1. **trembles**
   People sense an earthquake when everything nearby shakes and *trembles*.

2. **wreckage**
   Even an earthquake shorter than one minute can leave a lot of *wreckage*.

3. **slab**
   A falling concrete slab, or flat and thick piece, can destroy everything under it.

4. **possessions**
   A quake can damage people’s *possessions*. The things people own might be ruined.

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**TARGET VOCABULARY**

- trembles
- wreckage
- slab
- possessions
- tenement
- crushing
- rubble
- debris
- timbers
- constructed

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**COMMON CORE**

L.4.6 acquire and use general academic and domain-specific words and phrases
After a quake, the debris from a badly damaged road can be dangerous.

Houses made of timbers, or wooden beams, can collapse like toothpick toys.

It can take a lot of time and effort to clean up broken bits of rubble.

A tenement, or poorly built apartment building, is especially at risk in a quake.

If falling structures are crushing everything inside them, the street is the safest place.

Buildings now can be constructed in a way that helps them survive quakes.

Study each Context Card.

Use a dictionary to help you understand the meaning of these words.
TARGET STRATEGY

Visualize When you visualize, you use details in a text to form a clear mental picture of characters, settings, and events. As you read “The Earth Dragon Awakes,” use the visualize strategy to help you follow Chin and Ah Sing’s story. Using text details to form pictures in your mind of the important events will help you remember the sequence of those events.

TARGET SKILL

Sequence of Events As you read “The Earth Dragon Awakes,” notice the sequence, or order, in which events take place. Notice also that the main sequence of events is interrupted once to tell the story from another point of view. To keep track of the sequence, look for details including dates and times of day as well as signal words such as when, now, then, and again. Use a graphic organizer like this one to help you keep track of the order in which events happen.

COMMON CORE

RL.4.1 refer to details and examples when explaining what the text says explicitly and when drawing inferences; RL.4.3 describe a character, setting, or event, drawing on details
Geology is the study of the earth and how it changes over time. Many geologic changes happen slowly—over millions of years. Other changes happen suddenly. Earthquakes occur without warning, when huge plates of rock beneath earth’s surface suddenly shift. Powerful earthquakes can cause buildings to crumble and bridges to fall.

In “The Earth Dragon Awakes,” you will read about the devastating earthquake that shook San Francisco, California, in April 1906.
**Sequence of Events**
Examine the time order in which events take place.

- 
- 
- 

**TARGET SKILL**

Historical fiction is a story that is set in the past and tells about people, places, and events that did happen or could have happened. As you read, look for:

- a setting that is a real time and place in the past
- realistic characters and events
- some made-up events and details

**GENRE**

- **RL.4.1** refer to details and examples when explaining what the text says explicitly and when drawing inferences; **RL.4.3** describe a character, setting, or event, drawing on details; **L.4.3a** choose words and phrases for effect

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**MEET THE AUTHOR**

**LAURENCE YEP**

During his childhood in San Francisco, Laurence Yep went to school in Chinatown but did not live there. As a young adult, Yep became increasingly interested in his Chinese-American heritage. He began his writing career during high school, when he was paid one cent per word to write science-fiction stories for a magazine. Now he is the author of many award-winning books, including *Dragonwings*, which also tells about Chinese immigrants living in San Francisco.

**MEET THE ILLUSTRATOR**

**YUAN LEE**

Yuan Lee has created artwork for advertisements, posters, and magazines. He designed a series of stamps for the United Nations showing the endangered species of the world. Yuan also illustrated *The Parthenon*, a book showing the construction of an ancient Greek temple.
ESSENTIAL QUESTION
How do natural disasters affect people?

The EARTH DRAGON AWAKES: The San Francisco Earthquake of 1906
by Laurence Yep
selection illustrated by Yuan Lee
It is 5:12 A.M. on Wednesday, April 18, 1906. In San Francisco’s Chinatown, Chin and his father, Ah Sing, are in their apartment. They are washing up, getting ready to go to the Travises’ house, where Ah Sing works to send money to his wife in China. Their friend Ah Quon (kwahn) lives nearby.

Suddenly everything trembles. The bowl creeps across the table. Then even the table crawls away. Chin spills water everywhere.

“You can write your mother about your first earthquake,” his father says unworriedly.

The floor rolls under them like a wooden sea. The bowl slips over the edge and crashes. Boxes tumble from the stack. Their possessions scatter across the boards. Chin and his father drop to their knees.

Ah Sing tries to sound brave. “The Earth Dragon must be scratching,” he laughs.

Chin tries to be just as fearless. When the room stills, he tries to joke like his father. “He must really have an itch.”

Before his father can answer, the trembling begins again.

Chin waits for it to stop. But it goes on and on. The tenement creaks and groans like an old giant. Their bed and bureau prowl like hungry animals.

Ah Sing crawls over. He puts his arms around Chin. “Don’t be scared,” he says. Ah Sing’s voice sounds funny because he is shaking with the room.

Beneath them, unseen timbers crack like sticks. The next instant, one side of the room tilts upward. They slide helplessly with all the furniture toward the opposite wall. Chin feels like a doll. Their belongings crash and thump as they pile up.
His father forces him under the table.
“The tenement is falling!” his father shouts.
Chin’s stomach feels funny when the room itself drops. They bounce against the floor as it stops with a jerk. For a moment, they lie there. Their neighbors scream from the middle level. Ah Sing and Chin’s room is **crushing** them.
Then the floor twitches. It plunges again. There are more screams. This time it is the ground level that is smashed.
Their floor gives one final thump and stops.
Dazed, Chin peeks out from beneath the table. He sees cracks. They spread like a crazy spiderweb around all the walls. Spurts of powdery plaster puff out. The walls crumble like paper. The ceiling drops down on them.
5:15 A.M. to 5:20 A.M.
Wednesday, April 18, 1906
Underneath San Francisco

The earthquake makes the ground bounce up and down, twisting it back and forth like an old towel. Horses bolt into the street from firehouses. On Mission Street, cattle are being herded from the docks to the slaughter yard. They stampede in terror. They trample and gore a man.

One sixth of the city is on landfill. Dirt, rock and debris (duh BREE) have been dumped along the shore of the bay and into the creeks and ponds. Homes and apartments and stores have been built on top. Valencia Street was constructed this way.

The earthquake tosses water from deep underground and mixes it with the landfill. The ground stops being solid then. That is called liquefaction. The soil becomes like quicksand and sucks entire houses down. That happens on Valencia Street.

Even on more solid ground, buildings collapse like houses of cards.

Thousands of people are trapped all over the city.
5:20 A.M.
Wednesday, April 18, 1906
Chin and Ah Sing’s tenement
Chinatown

Chin cannot see. He cannot move. He can barely breathe. In the darkness, he hears his father cough. “Are you all right, Chin?”

His father is holding him tight. Chin tries to answer. But dust fills his mouth and throat. So he simply nods. Since his father can’t see him, Chin squeezes his arm.

Then he shifts around so he can raise one hand. He can feel the tabletop, but its legs have collapsed. Fallen pieces of ceiling and wall have turned the space into a tiny cave.

His father pushes at the wreckage around him. “It won’t budge,” he grunts.

Chin shoves with him. “The whole ceiling fell on us.” If his father hadn’t pulled him under the table, he would have been crushed.

But now they are buried alive.

Overhead, they hear footsteps.
“The Earth Dragon’s mad,” a man screeches in fear.
“Here!” cries Ah Sing.
“Help us!” Chin yells, too.

From nearby, someone hollers, “Fire!”
The footsteps run away.
Chin and his father shout until they are hoarse.
No one hears them though.
Trapped under the rubble, they will be buried alive.
“We’ll have to rescue ourselves,” his father says. “Try to find a loose section.” They squirm and wriggle. There is a big slab of plaster near Chin’s head. He gropes with his hands until they feel the plaster. Powdery chunks crumble into his hands.

He hears his father digging. Chin claws at the broken boards and plaster. Dust chokes their noses and throats. Still they scrabble away like wild animals.

**ANALYZE THE TEXT**

**Sequence of Events** Chin and Ah Sing realize that they will have to save themselves. What events lead them to this realization?
6:00 A.M.
Wednesday, April 18, 1906
Chin and Ah Sing’s tenement
Chinatown

Chin and his father dig in the darkness. He just hopes they are digging out of the rubble. His arms ache. He is covered with cuts and bruises. Dust chokes his mouth and throat. He feels as if he cannot even breathe. The earth has swallowed them up.

“Fire!” people cry from above. He feels the thumping of running feet.

He screams, “Let me out!”

His father stops digging and wraps his arms around him.

“Don’t panic!”

But fear twists inside Chin like a snake. He is so dry he cannot even cry. He just lies there. His fingernails are broken. His fingers are bleeding.

They will never escape. He thinks about his mother. She won’t know how they died.

Suddenly a breeze brushes his face like a soft hand. He smells fresh air.
He forgets his pain. He forgets he is tired. He scrapes at the wreckage. But he can make only a narrow tunnel. It is barely big enough for him.

“Don’t worry about me,” urges his father. “Save yourself.”
“I’ll get help,” Chin promises.
“You’re the important one,” his father says.
Chin crawls up through the passage, leaving his father behind. He would be scared to be left alone in the darkness. Until now he didn’t realize how brave his father is. Or how much he loves Chin.
Chin’s hands break into the open. They flap frantically like the wings of a scared bird.
“There’s someone alive,” a man shouts in Chinese.
All Chin can do is croak in answer.

**ANALYZE THE TEXT**

**Conclusions and Generalizations** What can you tell about Chin’s father when he says, “Don’t worry about me...save yourself”?
Above him, he hears feet. Someone starts to dig. Boards and bricks and plaster chunks thump to the side. Blindly Chin helps his rescuer widen the hole.

Strong hands grip his wrists. He feels himself rising until he sees Ah Quon’s big, grinning face.

“You’re the biggest turnip that I ever pulled up,” Ah Quon laughs in relief. He hauls Chin onto the rubble.

Chin has only one thought on his mind. “Father,” he gasps and points below him.

As Ah Quon digs for his father, Chin manages to spit out the plaster dust. Then he tears at the debris, too.
A LOOK BACK IN TIME:
San Francisco Earthquake

The epicenter of the earthquake of April 18, 1906, was near San Francisco, but the quake ruptured 296 miles along the San Andreas fault. The shaking of the ground was experienced by people in Oregon to the north, in Los Angeles to the south, east into Nevada, and likely continued west under the Pacific Ocean. The earthquake foreshock occurred at 5:12 A.M., and 20–25 seconds later, the full earthquake began and lasted for 45–60 seconds, followed by several aftershocks.

The earthquake toppled chimneys and damaged buildings in San Francisco, San Jose, Salinas, and Santa Rosa. It twisted pavement and bent streetcar tracks making some roads impassable. It broke water, sewer, and gas lines in the whole area. The breaking gas lines and toppled stoves in San Francisco are thought to have started the fire in the central business district. The fire department had no water to use in fighting the fire since the water mains were broken. The fire raged for 74 hours, even though the Navy began pumping water from the sea for the fire department. It was eventually extinguished completely by rain.

After the earthquake and fire, half the population of San Francisco was homeless. Everyone was in need of clean water and food. The newly-formed Red Cross and various government agencies moved into action to help the people displaced by the earthquake and fire.

Today, land-use guidelines direct hospitals, schools, and power plants to be built away from areas likely to be worst-affected in a future earthquake. Strict building codes ensure that buildings and structures are constructed to withstand the shaking and trembling of most earthquakes.
Sequence of Events

Each section of “The Earth Dragon Awakes” begins with a time of day and a date. The time and date tell when the story events take place. However, in order to fully understand the sequence of events, you must pay attention to details in the text. Signal words such as then, again, now, and when help show the sequence. These words show how events are related to one another.

The introduction on page 350 tells you that the quake struck San Francisco at 5:12 A.M. on April 18, 1906. To understand exactly what happened in the moments that followed, you need to draw on specific text evidence. What happened in Chin’s building right after the earthquake hit? What happened after Chin’s father pulled him under the table?

RL.4.1 refer to details and examples when explaining what the text says explicitly and when drawing inferences; RL.4.3 describe a character, setting, or event, drawing on details; L.4.3a choose words and phrases for effect
Conclusions and Generalizations

As you read, you can draw conclusions about characters by thinking about their words, actions, and thoughts to figure out something the author doesn’t tell you. A generalization is a type of conclusion that is true most of the time, but not always. Based on the rescuers’ actions in this story, you can make the generalization that people often help each other during a disaster.

Author’s Word Choice

Authors choose precise words and phrases to express their ideas clearly and to have a particular effect on readers. An author’s word choice helps readers imagine how characters feel and what events are like. For example, when Chin is buried in the rubble, the author says that fear “twists inside Chin like a snake” to show how frightened he is.
**Your Turn**

**RETURN TO THE ESSENTIAL QUESTION**

Review the selection with a partner to prepare to discuss this question: *How do natural disasters affect people?* As you discuss, take turns reviewing the key ideas in the discussion and make comments that contribute to these ideas. Be sure to use text evidence to explain your thoughts.

**Classroom Conversation**

Continue your discussion of “The Earth Dragon Awakes” by explaining your answers with text evidence:

1. What might have been the purpose for writing this story?
2. Why did Ah Sing encourage Chin to save himself? What traits does this reveal about Ah Sing?
3. How would the story be different if it were told from Chin’s point of view?

**EARTH DRAGON ALERT**

**Research Earthquakes** Chin and Ah Sing refer to the “Earth Dragon” as the cause of the earthquake. With a partner, research the causes of earthquakes. Search the Internet for information to build your knowledge about this topic. Then discuss why an earthquake might be compared to an angry dragon in the earth.
WRITE ABOUT READING

Response  Write a one-paragraph review of “The Earth Dragon Awakes.” Begin by stating the title and the author’s name. Then tell whether you liked the story, and explain why or why not. Conclude your review by telling whether you would recommend this story or others by the same author. Be sure to support your opinions with text evidence from the story.

Writing Tip

Give two or three reasons for your opinion of the story. Check to make sure you have used the correct form of commonly confused words such as to, too, and two.
On March 28, 2000, a tornado passed through downtown Fort Worth, Texas. In about ten minutes, the tornado’s crushing force left the city littered with debris. Right behind it, a second tornado damaged buildings in nearby towns. Each fallen slab added to the wreckage and rubble.

Around one thousand tornadoes form in the United States every year. Of all the states, Texas has the most tornadoes. It has an average of 153 twisters each year. Texas is an ideal setting for tornadoes. This is because it is located between the warm air of the Gulf of Mexico and the cool air of the Rocky Mountains.

Average number of tornadoes in Texas per 2,500 square miles

- 1 a year
- 2-3 a year
- 1-2 a year
- less than 1 every two years
- 3-4 a year
Supercells and Funnel Clouds

Tornadoes form when warm air moving in different directions rises and cools. If the air keeps rising and spinning, it can develop into a thunderstorm called a supercell. It can then turn into a tornado.

Meteorologists, scientists who study the weather, can’t predict exactly when a tornado will strike. But, they can use radar to track storms. When a supercell grows stronger, the radar measures its rotation for changes in speed. Meteorologists can also spot tornadoes by studying jet streams. They do this by looking at computer models and satellite pictures for signs of thunderstorms.


Birth of a Tornado

Rising warm air in a supercell begins to spin while heavier cool air falls. The tornado forms between the spinning updraft and the plummeting downdraft.
Tornado Safety

Buildings in tornado zones need to be constructed with strong roofs and foundations. Weaker buildings made from timbers can be made stronger with steel and concrete. Weather reports are used to alert residents that a tornado is on its way. Tornado sirens, used in several states, also warn people.

A tornado watch is announced when conditions are right for a tornado. A tornado warning means that a tornado has been seen. If you hear a tornado warning, don’t stay outside and don’t try to save your favorite possessions. Flying debris can injure people and damage buildings, from tenements to skyscrapers. Follow these simple rules:

• Get inside a sturdy building.
• Move to an inside room.
• Stay away from windows. If the glass trembles, it may break.
• Wait until the storm has passed before going outdoors.

A radar map shows a line of severe thunderstorms that may cause tornadoes south of Dallas and Fort Worth.
Compare Texts

**TEXT TO TEXT**

**Compare Texts** Talk with a partner about the similarities and differences between “The Earth Dragon Awakes” and “Twisters.” Discuss these questions: **What might Chin and Ah Sing do if they were caught in a tornado? Are these actions similar to or different from what they did during the earthquake?** After you have discussed your ideas, work together to write an answer to each question. Use text evidence to explain your ideas.

**TEXT TO SELF**

**Write a Disaster Plan** What is one kind of natural disaster that happens where you live? What are the dangers associated with it? Write a step-by-step plan telling what people can do to be prepared for this kind of disaster. Then, with a group, take turns giving your instructions orally. After each person speaks, restate the instructions in your own words.

**TEXT TO WORLD**

**Connect to Technology** Use print and digital sources to research what a seismograph is and what it does. Take notes from your research and use them to write a paragraph about the seismograph.

**RL.4.1** refer to details and examples when explaining what the text says explicitly and when drawing inferences; **W.4.8** recall information from experiences or gather information from print and digital sources; **SL.4.2** paraphrase portions of a text read aloud or information presented in diverse media and formats.
Grammar

What Is a Possessive Noun? A noun that shows ownership is a **possessive noun**. Add an **apostrophe** and an -s (‘s) to a singular noun to make it possessive. When a plural noun ends with -s, add an apostrophe to make it possessive (s’). When a plural noun does not end with -s, add an apostrophe and an -s to make it possessive.

<table>
<thead>
<tr>
<th>Possessive Nouns</th>
</tr>
</thead>
<tbody>
<tr>
<td>singular possessive noun</td>
</tr>
<tr>
<td>The boy’s stomach felt odd during the quake.</td>
</tr>
<tr>
<td>plural possessive noun</td>
</tr>
<tr>
<td>The fire trucks’ sirens wailed and screamed.</td>
</tr>
<tr>
<td>plural possessive noun</td>
</tr>
<tr>
<td>The children’s pets ran away in fright.</td>
</tr>
</tbody>
</table>

**Try This!** Rewrite each sentence on a sheet of paper. Change the underlined phrase to a **possessive noun**. Exchange papers with a partner and discuss your changes.

1. The father of the girl holds her tight.
2. They can hear the voices of the rescuers.
3. The shovels of the men dig into the dirt.
4. The efforts of the diggers free the father and daughter.
When you write, you can sometimes make a sentence clearer by adding a possessive noun to indicate ownership. Showing possession helps the reader better understand what is happening.

When we heard the calls, we shouted loudly for help.

When we heard the kitten’s calls, we shouted loudly for help.

**Connect Grammar to Writing**

As you revise your problem-solution composition, make your sentences clearer by adding possessive nouns to indicate ownership.
Opinion Writing

✓ Ideas A problem-solution composition first describes a problem and then explains how to solve it. As you write, include reasons and details to support your main idea. Try to be as persuasive as you can in order to convince a reader to agree with your solution. Use the Writing Traits Checklist below as you revise your writing.

Jeff wrote a problem-solution composition explaining why people should wear bicycle helmets. Later, he added persuasive details to make his points stronger.

Riding a bike is great exercise. It’s a good way to get places, too. But riding your bike can be dangerous if you don’t wear a helmet. Every year, bicyclists go to emergency rooms with injuries. Many of the bicyclists’ injuries happen to the brain. Experts say that many brain injuries could have been prevented by helmets.

✓ Ideas Did I clearly explain the problem and the solution?

✓ Organization Do transition words make my ideas easy to follow?

✓ Word Choice Did I use words that made my points in a positive way?

✓ Voice Did I use a confident-sounding voice?

✓ Sentence Fluency Did I use possessive nouns correctly?

✓ Conventions Did I use correct spelling, grammar, and punctuation?

Writing Traits Checklist

W.4.1a introduce a topic, state an opinion, and create an organizational structure; W.4.1b provide reasons supported by facts and details; W.4.1c link opinion and reasons using words and phrases; W.4.1d provide a concluding statement or section.
Wear Your Helmet

by Jeff Kowalski

Riding a bike is great exercise. It’s a good way to get places, too. But riding your bike can be dangerous if you don’t wear a helmet. Every year, more than 500,000 bicyclists go to emergency rooms with injuries. Many of the bicyclists’ injuries happen to the brain. Experts say that up to 85 percent of these brain injuries could have been prevented by helmets.

How can we make sure that people wear helmets? First, helmets should be made available to all bicyclists. Second, people who make helmets should make them fit better and look cooler. Third, schools should have bicycle-safety classes. Finally, we all need to wear our helmets and tell our friends to wear theirs. If we do, we will save lives!