April 14**

11:40 p.m. The *Titanic*, traveling at 21½ knots, collides with an iceberg.

---

**April 15**

11:50 p.m. Captain Smith and Thomas Andrews, the ship’s designer, check for damage. Andrews informs the captain that the *Titanic* will sink because more than four bulkheads are damaged.

**Midnight**

Captain Smith tells the ship’s wireless operators to send a distress call.
As the Titanic’s forward compartments flooded, wireless operators Jack Phillips and Harold Bride frantically signaled other ships. At first, they sent the traditional Morse code distress call, CQD (Attention all stations: Distress). Several ships responded, but the nearest one, the Carpathia, was 58 miles, or more than four hours, away.

The radio operators then sent the newer SOS distress call, a signal that was easy to transmit and receive. In 1906, SOS (dot, dot, dot; dash, dash, dash; dot, dot, dot) had been created to replace the longer and more complicated CQD (dash, dot, dash, dot; dash, dash, dot, dash). Now, it was only a matter of time.

Molly Brown organized the women into rowing teams and helped keep spirits up. Known as a colorful, outspoken woman even before boarding the ship, the press later dubbed her “the unsinkable Molly Brown.” A romanticized musical based on her life later became a hit play and movie.

Lesson 10:
Titanic (8 of 12)

From Kids Discover — Titanic, © 2005. All rights reserved.

© 2005 by Stephanie Harvey and Anne Goudvis from The Comprehension Toolkit (Portsmouth, NH: Heinemann). This page may be reproduced for classroom use only.
Endless Night  The only remains afloat of the Titanic after 2:20 a.m. were 20 lifeboats carrying just over seven hundred survivors. People in the boats were seasick and freezing. Nobody knew if or when a rescue ship would arrive.

For most of those swimming in the frigid water, there was little hope. One survivor said that their cries for help at first sounded like the crowd’s roar at a baseball stadium when the batter hits a home run. But soon, the shouting faded away as the cold silenced the voices.

“Striking the water was like a thousand knives being driven into one’s body.” Survivor Charles Lightoller, the Titanic’s Second Officer

Salty seawater was around 28°F, four degrees below freezing, and no person could survive in it for more than a few minutes. Hypothermia causes the activity of the organs to slow down, and eventually they stop working.

When the Carpathia got the message that the Titanic was in grave danger, it raced to help. In doing so, it had to ignore caution and run an obstacle course of icebergs in the dark. It took the Carpathia four hours to get everyone from the Titanic’s lifeboats on board. The ship’s captain, Arthur Rostron (right), was awarded a specially commissioned Medal of Honor by the U.S. Congress.

Ships’ radios were all on the same frequency, causing messages from the Titanic and other ships to become garbled or merged. This left people on shore desperate for news. Some newspapers mistakenly reported that all the passengers had been saved. Others, lacking facts, made up stories. As the Carpathia entered New York harbor, crowds gathered, and people eagerly sought out loved ones.
3:30 a.m. Survivors in the lifeboats see signal rockets from the rescue ship, Carpathia.

4:10 a.m. Lifeboat No. 2 is the first picked up by the Carpathia.

8:30 a.m. Lifeboat No. 12 is the last one rescued. Three days later, the Carpathia arrives in New York with 705 Titanic survivors.
In the early 1900s, science and technology seemed to be making the world better all the time. New drugs eliminated diseases, and new inventions like the automobile made life easier. However, the sinking of the “unsinkable” Titanic rattled everyone’s confidence in progress. The march of technology did not stop after April 15, 1912, but it did pause to learn a few lessons. The Titanic has remained a source of curiosity ever since.

**FLORIDA-BASED RMS Titanic, Inc. owns salvage rights to the Titanic. It has retrieved more than six thousand objects from the wreck. The company vowed not to sell objects with historical importance. However, with the approval of the British and French governments, it has sold lumps of coal from the ship to raise money. Some people protest the salvaging, saying that the Titanic’s wreck is a gravesite. Others say the recovered objects themselves serve as a memorial to the Titanic’s passengers and crew and provide valuable insights into life aboard the ship in 1912.**

**IN 1985, FRENCHMAN Jean-Louis Michel and American Robert Ballard led the team of scientists who discovered the wreck of the Titanic, two and a half miles below the surface of the Atlantic. Underwater cameras were lowered to explore the wreck. In 1986, Ballard returned to the site, this time with a submersible, Alvin, which for the first time enabled humans to visit the wreck.**

**AT ONE TIME, scientists studying the wreck believed the iceberg did so much damage to the Titanic because the ship’s steel had become brittle in cold water. However, newer research suggests that the steel was not likely to crack in cold temperatures. More likely, the steel bent or gave way due to the incredible force of the flooding water.**
Almost as soon as the Titanic’s survivors reached New York, the press began looking for someone to blame. Survivor J. Bruce Ismay, managing director of the White Star Line, was their top target. The American press criticized him for boarding a lifeboat when so many others died. While the Titanic was sinking, some on board saw the lights of a ship in the distance. The Californian was accused of being the mystery ship that left the Titanic to its fate. Later investigations found that this probably was not true: a third ship may have moved between them. Even so, the Californian may have seen the Titanic’s distress rockets. Also, the Californian’s radio operator had shut down its wireless for the night, as usual, so he never heard the Titanic’s calls for help.

The Titanic inspired books, poems, plays, films, and songs. The first movie came out just one month after the ship sank and starred survivor Dorothy Gibson. Most people today know about the disaster through the 1997 hit movie Titanic, starring Leonardo DiCaprio and Kate Winslet.

Two investigations into the sinking—one British, one American—led to big changes in how ships operated. Almost immediately, all ships had to carry enough lifeboats for all passengers, and lifeboat drills became mandatory. Every large ship also had to keep its wireless working at all times. Shipping lanes were shifted farther south to avoid icebergs, and an iceberg patrol was set up to chart and follow icebergs and issue warnings.

What happened to the Titanic’s sister ships, Olympic and Gigantic?