

Disasters of Technology

NAVIGATOR TEACHER'S GUIDE

Skills & Strategies

Anchor Comprehension Strategies

- Identify cause and effect

Comprehension

- Visualize
- Make judgments
- Use text features to locate information

Word Study/Vocabulary

- Use context clues to determine word meaning

Social Studies Big Idea

- Scientific discoveries and technological innovations have effects on society.

Social Studies



20TH CENTURY HISTORY

Disasters of Technology

SHEILA SWEENEY HIGGINSON



- The "unsinkable" *Titanic*
- The *Hindenburg* airship
- The Space Shuttle *Challenger*

Themes

- Technology
- Travel
- Exploration

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Core Lesson Planning Guide

The following five-day lesson plan is just one option for incorporating this teacher's guide into your daily lesson plans.

Day	Activities
1	Page 3: Before Reading • Build Background • Introduce the Book • Administer Preassessment
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5	Page 11: After Reading • Administer Posttest • Synthesize Information: Cause and Effect

Additional Related Resources

Notable Trade Books for Read-Aloud

- Burgan, Michael. *The Titanic*. Compass Point Books, 2004.
- Higgins, Chris. *Nuclear Submarine Disasters*. Chelsea House Publishers, 2001.
- Sherrow, Victoria. *The Hindenburg Disaster: Doomed Airship*. Enslow Publishers, 2002.
- Vogt, Gregory L. *Disasters in Space Exploration*. Millbrook Press, 2003.

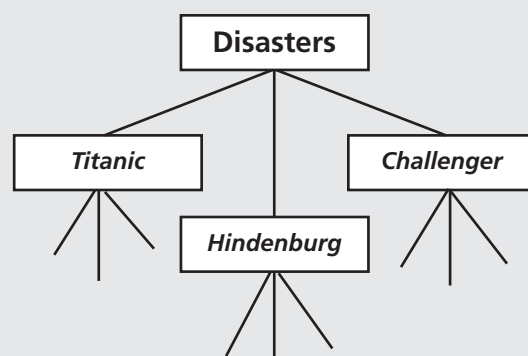
Web Site for Content Information

- ThinkQuest
http://www.thinkquest.org/library/cat_show.html?cat_id=106
The Oracle Education Foundation's ThinkQuest is an international Web site building competition, where teams of students, nine to nineteen years old, along with a teacher/coach, build Web sites on educational topics. Entries are evaluated by peer review and by an international team of professional educators. Entries include sites covering both technological and natural disasters.

Before Reading

Build Background

- Introduce students to the three disasters that they will learn about in the book. Draw a pedestal chart on the board like the one shown. Have volunteers read aloud the name of each ship. Explain that these words are the names of ships that experienced technological disasters.
- Have students work in pairs. Assign each pair a disaster from the chart and have them do library or Internet research about the disaster. Ask students to identify three important facts about the disaster and offer a possible explanation of why it occurred. Have each pair share their findings with the group.



Introduce the Book

- Give students a copy of the book. Have them read the title and skim the table of contents.
- Have students look through the book to find a picture that attracts their attention. Ask volunteers to explain why they chose that picture and if they have any questions about it.

Administer Preassessment

- Have students take Ongoing Assessment #25 on page 86 in the *Comprehension Strategy Assessment Handbook* (Grade 6).
- Score assessments and use the results to determine instruction.
- Keep group assessments in a small-group reading folder. For in-depth analysis, discuss responses with individual students.



Informal Assessment Tips

1. Assess students' ability to skim research materials.
2. Document informal observations in a folder or notebook.
3. Keep the folder or notebook at the small-group reading table for handy reference.
4. For students who struggle, model how to skim using chapter headings, subheadings, pictures, boldfaced words, etc.

During Reading: Introduction–Chapter 1



Content Information

Students may be interested in learning about survivors of the *Titanic*.

- Winnifred Quick Van Tongerloo was eight years old when she, her sister, and her mother left England on the *Titanic*. The three were asleep when the *Titanic* hit the iceberg. Mrs. Quick was not alarmed until a sailor knocked on her door to report that the ship was sinking. Unlike many of the passengers, Mrs. Quick found space on a lifeboat for herself and her two daughters.
- Gus Cohen became known to his friends as “The Cat” because, like a cat, he seemed to have nine lives—always surviving disasters. He was traveling in third class on the *Titanic*. When there was not enough space for him in the lifeboats, he jumped into the frigid water. He was rescued before freezing to death or drowning. He later survived a gunshot wound in World War I, a bombing, a subway accident, and being hit by a drunk driver.



Minds-On/ Hands-On Activity

1. Have small groups of students calculate the approximate length and width of a lifeboat that seats sixty-five people. First, ask students to decide how many square feet each person would need. (Possible answer: 4 square feet) Then have students calculate the total number of square feet needed per boat. (260 square feet)
2. Then have each group calculate the length and width of the lifeboat. Have students look at the drawing on page 9. Since lifeboats do not have straight sides, the dimensions will be approximations. (Possible answers: 8 feet by 32½ feet; 9 feet by 29 feet)
3. Have each group use string or tape and a yardstick to mark a full-size outline of the lifeboat on the gym floor or playground.

Model Metacognitive Strategy: Visualize

Good readers visualize what the author has written.

Visualizing keeps the reader engaged with the text and enhances understanding of what is read. When the reader can no longer visualize the text, understanding is lost. Readers visualize to fill in missing information and to better understand size, space, and time. They use all of their senses to visualize the text and create visual images by merging prior knowledge and the text. Good readers sometimes draw pictures of what they “see.”

- Use a real-life example of visualization while you read. Say: *Good readers visualize while they read so they can understand the size and shape of objects and the timing of events. When I read a detective novel, I pay close attention to details, imagining how big a room is, where each piece of furniture is in relation to the others, and how long each event takes. A good mystery writer uses precise nouns, adjectives, and verbs to give readers clear images to visualize. I might even draw a picture of a crime scene to help me visualize better. This helps me to see things as the author describes them, which helps me solve the crime!*
- Say: *Reading about technological disasters uses some of the same skills as reading mystery novels. Visualization helps us understand details, such as exactly what happened during the disaster, who was involved, and how long it took. More importantly, visualization can show us how amazing and how tragic an event was by helping us imagine all the details.*
- Read pages 2–3 aloud while students follow along. At the end of page 2, say: *I saw a huge ship crashing into an iceberg, an airship going up in flames, and a space shuttle exploding just above Earth. What images did you visualize from this page?*
- Say: *The author uses descriptive nouns, adjectives, and verbs to help us visualize the three disasters. Words like **slams**, **bursts**, **millions**, and **explodes** helped me to visualize. What words helped you visualize these disasters?*

Set a Purpose for Reading

- Ask students to read pages 4–11 silently. Have students picture the size of the *Titanic* and the number of people who were on board. Have them think of what it would have been like to be on a ship like that. Ask them which descriptive words from the reading helped them picture the ship in their mind. Encourage them to draw what they have visualized.

Discuss the Reading

- Have students describe what they visualized on pages 4–11.
- Have volunteers share their drawings and talk about the descriptive words from the reading that helped them visualize.

Model Comprehension Strategy: Make Judgments

- Explain to students that they can make judgments or decisions about people, events, and facts they read. They may make a judgment about the disaster of the *Titanic*. For example, some students might say that the disaster could have been avoided or that more lives could have been saved. Say: *You might think that judgments and opinions are the same thing. Keep in mind that judgments can be proven with facts, also called clues and evidence. An opinion can be made simply on what you think about something.*
- Say: *When I read a paragraph or passage in a book, I think about what I read and form ideas about the people, events, and facts. I use the information in the text as well as my own knowledge and experiences. One way I make judgments is to decide which information is most important. Making judgments about what I read helps me understand the text and remember the facts.*
- Distribute the graphic organizer “Make Judgments” (blackline master, page 14 of this guide). You may want to make a chart-sized copy of the graphic organizer or use a transparency.
- Explain that students will complete the first four rows together. The last two rows will be completed independently.
- Have students follow along while you show them how to make judgments in Chapter 1. Read page 10 aloud and say: *Page 10 says that more lifeboats could have saved more people. I’ll write that in the Clues/Evidence column. I know that lifeboats save lives. I’ll write that in the Prior Knowledge column. I think it was a good decision to require ships to carry enough lifeboats for everyone on board. I’ll write that in the Judgment column.*



Informal Assessment Tips

1. As they read, have students occasionally close their eyes and visualize certain scenes or locations. Have them draw what they have seen or write a description in their journal.
2. In a folder or journal, jot down what you see each student doing.
3. Watch for students who have difficulty visualizing as they read. For students struggling with this skill, model reading page 4 and visualizing the length of two and a half football fields.
4. Remind students that practicing visualization will help them better understand the people, places, and events that they read about.

Make Judgments

Chapter	Clues/Evidence in the Text	My Prior Knowledge	My Judgment
1 (page 10)	More lifeboats could have saved more people.	Lifeboats save lives.	It is good that ships are now required to carry enough lifeboats for everyone on board.
1 (page 11)			
2 (page 13)			
2 (pages			

Introduction–Chapter 1

Make Judgments

Chapter	Clues/Evidence in the Text	My Prior Knowledge	My Judgment
1 (page 10)	More lifeboats could have saved more people.	Lifeboats save lives.	It is good that ships are now required to carry enough lifeboats for everyone on board.
1 (page 11)	Scientists did not find a huge gash in the ship's hull.	If an iceberg sliced through a ship, there would be a cut or gash in the hull.	The ship must have split apart either because of the extreme cold or the weakness of the steel.
2 (page 13)			
2 (pages			

- Read page 11. Say: *This paragraph says that scientists did not find a huge gash in the ship's hull. I know that if an iceberg sliced through a ship, there would be a cut or gash in the hull. I think that the ship must have split apart either because of the extreme cold or the weakness of the steel. I'll write that in the Judgment column. Notice how I took a clue from the book and my prior knowledge to make a judgment.*
- Ask: *What is important to remember about making a judgment?* (Use information from the text and previous knowledge and experiences to make judgments.)

Use Context Clues to Determine Word Meaning: Direct Definitions

- Have students find the word **hull** on page 4. Explain that the author gives a direct definition to help the reader determine the meaning of the word. Say: *Look at the sentence in which the word appears. After the word **hull**, it says, "or main body of the ship." In other words, **hull** is the word people use when they are talking about the solid, outside part of the ship. The word **or** alerts you that the definition is coming.*
- Ask students to find the word **rivets** on page 4. Say: *Based on what we just did to find the meaning of **hull**, how can we find the meaning of **rivets**?* (Look at the sentence in which the word appears. Look for words that alert the reader that a definition is coming.) Ask: *What is the definition of **rivets**?* (pieces of metal) *What do you know about these pieces of metal?* (They hold the ship together.)
- Explain that sometimes the definition of a word is not found in the sentence that contains the word, but rather in the sentences before or after. Ask students to find the word **regulations** on page 10. Have the students read the sentence containing the word and the next sentence. Ask: *What is the definition of **regulations**?* (rules) *How can you tell it is the definition?* (Possible answer: The word **these** refers back to the previous word, indicating a definition.)
- Tell students that they will continue to use context clues to determine the meanings of unknown words as they read *Disasters of Technology*. Many of the new words may be part of new information on unfamiliar topics, so defining these words will help them understand that new information.

Chapter 2

Apply Metacognitive Strategy: Visualize

- Review the visualization lesson from chapter 1. Discuss how visualization can help them picture what the author is describing.
- Say: *When you read about a historical event, try to picture the event in your mind. Ask yourself, "What do the people look like? What do their surroundings look like? Can I imagine things happening as if I am watching a movie?" The more you visualize what you read, the more you feel like you are there. You can see, smell, touch, and hear everything around you. This makes everything you read more interesting.*
- Say: *We are going to try a visualization exercise during which you will close your eyes and listen to a passage about the Hindenburg disaster. During the reading, imagine what you would see, hear, feel, smell, and taste if you were at the scene.*
- Read the eyewitness account in the primary source on page 17. Ask: *What do you see? Smell? Hear? Feel? Taste? Now open your eyes and draw a picture of your experience.* Students should share their drawings with a partner.

Set a Purpose for Reading

- Have students finish reading Chapter 2, using all their senses to visualize the text.
- Have students draw the T-chart shown here to record their visualizations of the takeoff, flight, and explosion of the *Hindenburg*. Have them look for clues in the details the author gives.

Senses	Takeoff	Flight	Explosion
What I See			
What I Hear			
What I Smell			
What I Feel			
What I Taste			

Discuss the Reading

- Ask students to share the ideas they recorded on the T-chart.
- You may want to draw a T-chart on the board, chart paper, or a transparency to record student ideas.
- Ask: *What sense was easiest for you to use in the visualization? Which was most difficult? Why do you think that is?* Have students discuss their responses.



Content Information

Students may be curious about the history of American airships.

- The first American-made and operated airship was the *USS Shenandoah*, which was in operation in 1923. The U.S. Navy flew the ship for training, reconnaissance (spy work), and other war activities.
- During World War II, a large fleet of airships was built, maintained, and operated by the U.S. Navy. The airships were important tools for detecting submarines and performing strategic scouting work.
- With the increased importance of the airplane came the decrease of the airship industry. Although the U.S. Navy still used airships until the early 1960s, they had become obsolete and expensive to use. The last airships were deflated and disassembled in 1964, ending over forty years of service to the U.S. Navy.



Minds-On/ Hands-On Activity

1. Have students experiment with creating their own miniature helium dirigibles.
2. Provide small groups of students with helium-filled balloons.
3. Challenge students to build miniature passenger carriers to attach to their balloons. Provide a variety of lightweight materials for students to choose from, such as card stock, thread, transparent tape, plastic wrap, and aluminum foil.
4. Encourage students to present their dirigibles to the class and explain their trial-and-error process. Ask students to analyze how challenging it must have been to create a real dirigible.

Chapter 2

Make Judgments

Chapter	Clues/Evidence in the Text	My Prior Knowledge	My Judgment
1 (page 10)	More lifeboats could have saved more people.	Lifeboats save lives.	It is good that ships are now required to carry enough lifeboats for everyone on board.
1 (page 11)	Scientists did not find a huge gash in the ship's hull.	If an iceberg sliced through a ship, there would be a cut or gash in the hull.	The ship must have split apart either because of the extreme cold or the weakness of the steel.
2 (page 13)	Hydrogen is highly flammable. The <i>Hindenburg</i> was originally designed to use helium, a less flammable gas.	They catch fire easily.	Hydrogen should not have been used in the <i>Hindenburg</i> .
2 (pages 18 and 19)	Many eyewitnesses saw colorful flames from the <i>Hindenburg</i> .	Hydrogen does not make colorful flames when it burns.	Hydrogen probably did not cause the fire but certainly helped fuel it.



Informal Assessment Tips

1. Watch students as they work on the graphic organizer.
2. In your folder, jot down what you see the students doing.
3. Ask yourself: *Are students having problems with this strategy? If so, what are the problems? Are students mastering this strategy? If so, how do I know?*
4. For struggling students, review the strategy using the comprehension strategy poster. Use both sides of the poster if needed.

Guide Comprehension Strategy: Make Judgments

- Review the graphic organizer and identify judgments that students made.
- Ask students to read page 13, focusing on the information about hydrogen and helium. Ask: *What clues or evidence did you learn about helium and hydrogen?* (Hydrogen is highly flammable; the *Hindenburg* was originally designed to use helium, a less flammable gas.) *What do you know about flammable objects?* (They catch fire easily and burn quickly.) *This information is your prior knowledge. What judgment would you make about the decision to switch from helium to hydrogen?* (Hydrogen should not have been used in the *Hindenburg*.) Write this information in the graphic organizer.
- Follow the same procedure for pages 18 and 19. Help students judge which scientific theory is most plausible.

Use Context Clues to Determine Word Meaning: Direct Definitions

- Have students find **dirigible** on page 12. Ask: *Do you see a direct definition for dirigible in the text? What is the definition?* (a cigar-shaped, gas-filled balloon that is powered by a motor and can be steered) Point out that the definition for **dirigible** is shown very clearly by using the word **is**.
- Have students find **flammable** on page 13. Ask: *Does the definition appear in the sentence before or after the sentence that contains the word? (after) What word gives you a clue? (means) What does flammable mean?* (catches fire easily and burns quickly)
- Say: *The key words that indicate definitions are is and means. What other key words or ways of communicating a definition have you seen? (known as, called)*
- For more practice, have students complete the blackline master "Use Context Clues: Definitions" on page 15 of this guide.

Use Context Clues: Definitions

Directions: Find the terms on the pages indicated. Write the sentence that gives the definition of each term.

1. **staterooms** (page 14) The private rooms, called staterooms, were small
2. **sabotage** (page 18) They thought that someone might have destroyed the German airship in order to damage Adolf Hitler's Nazi government.
3. **flight deck** (page 22) During the launch, some astronauts are in the uppermost part of the orbiter.
4. **cargo bay** (page 22) It holds such things as satellites and lab equipment.
5. **hatch** (page 22) The hatch is a door that astronauts use to leave the shuttle while in space.
The O-rings are supposed to seal in the hot gases

Chapter 3–Conclusion

Apply Metacognitive Strategy: Visualize

- Review with students the different methods they have used to visualize the text. Ask: *What are some ways good readers visualize the text?* (Possible answers: Good readers focus on descriptive words to visualize sizes and numbers in the reading; they also use their five senses to experience the people, places, and events in the reading.) *What methods have you found to be most helpful?*
- Say: *Today we are going to use our prior knowledge—what we already know—to help us create visualizations.*
- Read the first paragraph on page 21 while students follow along. Have them look at the picture on page 20. Ask them these questions: *What do you already know about space shuttles? Does the picture of the space shuttle in the book look like other pictures you have seen? How is it similar or different?*
- Read the first paragraph on page 24 while students follow along. Have them look at the picture on the same page. Point out that even if they have never seen a space shuttle launch, they might have seen fireworks “launching” on the Fourth of July. Ask them these questions: *What do you already know about fireworks? Does the picture of the launch in the book look like the fireworks that you have seen? How is it similar or different?*
- Say: *Using your prior knowledge can help you visualize what you read more successfully. It helps you create a mental image.*
- Encourage students to use their visualization skills as they finish reading the book.

Set a Purpose for Reading

- Have students read Chapter 3 silently. As they read, encourage them to look for pictures or descriptions of people, places, or things they can visualize based on their prior knowledge. Ask them to draw a picture or write a description in their journals of the mental images they create in their minds.

Discuss the Reading

- Have students share the drawings they have made or the descriptions they have written. Ask: *Were your mental images different from the pictures or descriptions in the book? If so, how were they different?*
- Ask: *What did you find most interesting to visualize? How did using your prior knowledge add to your ability to visualize as you read?*



Content Information

Students may want to know more about the *Columbia* disaster.

- Soon after takeoff, a piece of foam broke off the fuel tank and hit the left wing of the space shuttle. This type of damage had occurred during other missions without causing a threat.
- No troubles were reported during the whole of *Columbia*’s mission. Trouble occurred only after *Columbia* entered Earth’s atmosphere. NASA’s control center then noticed a loss of air pressure on the shuttle. Seconds later, the space shuttle burst into flames.
- NASA intends to investigate the disaster fully before conducting any more space missions.



Minds-On/ Hands-On Activity

1. Explain to students that a space shuttle uses the forces of momentum and gravity to land back on Earth. Gliders (airplanes without engines) use the same forces: gravity and momentum.
2. Have groups of students make their own miniature gliders to experiment with the concept of the space shuttle gliding to a landing. Have students experiment with folding different sizes of paper in different ways to make their gliders.
3. Have students measure the distance of each glider’s flight with a yardstick. Have students compare the distances and analyze how the shape of each glider affected its performance.

Chapter 3

Make Judgments

Chapter	Clues/Evidence in the Text	My Prior Knowledge	My Judgment
1 (page 10)	More lifeboats could have saved more people.	Lifeboats save lives.	It is good that ships are now required to carry enough lifeboats for everyone on board.
1 (page 11)	Scientists did not find a huge gash in the ship's hull.	If an iceberg sliced through a ship, there would be a cut or gash in the hull.	The ship must have split apart either because of the extreme cold or the weakness of the steel.
2 (page 13)	Hydrogen is highly flammable. The <i>Hindenburg</i> was originally designed to use helium, a less flammable gas.	They catch fire easily.	Hydrogen should not have been used in the <i>Hindenburg</i> .
2 (pages 13-14)	Many eyewitnesses saw colorful flames from the <i>Hindenburg</i> .	Hydrogen does not make colorful flames when it burns.	Hydrogen probably did not cause the fire, but certainly helped fuel it.
	Every year, 4,000 people apply to be astronauts. Only 20 are accepted.	I know that 20 is less than 1% of 4,000.	The space program is very competitive.
	The company that made the O-rings contacted NASA before launch about a possible failure due to cold weather.	NASA stuck to the launch schedule anyway.	NASA should have postponed the launch.



Informal Assessment Tips

1. Watch students as they make judgments. Ask yourself: *How have the students progressed with making judgments? What problems are they still having? What questions or concerns do I have about what I see them doing?*
2. Watch students as they complete the graphic organizer independently. Ask yourself: *Who is still struggling with this strategy? What are they doing or not doing that makes me think they are struggling? How can I help them?*
3. Jot down your thoughts in your folder or notebook.

Apply Comprehension Strategy: Make Judgments

- Review the graphic organizer with students and explain that you want them to make judgments on their own.
- Ask if they have any questions about making judgments before they begin.
- Monitor their work and intervene if they are having difficulty completing the graphic organizer.
- Discuss student responses together.
- For more practice, have students complete the blackline master "Judgments" on page 16.

Clues/Evidence from the Text	My Prior Knowledge	My Judgment
The engineer of the <i>MARC 286</i> forgot about the signal after he stopped at the station. The passenger train <i>MARC 286</i> collided with the <i>Capitol Limited</i> . Authorities decided that there should be more warning signals.	Train crashes can be devastating and deadly.	Railroads should be required to have a certain number of signal lights along the most dangerous part of the tracks.

Use Text Features to Locate Information: Captions

- Ask students to define the word **caption**. (text that gives information about the content of a picture) Explain that captions may be two- or three-word descriptions, or they may be several sentences long and provide additional information that cannot easily be incorporated into the text.
- Have students skim Chapter 3 to locate both kinds of captions. (Captions on pages 24, top, 25, 27–29 are largely descriptive. Caption on page 24, bottom, is more informative.) Ask: *Why are these captions important?* (They connect the images to the text.)

After Reading

Administer Posttest

- Have students take Ongoing Assessment #26 on page 88 in the *Comprehension Strategy Assessment Handbook* (Grade 6).

Synthesize Information: Identify Cause and Effect

- Review cause-and-effect relationships. Say: *Social studies articles often contain information about what happens in our world and why it happens. This is an example of a cause-and-effect relationship. Articles that attempt to investigate and explain disasters are full of cause-and-effect relationships.*
- Use the chart below to identify cause-and-effect relationships about each of the disasters in this book.

Disaster	Causes	Effects
<i>Titanic</i>	The <i>Titanic</i> hit an iceberg. The hull was not strong enough to withstand the impact.	The <i>Titanic</i> sank. Many lives were lost.
<i>Hindenburg</i>	A spark or hydrogen leak started a fire.	The <i>Hindenburg</i> crashed to the ground. Most of the passengers were killed. This disaster led to the end of airship travel.
<i>Challenger</i>	The O-rings on the rocket boosters failed. Super-hot gases leaked and ignited the fuel tank.	The <i>Challenger</i> exploded in flames. All seven people on board died.

- Model how to identify cause and effect using the information from the text. Have students read pages 8 and 9. Ask: *What happened to the Titanic?* (It sank.) *What caused this event to occur?* (The *Titanic* hit an iceberg; the hull was not strong enough to withstand the impact.) Write the cause and effect in the chart. Then have students complete the chart in pairs.
- Have students share and compare their charts. Check for accurate cause-and-effect relationships. Ask: *Do the causes have anything in common? Do the effects?* Help the class draw conclusions based on their findings recorded in the chart.



Informal Assessment Tips

1. Score assessments and determine if more instruction is needed for this strategy.
2. Keep group assessments in a small-group reading folder.
3. Look closely at students' responses. Ask yourself: *Why might this student have answered the question in this manner?* For in-depth analysis, discuss responses with individual students.
4. Use posttests to document growth over time, for parent/teacher conferences, or for your own records.

Writing Workshop



Teaching Tips: Process Writing Steps

1. Have students independently write a first draft using the evidence and judgment text structure.
2. After students complete their paragraphs, have them revise and edit with the help of a classroom partner.
3. Conference with each student following the first revision and editing.
4. Have students make any additional changes and create a final copy of their paragraphs.
5. Finally, invite students to share their paragraphs with a group of other students.



Informal Assessment Tips

1. Observe students as they participate in the individual writing project. Identify those who need help during the various stages of the writing process. Jot notes in your journal.
2. During conferences, keep notes on each student's writing behavior. Ask yourself: *What evidence do I have to support the conclusion that this student is writing well or poorly? What can I do about it?*
3. Have struggling students practice writing sentences that contain evidence and judgments; move to short paragraphs.

Model the Writing Process: Write a Paragraph That Provides Clues and/or Evidence for Making a Judgment

- Remind students that throughout the book *Disasters of Technology*, they made judgments based on the text and their own knowledge.
- On chart paper or the board, create a chart like the one below, showing information from the text and a judgment that a student might make.
- Use the writing model to show how the information from the chart can be used to write a paragraph that provides clues and/or evidence for making a judgment.
- Have students pick a topic for a paragraph that will contain at least one judgment. Ask the class to brainstorm possible topics as you record their thoughts on the board. Ask: *Based on what you have learned about disasters, what do you think is the safest way to travel today?* (Possible answers: by plane, by boat, by train, on foot, on a bicycle) *What are some judgments that you could make about traveling?* (Possible answers: It is best to travel by (train, plane, and so on). It is best to travel as little as possible. It is best not to worry when you travel.) *What evidence do you have to support your judgments? What other topics could you make judgments about?*
- Encourage students to write the evidence for their judgment in a chart similar to the one shown here. Then have them use the evidence to write a paragraph supporting their own judgment.
- Be sure that students have enough class time to finish writing and to share their paragraphs.

Judgment Chart

Clues/Evidence

Safety was not the first priority on the *Titanic* because many people thought the ship was unsinkable.

Clues/Evidence

Safety was not the first priority on the *Hindenburg* because people wanted to travel quickly and in style.

Clues/Evidence

Many people lost their lives on the *Titanic* and the *Hindenburg*.

My Judgment

Safety should always be the first priority in transportation.

Writing Model

Safety First

I think that safety should always be the first priority in transportation. When safety is not the first priority, people can be hurt or killed.

Many people thought the *Titanic* was unsinkable because the ship was designed with watertight compartments. These were supposed to keep the ship afloat, so people did not make good safety plans. There were not enough lifeboats on the ship for all the passengers. As a result, many lives were lost when disaster struck.

The *Hindenburg* disaster is another example of safety not being put first. When the engineers redesigned the ship to use hydrogen, they were not thinking about safety. The first priority was to offer a stylish, fast way to travel. Safety came second, and many people died.

Name _____

Date _____

Make Judgments

Chapter	Clues/Evidence in the Text	My Prior Knowledge	My Judgment
1 (page 10)			
1 (page 11)			
2 (page 13)			
2 (pages 18–19)			
3 (page 23)			
3 (page 26)			

Name _____ Date _____

Use Context Clues: Definitions

Directions: Find the terms on the pages indicated. Write the sentence that gives the definition of each term.

1. **staterooms** (page 14) _____

2. **sabotage** (page 18)

3. **flight deck** (page 22) _____

4. **cargo bay** (page 22) _____

5. **hatch** (page 22) _____

6. **O-rings** (page 26) _____

Name _____

Date _____

Judgments

Directions: Read the passage. Complete the judgment chart using your prior knowledge and events from the passage.

A Disaster on the Rails

Railroad tracks are made up of different “lines” of tracks. By switching lines, trains are able to let other trains pass them. Special signal lights along the track warn the other trains that they need to slow down or switch lines to avoid a crash.

On Friday, February 16, 1996, a train called the *Capitol Limited* switched lines to avoid hitting a broken-down freight train. The engineer of a passenger train, the *MARC 286*, saw the signals that the *Capitol Limited* had switched lines. After making a stop at a station, however, the *MARC 286*’s engineer forgot about the warning signal. There were not any other signal lights on the tracks to remind him of the oncoming train. Soon he saw the *Capitol Limited* heading toward him on the same track! He tried to put on the emergency brakes, but he could not get the brakes to work. The trains collided, causing a massive fuel explosion. The engineer of the *MARC 286*, his two crew members, and eight of their passengers lost their lives. No one on the *Capitol Limited* was killed.

Transportation authorities who investigated the crash decided that there should be more warning signals along the tracks, especially along the most dangerous sections of the rail lines.

Clues/Evidence from the Text	My Prior Knowledge	My Judgment