

Skeletons, Smog and Shrinking Notes

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What do CTE healthcare students recommending patient care have in common with English students analyzing informational text? The answer is helping struggling readers become college and career ready. In this session, participate with two high school teachers new to the LDC process as they share successful strategies tailored to healthcare and English. Strategies include concept definition maps about China's massive smog problem; shrinking notes on e-cigarette use among teenagers; summarization of body planes in anatomy and the Frayer Model and concept definition maps on blood pressure. The teachers focused on strategies to help students be successful and overcome their fear of reading - which impacts not only their lives, but those of their friends and families.

Objectives

- ▶ Discuss the importance of why researched based strategies should be used in all classrooms to support students success in reading and writing
- ▶ To demonstrate how students can visually sort new information into familiar categories
- ▶ To demonstrate how students will analyze the relationships between old and new information
- ▶ To demonstrate how to create a simple structure for thinking about information in new ways

Why Students Don't Read

- ▶ Content-area teachers don't think incorporating reading is their job.
- ▶ Teachers aren't held accountable for their students' literacy development.
- ▶ "Teacher telling" is the most common method of instruction.
- ▶ Good readers read more; poor readers read less.
- ▶ Students need help before, during, and after reading.
- ▶ Some students really do need extra help, including time.
- ▶ The assigned reading is boring.
- ▶ The right materials are not available.



Possible Solutions



- ▶ Provide instruction emphasizing more reading; teaching strategies for planning, organizing, completing and reflecting on content; and peer interaction.
- ▶ Expect students to read broadly in content-area classes, encompassing all genres and formats.
- ▶ Research, review, and practice different strategies that will best meet students' needs.
- ▶ Offer students a mix of required reading materials and some they choose themselves.
- ▶ Look to reading exercises beyond the textbook, such as newspaper articles, anthologies, or technology integrated reading materials.

Three Components of Effective Reading Instruction

- ▶ Pre-reading
 - ▶ It is important to determine what students already know about a topic. (LDC researchers have discovered this step in grades 8-12 is frequently neglected.)
 - ▶ Activate Prior Knowledge-key concepts, vocabulary, making connections, generating questions
- ▶ During reading
 - ▶ Prompt students to visualize outcomes of reading assignment.
 - ▶ Make inferences and self-monitor comprehension
 - ▶ Teachers can help students prioritize what is most essential and connect this information in a meaningful and organized way.

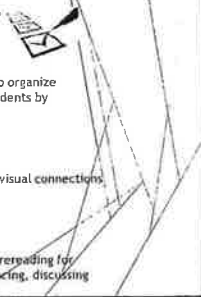
Three Components of Effective Reading Instruction



- ▶ After reading
 - ▶ Assignments should build students' critical thinking, problem-solving, and decision-making skills.
 - ▶ Assessments should consider students' deepened understanding, help students to summarize and understand what they have read even more.
 - ▶ AVOID: To ask a student to simply recall factual information as a test insults what they know and have experienced and downplays teachers' instruction and expectations to a mediocre level.

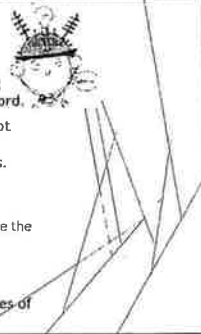
To Motivate Students' Self-Monitoring Use Graphic Organizers/Outlines

- ▶ What is a graphic organizer?
 - ▶ A graphic organizer is a visual representation or frame used to organize information. The purpose of a graphic organizer is to help students by simplifying information and by stimulating thinking skills.
- ▶ When should I use a graphic organizer?
 - ▶ Pre-reading - activates prior knowledge
 - ▶ During reading - organizes thoughts, helps make predictions, visual connections
 - ▶ Post-reading - assesses students' comprehension
- ▶ What skills are applied with any graphic organizer?
 - ▶ Organizing, activating prior knowledge, reviewing facts; comparing/contrasting, patterning, recognition of structure, regarding for detail, outlining, making predictions and connections, sequencing, discussing and interacting



Concept Definition Map

- ▶ Concept mapping provides a **framework for organizing** conceptual information in **the process of defining a word**.
- ▶ Concept mapping also supports vocabulary and concept learning by helping students internalize a strategy for defining and clarifying the meaning of unknown words.
 - ▶ Students write the concept word or target word being studied in the center
 - ▶ Work outward into the boxes writing words that describe the target word
- ▶ The framework of the concept map contains: category/class the concept or target word belongs, properties of the concept word or target, and **examples of the concept or target word**.



Fruyer Model

- ▶ The Fruyer Model is an adaptation of the concept map.
- ▶ The framework of the Fruyer Model includes: the concept word/phrase, the definition, characteristics of the concept word/phrase, examples of the concept word/phrase, and non-examples of the concept word/phrase.
- ▶ It is important to include both examples and non examples, so students are able to identify what the concept word is and what the concept word is not.
 - ▶ First, the teacher will assign the concept word/phrase being studied, and then talk about the steps involved in **completing** the chart.
 - ▶ Key Word
 - ▶ Definition
 - ▶ Characteristics
 - ▶ Examples
 - ▶ Non-Examples



Shrinking Notes

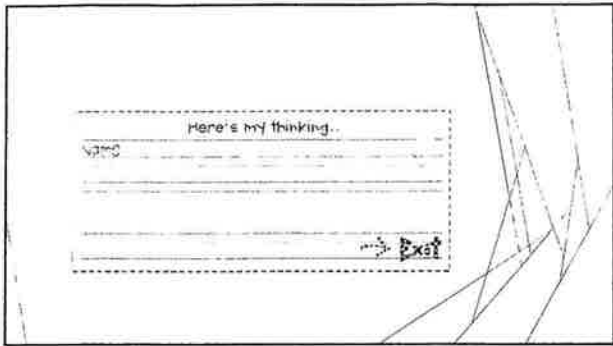
- ▶ Encourages students to condense their notes about a specific reading passage and identify the most important facts.
- ▶ These notes may come from students reading the passage silently, or from the teacher reading the passage aloud.
- ▶ There are essentially three "writing assignments," where each one requires students to write less.
 - ▶ Students will read or listen to the passage and write notes that include the most relevant and important information from the passage on three different sized index cards.
 - ▶ They will begin by writing notes on the largest card, then they will transfer the most relevant and important information to the middle-sized card and finally to the smallest card.

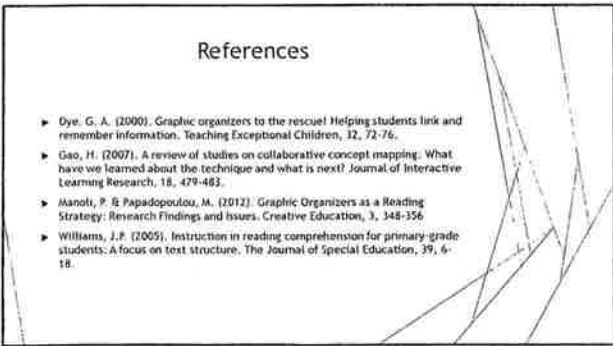
Shrinking Notes cont...

- ▶ The idea of this activity is to have students make judgments about what information is most important to be transferred to the smallest card and which information should be eliminated. These can later be used for studying or as notes on a test.
- ▶ Not only is this strategy good for making sure students read the passage, but it is also helpful for having students sort information and decide what is most essential.

Exit Slip

- ▶ Before using any graphic organizer, consider the following:
 - ▶ Will this graphic organizer make learning and instruction fun, efficient, and effective?
 - ▶ Will this graphic organizer make information easier to understand for students comprehension needs?
 - ▶ Will this graphic organizer achieve a specific literacy learning task?
 - ▶ Will this graphic organizer connect previous knowledge with new knowledge?
- ▶ Evaluate your efforts.
- ▶ Remember: Trials and errors are okay. Do not be afraid to try!





References

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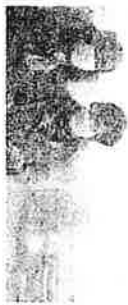
APPENDIX: A
Articles

- Directions:
1. Annotate the text to show evidence of a close reading and understanding of the text.
 2. Write a one-page response on a separate sheet of paper.

China's massive pollution problem

Source: Keith Wagstaff, TheWeek.com
November 9, 2013

Air pollution has made many cities in China "barely suitable for living," and is making the population sick and angry.



How bad is China's smog?

Sixteen of the world's 20 most polluted cities are in China. The air in some cities there is so bad that, at times, visibility drops to 30 feet, traffic slows to a crawl, and nearly everyone wears masks over their noses and mouths. In Harbin, a city of 11 million people, government officials recently shut down roads, schools, and the airport when air pollution levels hit 40 times the safe limit set by the World Health Organization (WHO). During the "apocalypse" in Beijing earlier this year, the density of small, lung-penetrating particles reached 993 micrograms per cubic meter — a concentration normally not seen outside of forest fires. The U.S. Environmental Protection Agency (EPA) considers anything above 300 dangerous, and masks out its scale at 500. The smog was so thick in Beijing — which English-speaking residents call "Greying" — that a factory building burned for three hours before anyone even noticed that it was in flames.

Why is China's air so polluted?

It's the result of two decades of runaway economic development unrestrained by strong air-pollution laws, a dramatic increase in car ownership, and China's overwhelming reliance on coal. China's cities were filled with bicycles as recently as the 1990s, but thanks to the explosive growth of the middle class, the Chinese now own more than 120 million cars and another 120 million motor vehicles of other kinds. Fuel standards, set by a government committee stacked with oil industry members, have not kept pace. Auto emissions, however, account for only about 25 percent of the problem. Most of the blame rests on coal. China burns almost as much coal as the rest of the world combined. Despite making large investments in renewable energy, China still depends on coal to meet nearly 70 percent of its power needs. While air pollution is almost always bad in northern China, it really soars after cities turn on their coal-fired collective heating systems for the winter "heating season." Temperature inversions often trap bad air for days or weeks.

What are the health effects?

They're widespread and severe. In 2010, air pollution contributed to 1.2 million premature deaths in China, according to a study. Hospitals in Harbin reported a 30 percent increase in patients with respiratory problems after air pollution spiked in the city. Lung cancer rates in China have climbed by 465 percent over the last three decades, despite there being no significant increase in smoking rates. Scientists say the pollution in northern cities is so severe that 500 million people's lives will be shortened by an average of 5.5 years.

How else is smog hurting China?

It's damaging the country's economy. In 2012, smog-related economic losses in four major Chinese cities totaled \$1.98 billion, according to a study by Greenpeace and Peking

University's School of Public Health. Largely in response to the "apocalypse," tourism in Beijing has dropped by 50 percent this year, the *Beijing Youth Daily* reported last week. The pollution has also hurt efforts by Beijing-based businesses to recruit top foreign talent. More potential employees are demanding hardship pay for having to deal with the city's awful air quality. With studies connecting prenatal exposure to air pollutants with autism, depression, and long-term lung damage, many foreign and local parents are "second-guessing their living in Beijing," said family physician Richard Saurt C'yr, who is based there.

Are Chinese citizens angry?

Yes, and they are increasingly willing to show it. Chinese netizens this year defied a government ban and began sharing hourly air quality measurements from the U.S. Embassy in downtown Beijing. Microblogging sites like Sina Weibo have served as forums for citizens to express their frustrations with China's air quality. "Our requirements aren't high," posted radio reporter Guo Yazhou. "We just want clean food, clean water, and clean air." The dissatisfaction has given rise to a growing environmental movement, with 30,000 to 50,000 "mass incidents" of protest every year, according to former Communist Party official Chao Jijun.

Is the Chinese government listening?

The grumbling has become too loud to ignore. This year, Chinese Premier Li Keqiang claimed that the country's smog made him "quite upset," while the state-run *China Daily* bluntly referred to major cities like Beijing as "barely suitable for living." That is a big change from 2011, when the state media referred to China's choking air pollution with the euphemism "heavy fog." Now, China says it will spend \$81.7 billion on a plan to drastically cut pollution by 2017. While that might sound like real progress, provincial officials and state-owned businesses in China have a history of ignoring policies handed down from the central government. Critics also note that the new air-pollution plan calls for only a 2 percent reduction in coal consumption — the result of the Chinese coal industry's powerful influence. Tong Zhu, an air pollution specialist who travels between Princeton University and Beijing, sees political infighting in China's grant bureaucracy as the biggest impediment to progress. "There is technology available" to fix the problem, he told NPR. "I think as long as there is political willingness, the environmental situation can be drastically improved."


Fashion-forward protection


Not everybody hates the smog. Companies that make protective face masks are selling millions of them, surpassing records set after the SARS outbreak in 2003. On the streets of Beijing, it's strange to see someone *not* wearing a mask, designer Chan Dawei told the *South China Morning Post*. The result has been a boom in fashion-forward face masks adorned with everything from animal prints to counterfeit designer logos. Wealthy businessmen and government officials are also strolling out for indoor air purifiers, which sometimes sell in upscale showrooms for as much as \$3,000. In the first half of 2013, IQAir, a Swiss company, saw sales of its luxury air purifiers triple in China. The trend, however, has bred some resentment from average Chinese families: Their annual income? About \$2,400 a year.

Possible Response Topics:


- Critique the Chinese government's response to its people regarding air quality.
- Predict how the United States would handle the situation if it were occurring in America.
- Evaluate the ethics of companies profiting from this pollution problem.
- Choose a topic from this piece and respond.

Measuring and Recording Blood Pressure

 Blood pressure (BP) is one of the vital signs you will be required to take. It is important that your recording be accurate and that you understand what the blood pressure reading means.

 **Blood pressure** is a measurement of the pressure that the blood exerts on the walls of the arteries during the various stages of heart activity. Blood pressure is read in millimeters (mm) of mercury (Hg) on an instrument known as a *sphygmomanometer*.

There are two types of blood pressure measurements: **systolic** and **diastolic**.

 **Pulse pressure** is the difference between systolic and diastolic pressure. The pulse

120/80.
The diastolic reading is the top number, or denominator. For example, a systolic reading of 120 and a diastolic reading of 80 is recorded as 120/80.
Blood pressure is recorded as a fraction. The systolic reading is the top number, or numerator. The diastolic reading is the bottom number, or denominator. For example, a systolic reading of 120 and a diastolic reading of 80 is recorded as 120/80.
Normal values and classifications for diastolic and systolic pressure are shown in table 15-2.

ing blood into the arteries. **Diastolic** pressure is the constant pressure in the walls of the arteries when the left ventricle of the heart is at rest, or between contractions. Blood has moved forward into the capillaries and veins, so the volume of blood in the arteries has decreased.

Name: _____

Period: _____

1. Demonstrate evidence of a close reading.
2. Highlight/attack your confusion.
3. Write a 1+ page reflection.

Electronic Cigarettes Growing In Popularity With Teens
E-cigarette use by teenagers has doubled since 2011. Health experts say the devices are being marketed to youths, putting them at risk for addiction to nicotine and regular cigarettes.

Source: Karen Kaplan and Monte Morin/September 6, 2013/latimes.com

One out of 10 American high school students used electronic cigarettes in 2012, along with nearly 3% of middle school students, according to a new federal report. That's about double the rate of e-cigarette use in 2011 and translates into 1.78 million children and teens who have tried the battery-powered devices.

The sharp increase has public health experts worried. Electronic cigarettes contain the addictive chemical nicotine and traces of cancer-causing compounds called nitrosamines. The safety profile of the devices has not been fully studied, according to warnings from the Food and Drug Administration.

In addition, e-cigarettes are sold with cartridges that give them enticing flavors such as mint or chocolate, and health advocates fear they have the potential to turn teens on to regular cigarettes.

"The increased use of e-cigarettes by teens is deeply troubling," Dr. Tom Frieden, director of the Centers for Disease Control and Prevention, said in a statement. "Many teens who start with e-cigarettes may be condemned to struggling with a lifelong addiction to nicotine and conventional cigarettes."

The new study, published in Friday's edition of the CDC's *Morbidity and Mortality Weekly Report*, is based on data from the National Youth Tobacco Survey. It found that 1.1% of students in grades 6 through 8 were using e-cigarettes at least once a month, as were 2.8% of students in grades 9 to 12.

Among these regular e-cigarette users, 76.3% also smoked traditional cigarettes. But the report's authors — from the FDA's Center for Tobacco Products and the CDC's Office on Smoking and Health — expressed particular concern about students who had used e-cigarettes but had not yet tried conventional cigarettes. The researchers estimated that 160,000 students across the country fell into that category.

"The risk for nicotine addiction and initiation of the use of conventional cigarettes or other tobacco products" among these students is a "serious concern," they wrote.
Cigarette smoking is responsible for more than 440,000 deaths each year, including 49,400 due to secondhand smoke, according to the CDC. Tobacco use is the No. 1 cause of preventable

Chunk 1

Chunk 2

Chunk 3

death in the U.S., and it contributes to cancers of the lung and other organs, cardiovascular disease and respiratory ailments.

Electronic cigarettes are not regulated by the FDA, though the agency has said it plans to bring them under its jurisdiction.

The American Lung Assn. has been a consistent advocate for FDA regulation of e-cigarettes.

"When you see cotton candy, bubble gum and atomic fireball flavors, there's no question these products are being marketed directly at kids," said Erika Sward, the group's vice president for national advocacy. "I think this data really shows our concerns are real."

E-cigarette manufacturers insist that they are not marketing the devices to minors.

Tom Kiklas, the chief financial officer of the Tobacco Vapor Electronic Cigarette Assn., said a federal appeals court ruled in 2010 that e-cigarettes were not medical devices and should instead be considered tobacco products. As such, their sale to minors is prohibited by law, and it's the responsibility of retailers to ensure that buyers are of legal age, he said.

"Kids aren't supposed to be buying any tobacco product," Kiklas said.
The American Thoracic Society, like the American Lung Assn., has criticized e-cigarette manufacturers for marketing their products as a means to help people quit smoking.

"These products are not approved by the FDA as smoking cessation devices," said society spokesman Gary Ewart.

If the FDA intends to restrict access to e-cigarettes before they take off with consumers, it's probably too late. One tobacco industry analyst from Wells Fargo Securities predicts Americans will spend \$1.7 billion on e-cigarettes this year.

That means public health authorities should get busy, according to the authors of the new study.

"Given the rapid increase in use and youths' susceptibility to social and environmental influences to use tobacco, developing strategies to prevent marketing, sales, and use of e-cigarettes among youths is critical," they wrote.

Possible Response Questions:

- Do you agree/disagree with the argument that e-cigs will lead to addictive use of regular cigarettes?
- Should e-cigs be regulated by the FDA in the same way that regular cigarettes are?
- If it remains that the FDA does not regulate e-cigs, predict what effect it will have on our teens in 5-10 years.

APPENDIX: B

Organizers

Name

Date

GRAPHIC ORGANIZER

Concept Definition Map

What is it?

[Empty rounded rectangular box for Category]

Category

What is it like?

[Empty rounded rectangular box for Property]

Property

[Large empty rounded rectangular box for Main Concept]

Main Concept

[Empty rounded rectangular box for Property]

Property

[Empty rounded rectangular box for Property]

Property

[Empty rounded rectangular box for Property]

Property

What are some examples ?

[Empty rounded rectangular box for Illustration]

Illustration

[Empty rounded rectangular box for Illustration]

Illustration

[Empty rounded rectangular box for Illustration]

Illustration

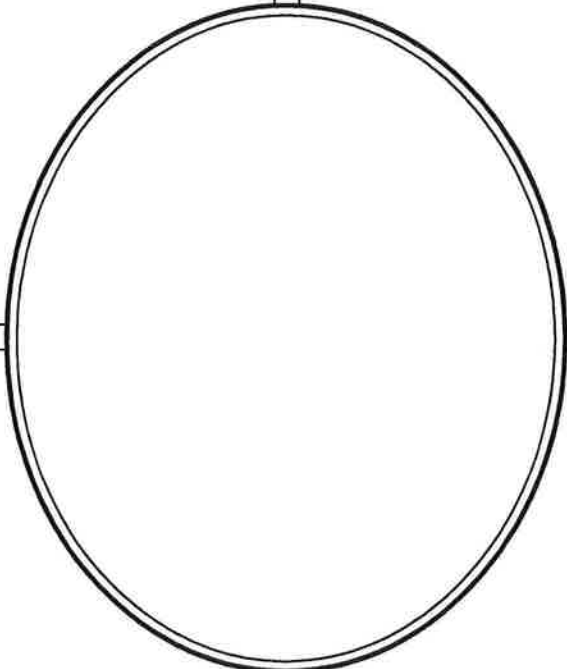
New Definition

Frayer Model Diagram

Name: _____ Date: _____

Definitions

Characteristics



Examples

Non-Examples

Shrinking Notes Template

Chunk 1

Chunk 2

Chunk 3

Chunk 1

Chunk 2

Chunk 3

Chunk 1

Chunk 2

Chunk 3

Summarize your last shrinking note with one sentence.

APPENDIX: C
Student Samples

Name

Date

GRAPHIC ORGANIZER

Concept Definition Map

What is it?

China's Massive
Pollution Problem

Category

What is it like?

Poor air quality

Property

Fumes

Property

Cloudy Haze

Property

Blinding

Property

Smog

Main Concept

What are some examples ?

Asthma

Illustration

Emphysema

Illustration

Lung Cancer

Illustration

New Definition Smog is pollution that creates poor air quality that can cause devastating health issues.

Name

Date

GRAPHIC ORGANIZER

Concept Definition Map *(Student Sample)*

What is it?

House where the President of the United States lives

Category

What is it like?

Filled with furniture more than 100 years old

Property

Each president orders special things for it

Property

There are 132 rooms in all

Property

There are 7 rooms open to people for visits

Property

Rooms in the White House

Main Concept

What are some examples ?

The State Dining room (holds 140 people)

Illustration

The East Room is the biggest room

Illustration

The Oval Office is the office of the president

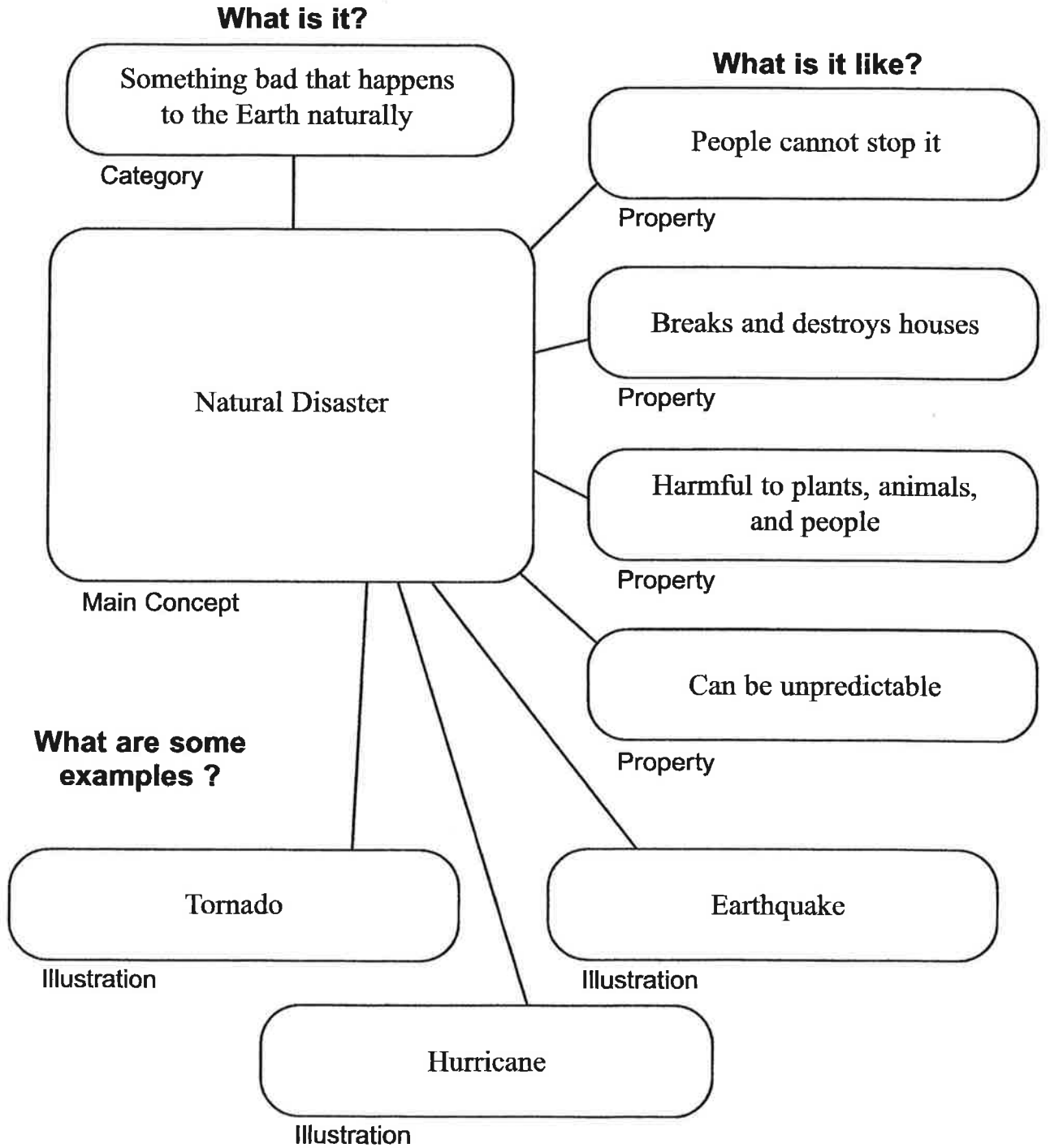
Illustration

New Definition The rooms in the White House are filled with objects from past presidents. People can visit a part of the White House, but most of the rooms are private.

Name		Date	
------	--	------	--

GRAPHIC ORGANIZER

Concept Definition Map *(Student Sample)*



New Definition Something that is created by the Earth that is harmful to people, plants, and animals.

Frayer Model Diagram

Name: _____

Date: _____

Definitions

a measurement of the pressure that the blood exerts on the walls of the arteries during various stages of heart activity.

Characteristics

Two Types:

systolic - occurs in the walls of the arteries when the left ventricle of the heart is contracting.

diastolic - the constant pressure in the walls of the arteries between contractions.

Blood Pressure

120/80
systolic/diastolic

pulse
respirations
temperature

Examples

Non-Examples

APPENDIX: D

Additional information

Incredible Shrinking Notes

The purpose of this activity is to telescope or narrow down notes to their “essence.” The students will focus on what the most important ideas or concepts are.

Step One:

Students will listen to a text or passage which is read out loud (at least twice) OR a lecture. They will write down the facts as they hear them on a regular notebook piece of paper. It is important that write in the same handwriting throughout (the same size!)

Step Two:

Students will re-read their notes and choose those which will fit on a 5 ½ x 8 ½ inch sticky note or sheet of paper. (Notebook paper folded in half.)

Step Three:

Students will now condense the notes from the 5 ½ x 8 ½ inch piece of paper *to* a 3 x 5 inch sticky note or index card.

Step Four (optional):

Students can finish by writing a one sentence summary of the most important concept on an even smaller sticky note which then becomes the student’s “exit slip.”

Assessment:

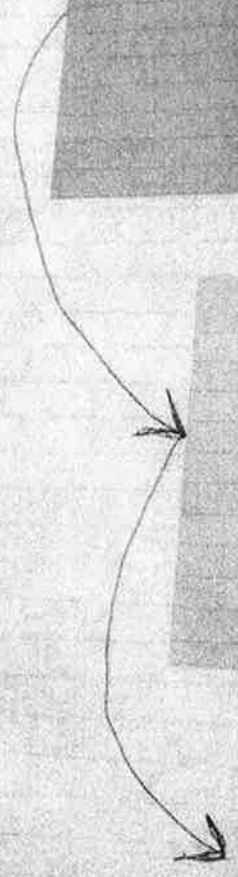
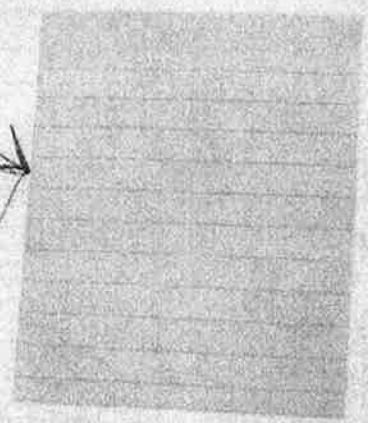
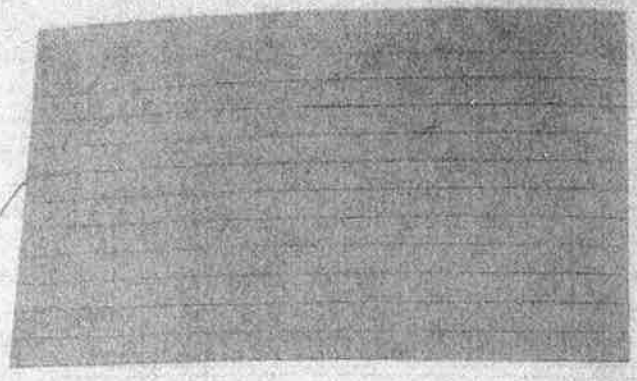
Have the students “share” each step with a partner. They may even write down what others have said on the new sticky note or on the previous one. Students may even read their notes out loud to the rest of the class.

* The objective here is not to take notes like this, but rather to focus on what concepts or ideas are most important as a student does take notes in a lecture or from a reading assigned.

In the end, students should have notes that express the most important facts or themes found in the reading selection.

Emphasize to students that this lesson in note taking is intended to help them see that note taking is about scaling down information to the most important details. Students can also employ this strategy as they study for unit tests. They can read through their notes; “boil down” those notes to key facts, ideas, and themes; and write those key ideas in the margins of their notebooks. The key ideas are the ideas that represent the themes worth reviewing for the upcoming unit test. To study for that test, students might simply review their margin notes and practice supplying supporting information for each key idea.

Incredible Shrinking Notes



PROBLEM

[Large rounded rectangular box for problem description]

Causes of this problem

[Five horizontal boxes for causes of the problem]

Negative effects of this problem

[Five horizontal boxes for negative effects of the problem]

Solutions to this problem

[Three horizontal boxes for solutions to the problem]

Disadvantages of these solutions

[Three horizontal boxes for disadvantages of the solutions]

Question Creation Chart (Q-Chart)

	Is	Did	Can	Would	Will	Might
Who						
What						
Where						
When						
How						
Why						

Directions: Create questions by using one word from the left hand column and one word from the top row. The farther down and to the right you go, the more complex and high-level the questions.



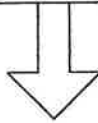
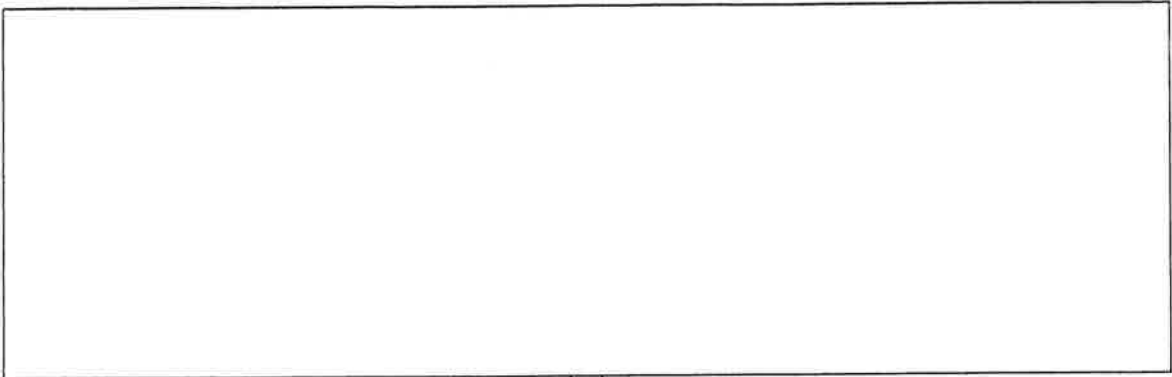
Think-Pair-Share

Question or Prompt	What I thought	What my partner thought	What we will share

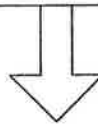
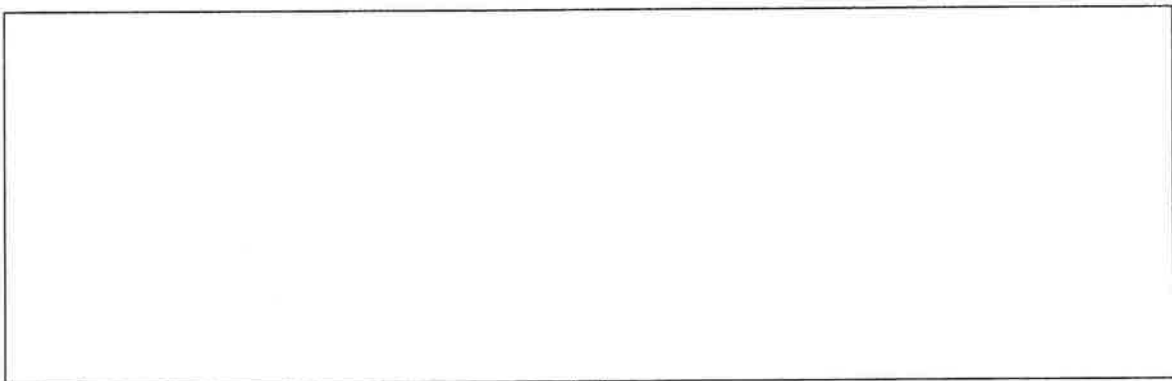
My Name: _____ Partner's Name: _____ Date: _____

Story Structure

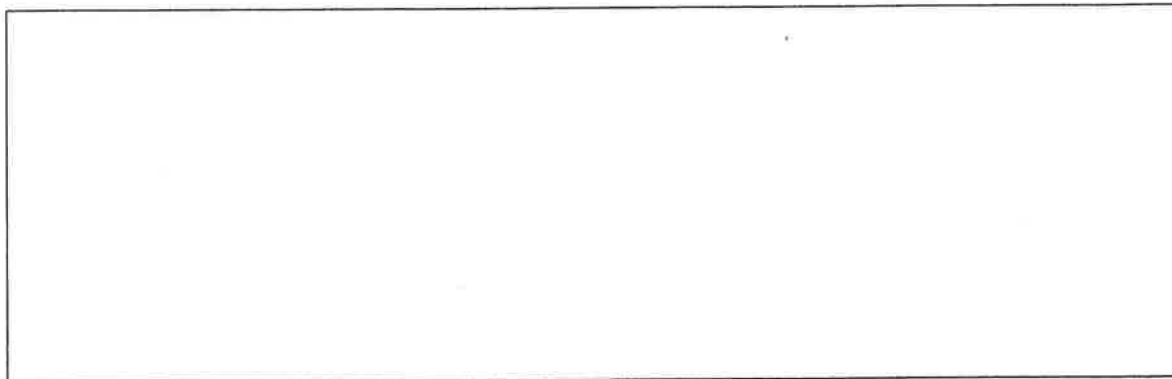
Beginning



Middle



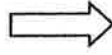
End



Making text



to



self connections



The text said . . .

This reminds me of . . .