

HighWire
MAGAZINE

POISON

The Deadly Dose

Poison can kill and cure

The Invisible Weapon

Famous criminal cases

Something Fishy

Solving an environmental
mystery

Volume 7, Issue 8 Teacher Guide



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Poison

Teacher Guide

TABLE OF CONTENTS

Poison Lesson Plans 4

 The Deadly Dose 5

 Graphic Organizer 7

 The Invisible Weapon..... 8

 Strategy Focus 10

 Something Fishy 12

 Ask an Expert: Fear the Fugu!..... 14

 Toxic Territory 16

 Project 18

 Blackline Master 1: Anticipation Guide 20

 Blackline Master 2: Venn Diagram 21

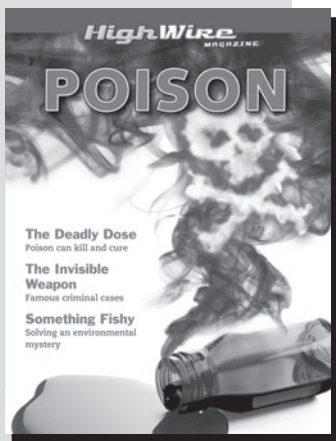
 Blackline Master 3: Monitoring for Meaning..... 22

 Blackline Master 4: Probable Passage 23

The lesson plans in this Teacher Guide are supported by the *High Wire Magazine* Program and Assessment Guide. The Program and Assessment Guide contains:

- an overview of the components and features of *High Wire Magazine*
- a scope and sequence chart that outlines the key reading strategies that are highlighted in each issue of *High Wire Magazine*
- supporting information about the needs of adolescent readers
- descriptions of the instructional strategies, approaches, and activities used in the lesson plans
- assessment masters for the key reading strategies.

Brief explanations of instructional strategies are provided in the sidebar of the lesson plans alongside the first use of each strategy.



Poison

Key Reading Strategy: *Monitoring for Meaning*

The lesson plans in this issue of *High Wire Magazine* highlight the reading strategy Monitoring for Meaning. Opportunities to practice this strategy are indicated by the symbol ★. For more information on this strategy, see page 10. **Assessment Master 11** in the Program and Assessment Guide can be used for this strategy.

Curriculum Links: health, science

Introducing the Magazine

Setting the Scene

Tell the students that this issue of *High Wire Magazine* is about poison. Ask questions such as the following:

- How can you tell if something is poisonous?
- What should you do if someone has been poisoned?
- How can you protect yourself from being poisoned?

Making Connections

Explain to the students that one article in this magazine describes how some poisons can cure diseases and another article discusses famous criminals who poisoned people. Ask questions such as the following:

- Where can poison be found in your everyday life?
- How do poisons enter our environment?
- Have you or has anyone you know been affected by food or blood poisoning?

Lesson Focus

Monitoring for meaning
Making predictions
Asking questions

About This Selection

Depending on the dose, poison can kill or cure. This article details how various substances are used as poison, medicine, or for self defense and describes how these substances affect the human body.

Word Talk

Glossary words:
anesthetic, dilutes, ingest
Other vocabulary:
substance, unsuspecting, potential, coma, hyponatremia, laboratories, exposed

Word Splash

Key words from the text are “splashed” or written onto an overhead transparency or chart paper. Students use the words to predict the content of the text.

Anticipation Guide

An Anticipation Guide contains several statements that relate to the text topic or theme. Students use the guide to prompt their thinking before they read a text.

The Deadly Dose

page 2

Before Reading

Word Splash

Tell the students they will be reading an article called “The Deadly Dose.” Write the words listed in Word Talk onto a transparency or piece of chart paper. Discuss the word meanings with the class and ask them to predict what the article will be about. Have them record their predictions in their notebooks.

Anticipation Guide

Hand out copies of **BLM 1**, Anticipation Guide. Read through each statement together and ask the students to fill in the Response before Reading column. Responses include “strongly agree,” “agree,” “disagree,” or “strongly disagree.” Discuss the responses, then have the students turn to a partner to justify their responses.

During Reading

★Monitoring for Meaning

Have the students skim the text to look for words, phrases, or ideas that they would like to clarify. Remind them that the meanings of words in bold type are in the glossary.

Clarify any points of confusion before reading on.

Using a Guided Reading approach, take the students through the article section by section. Ask questions such as the following:

- Why is the article broken into sections? How does this help us to understand the text?
- Why hasn’t the information in the boxes been incorporated into the main body of the text?
- When you read the opening paragraph, what did you predict would happen to Snow White?
- What questions do you have about arsenic?
- Why is the snake a symbol of healing and new life as well as death?
- When you read about poison darts, what were you reminded of?
- What is hyponatremia?
- Why was the skull and crossbones symbol changed to Mr. Yuk?

After Reading

Making Predictions

Ask the students to look at the predictions they made in Word Splash and compare it with the actual topic. Ask questions such as the following:

- Which words helped you to make a prediction?
- Which words made it difficult to predict accurately?



Anticipation Guide

Have the students complete the Anticipation Guide. Ask for volunteers to share any changes to their responses or to explain why their responses have stayed the same.

Asking Questions/Research

Have the students choose one of the poisons discussed in “The Deadly Dose” and generate a list of questions about it. Tell them to write their questions onto a T-chart with the headings “Questions” and “Answers.” Encourage them to use a library, the Internet, or experts in the community to find the answers to their questions.

Featured Graphic Organizer: Venn Diagram

A Venn diagram is a way of sorting information to compare two or more items. Intersecting circles are used to demonstrate the differences and similarities. The unique characteristics of each item are in the outer areas, while the common characteristics are in the area where the circles overlap.

Reading and Discussing the Page

Ask the students to turn to the graphic organizer on pages 8 and 9. Read aloud the introductory paragraphs as the students follow along. Discuss the terms “compare,” “similarities,” and “differences.”

Discuss the two poisons compared in this Venn diagram. Ask the students to scan “The Deadly Dose” to find information about arsenic and dimethylmercury.

Tell them to look at the Venn diagram, and ask questions such as the following:

- Have you used a Venn diagram before?
- What did you use it for?
- What information is under the heading “Both Substances”?
- What information is only under “Arsenic”? and only under “Dimethylmercury”?

Explain that Venn diagrams can be made up of two or more circles. Draw an example using two circles on chart paper or the board.

Hand out copies of **BLM 2**, Venn Diagram, then read aloud and discuss the instructions. Remind the students that the purpose of their research is to:

- select one poisonous insect and one poisonous reptile;
- gather information on the poison, such as:
 - how the poison is transmitted
 - the symptoms of poisoning
 - the cure (if there is one).

Provide the students with sticky notes and tell them they can use these to record and sort the information before they write it on the Venn diagram.

Lesson Focus

Making predictions
Monitoring for meaning
Making connections

About This Selection

Using case studies, this article describes how and why poison has been used as a murder weapon for centuries and explains the role of toxicology in fighting poison crimes today.

Word Talk

Glossary words: *nausea, culprit, hallucinations, paralysis, delirium, alibi, philosopher, corruption, exile, motive*

Other vocabulary: *stumped, ingredient, substance, toxicology, forensic*



Teaching Tip

Record the reading strategies on chart paper for the students to use during Say Something.



Assessment Tip

Look for the students who are able to articulate their thinking process clearly when they use a reading strategy.

Say Something

Students work in pairs, taking turns to read sections of text aloud. The reader pauses occasionally to say something about the text, for example, a prediction, question, comment, or connection.

The Invisible Weapon

page 10

Before Reading

Word Splash

Write the words from Word Talk onto a transparency or piece of chart paper. Discuss their meanings with the class. Tell the students they will be reading an article called “The Invisible Weapon.” Ask them to think about the words and predict what they think the article might be about. Record their predictions.

During Reading

★Monitoring for Meaning

Tell the students that there may be times when they get stuck on words or find it difficult to understand the ideas in a text. Tell them that they will be practicing some helpful strategies as they read. These are the strategies that they will use:

- prior knowledge (what they know about the topic before reading);
- context/meaning (clues from the text);
- rereading and reading on (rereading the passage and adjusting the reading rate to help with comprehension).

Read aloud the title and have the students look at the illustration. Ask questions such as the following:

- What do you already know by looking at the words in the title and the illustrations?
- How can this help you to predict what the article is about?

Read aloud the first four sentences while the students follow along. Ask:

- Based on the title, the illustration, and the first four sentences, what do you think is wrong with the “poor guy”? Why do you think that?

Confirm the students’ predictions and model some of the above strategies as you read through the text.

Say Something

Have the students work in pairs or groups of three, using Say Something to practice the reading strategies. Ask them to divide the text equally and take turns reading sections aloud, pausing when they are confused or need clarification. They should then choose and use a strategy to improve their understanding, trying at least one strategy each time they read.

Have a class discussion about the reading strategies. Ask questions such as the following:

- Which strategy did you use the most?
- Did you have to use more than one strategy in the same section?

Silent Exchange

Students write an open-ended question. The questions are passed around the group, with each student writing a response to each question. At the end, they discuss the responses.

Text Reformulation

Text reformulation is transforming a text into another type of text, for example, from a newspaper article into a poem.

After Reading

Silent Exchange

Have the students use a Silent Exchange to help them make connections with the article. Each student will need a sheet of paper and a pencil. Review and model the concept of open-ended questions, then organize the students into small groups. Ask them to write down an open-ended question about the article and to pass the question to the person on their right. The students should respond to each question passed around the table. Monitor the time for writing each response (two to three minutes).

When the questions have been returned to their owners, the students can take turns reading aloud the questions and responses.

Text Reformulation

Have the students rewrite the story of either Hawley Crippen or Harold Shipman as a newspaper item. Remind them to use language appropriate to a daily newspaper. Encourage them to include:

- information that answers the five Ws (who, what, when, where, why) as well as how;
- an introduction or opening sentence that contains the most interesting piece of information to grab the reader's attention;
- paragraphs that each contain one main idea;
- a conclusion that summarizes the most important facts.

Key Reading Strategy: Monitoring for Meaning

Readers monitor for meaning when they recognize that they are confused and they select a reading strategy to help regain their understanding. Some reading strategies include: asking for help; rereading to confirm, clarify, summarize, or deepen understanding; and using a source such as a dictionary or thesaurus.

Reading and Discussing the Page

Read aloud the first paragraph on page 16 as the students follow along. Find and read aloud the sentence in “The Invisible Weapon” that states “especially if something in that meal contained a deadly ingredient!” Ask questions such as the following:

- What do you think happened to the food taster after he ate the poisoned food?
- How do you know?
- Was the information in the text or in your head?

Read aloud Monitoring for Meaning as the students follow along. Prompt a discussion about the strategies that the students use most frequently. Ask questions such as the following:

- Which strategy do you use the most?
- Which strategy do you use the least?
- Do you use different strategies when you read fiction and nonfiction?

Read aloud For Real, then discuss using maps and asking for directions. Ask questions such as the following:

- Have you ever used a map to plan a trip?
- Why would you look at the map again?
- Have you ever had to ask someone for directions?
- Did looking again at the map or asking for directions help you to reach your destination?

Begin working through Try It Out. Read aloud the introduction to “The Invisible Weapon” as the students follow along. Ask questions such as the following:

- What were you thinking as you listened to the introduction?
- Did you know what arsenic was?
- If you didn’t know, how did you find out?
- Did the text make more sense when you knew that arsenic was a deadly poison?

Hand out copies of **BLM 3**, Monitoring for Meaning, and read it aloud.

Demonstrate an example, such as the term “processing plant.” To find out what this term means, a reader could refer to the illustrations of the factory, or read on to find out that the processing plant is a battery-recycling factory.

When the students have finished reading and recording their strategies, prompt a class discussion by asking questions such as the following:

- On page 24, Ryan talks about neutralizing the acid from the batteries. How could you find out what this means?
- Would the Internet help you with this?

Lesson Focus

Making predictions
Determining importance
Summarizing and
note taking

About This Selection

In this story, three friends use their problem-solving skills to find the source of poison that is killing fish in a stream.

Word Talk

Vocabulary: *pliers*,
flowchart, *neutralize*, *mill*,
casings, *pallets*

Probable Passage

The teacher lists key words from the selection and the students discuss them. They may be asked to arrange the words into categories. The students then use the words to fill in the blanks of a Probable Passage (one that might occur in the text) or to write their own Probable Passage.

Extra Help

Work with a small group of students who need support to determine the important information. Read aloud sections of text and pause to identify important information and to jot notes for the newscast.



Assessment Tip

Check the students' predictions in the Probable Passage. Have they used the ideas in the passage to make a reasonable prediction about the source of the pollution?

Something Fishy

page 18

Before Reading

Probable Passage

Hand out copies of **BLM 4**, Probable Passage. Read aloud and discuss the words in the list. Remind the students that word endings can give clues as to how the words are used in a sentence. When the students have completed the passage, ask them to reread it and think about what the characters have discovered. Remind the students that their predictions should relate to the story line.

During Reading

Determining Importance

Marking the text is a good way to find the main ideas. Have a large supply of sticky notes available, so that the students can jot down important information. Tell the students that good readers determine what is important based on their purpose for reading.

Ask them to imagine that they are TV news reporters who have to write a newscast based on the story. Tell them that when they read, they should consider the information from a TV reporter's point of view and decide what information is important. Before the students begin reading, show a newscast or have a discussion to clarify the style of writing and the kinds of information that are used. Ask:

- How is a newscast different from a fictional story?

Record the students' responses on chart paper or the board.

After Reading

Probable Passage

Have the students revisit the Probable Passage. Ask questions such as the following:

- Did you predict that a factory was the source of the poison?
- What other predictions did you make?

Determining Importance

Have a discussion about the students' thinking as they read the story through the eyes of a TV news reporter. Ask questions such as the following:

- Did collecting information for a newscast make it easier for you to find the important points?
- Would you have chosen the same information if you were asked simply to select the important information?



Text Reformulation

Ask the students to use the notes they took when reading “Something Fishy” to write a newscast about the events of the story. Review the list of points about how a newscast is different from a story.

Creative/Aesthetic Response

Working in pairs, the students could read aloud their reports to rehearse their newscast. Explain that they do not need to memorize the report, but they should know it well enough that they only need to refer to it occasionally. Remind them to speak with expression and use eye contact to keep the audience engaged.

Lesson Focus

Asking questions
Summarizing and note
taking

About This Selection

In this email exchange, a boy who is curious about fugu learns from a Japanese friend the reason why this poisonous pufferfish is such a delicacy in Japan.

Word Talk

Vocabulary: *paralyze*,
standards, *ultimate*,
samurai

Marking the Text

Students can use sticky notes or plain paper bookmarks to mark their thoughts, questions, predictions, or comments.



Teaching Tip

Rehearse your Think Aloud before you share it with the class.

Extra Help

Work in a small group with students who are struggling with writing a summary. Help them organize their sticky notes and discuss the main ideas. Create a group summary.

Ask an Expert: Fear the Fugu!

page 26

Before Reading

K-W-L Chart

Tell the students they will be learning about a poisonous fish called fugu. Complete a K-W-L chart to find out what the students already know, what they want to know, and what they learned about fugu. You will need three transparencies or pieces of chart paper to record the responses. Use the following steps:

To complete the “What I Know” column, use the Think-Pair-Share strategy. Ask:

- What do you know about people eating poisonous fish?

Tell the students to share their ideas with a partner. Ask each pair to share any ideas about eating poisonous fish.

Use the same strategy to generate questions for the “What I Want to Know” column. Ask:

- What other questions do you have about eating poisonous fish?

During Reading

Marking the Text

Tell the students that they will be taking notes by recording key information on sticky notes. Model note taking using Think Aloud, explaining that you are summarizing sections using your own words.

Read aloud the title and the first paragraph of Marcella’s email as the students follow along. Share your thinking as you select and record the key information in the paragraph. Repeat the process for the final paragraph.

Ask the students to read Kazuo’s email independently. They should pause after reading each paragraph to record the key information. Remind the students that they may need to reread the paragraph a few times to understand the ideas clearly.

When the students have finished reading, have them compare their notes with a partner. They can then add to or refine their notes.

After Reading

Summarizing and Note Taking

Tell the students they will be writing a summary of Kazuo’s email. They should use their notes to create a brief explanation of how to prepare fugu. Their explanation should include:

- reasons why fugu is so difficult for chefs to prepare;
- what chefs must do before preparing fugu in a restaurant;
- why chefs continue to serve fugu even though it contains deadly poison.

K-W-L Chart

Have the students complete their K-W-L chart by filling in the final column “What I Learned,” explaining what they have learned about fugu. Encourage them to use a library or the Internet to find information for any points in the “What I Want to Know” column that weren’t answered by the article.

Creative/Aesthetic Response

The students could:

- write a poem describing the experience of eating fugu;
- work in pairs to role-play an interview between a chef and a customer at a restaurant, with the chef explaining either why eating fugu is worth the risk or why it should be avoided.

Lesson Focus

Making connections
Monitoring for meaning

About This Selection

This article discusses pollution of the air, water, and soil. It describes how people are working to reduce these environmental poisons.

Word Talk

Glossary word: *pesticides*

Other vocabulary:

environmental, incinerators, fertilizers, smog, asthma, carbon monoxide, exhaust, foul, soot, essentials, sewage, chlorine, organisms, antioxidant

Extra Help

Struggling readers will need many opportunities with guided support to use context effectively.



Teaching Tip

Use sticky notes to mark the description and example clues prior to the lesson.

Toxic Territory

page 28

Before Reading

New Vocabulary

This activity uses words to anticipate content. Have the students work in pairs or small groups. They will need materials to record their brainstorming. Write the title of the article onto chart paper or a transparency. Read page 28 aloud and tell the students that you have found four key words that relate to the text. Write the words “exhaust,” “pesticides,” “sewage,” and “smog” onto the chart. Ask the groups to brainstorm other words. Each group should then refine their list to the four most likely words. Have each group share their words and explain why they chose them.

Making Connections

Ask questions such as the following:

- Where would you find environmental toxins in your home?
- What can cause air pollution?
- What can cause water pollution?

During Reading

★Monitoring for Meaning

Tell the students that authors have many ways of explaining the meanings of words and concepts. One way is to give us a clue, such as a description or an example. Example clues often begin with “such as,” “like,” or “for example” just before them. Explain that the word and the clue may not be in the same sentence – the clue may come in the sentence following the word. Tell the students that they will be looking for description and example clues in the article “Toxic Territory.”

Read aloud page 28 while the students follow along. Ask them to raise their hands when they come to a description or an example clue. Students should raise their hands at the beginning of the second paragraph, “... environmental toxins – such as pesticides in crops and chemicals in smog ...”

Ask for a volunteer to reread the passage that contains the clue.

Prompt a discussion by asking questions such as the following:

- What kind of clue has the author used?
- What were the examples of?
- Do you know any other examples of environmental toxins?

Ask the students to turn to page 30 and follow along as you read Through the Food Chain. Tell them to raise their hands if they hear another clue. They should raise their hands at the end of the first paragraph, “But many people choose to avoid them by eating organically grown food. These foods are produced without pesticides or chemical additives.”

Ask for a volunteer to reread the passage with the clue.

Ask questions such as the following:

- What kind of clue has the author used?
- What word is it describing?

Have the students read the whole article by taking turns reading aloud with a partner. Ask them to note any description or example clues. (Tell them that there are two more example clues and one more description clue.) When they have finished reading, ask for volunteers to read the passages containing the clues. Refer to the questions above to generate a discussion.

After Reading

Making Connections

Have the students reread Turning Points on page 31. After reading, have them brainstorm ideas to add to the section on environmental tips. Ask questions such as the following:

- What do you do at home to help protect the environment?
- What do you do at school?

Text Reformulation

The students could use one of the headings in “Toxic Territory” as the first line of a poem about environmental poisons. For example, “Water, water, everywhere ...” or “Beware of the air.”

Featured Project: Create a Poison Poster

Materials required: poster-sized paper, pencils, scissors, markers, crayons
(This project could also be created on a computer.)

Reading and Discussing the Page

Ask the students to turn to page 32. Read aloud the bolded section. Brainstorm with the students possible answers to the following question. Record their ideas on the board or chart paper. Ask:

➤ How can we keep our homes safe with so many poisons around us?

Tell the students that they will each be creating a poster about ways to protect our homes from poison. Before the students begin, they should scan the articles in the magazine to find relevant information to add to the poster. They can then use the information in the article and from other resources to create a poster. Remind them that their posters should include:

- where poisons can be found, for example, the kitchen, bathroom, and laundry;
- details of how poisons should be kept and handled in the home;
- suggestions of what to do if someone is poisoned;
- recommendations for special clothing or equipment people need when using poisons such as pesticides.

Read through the steps in the guide with the students.

Tell the students to use the five Ws (who, what, when, where, why) as well as how to help organize the information. They should use photographs, drawings, illustrations, and captions creatively. Display the completed posters in the classroom and around the school.

Anticipation Guide

Name: _____ Date: _____

What to do:

- Before reading “The Deadly Dose” (*Poison*, pages 2–7), read the statements in the table below. In the first column, write your response: strongly agree, agree, disagree, or strongly disagree.
- Read the article, and then look back at the statements. Have you changed your ideas? Write your new response, or rewrite your original response, in the final column.

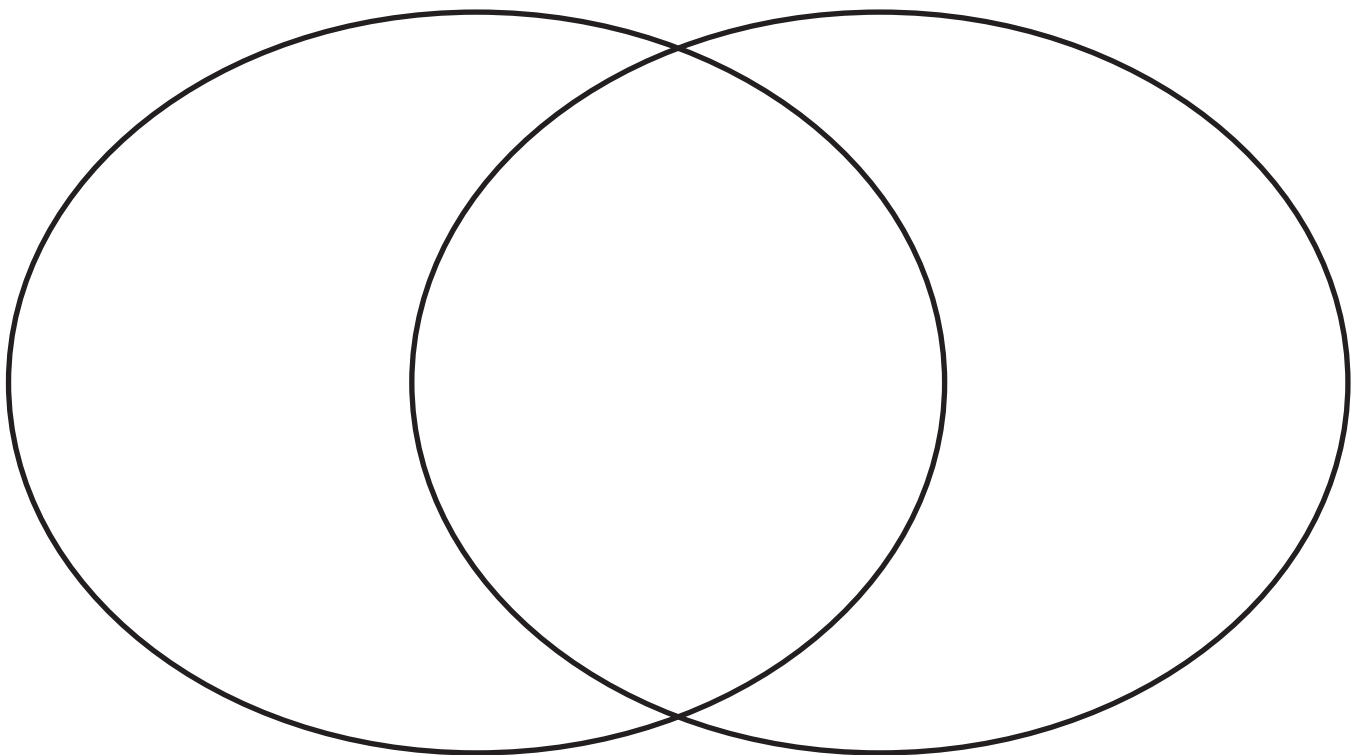
Response before Reading	Statements	Response after Reading
	Poison can save people’s lives.	
	Poisonous creatures, such as stingrays and poison arrow frogs, are very aggressive.	
	All mushrooms are harmless.	
	Carrots can be poisonous.	
	A tiny speck of poison can kill a person.	

Venn Diagram

Name: _____ Date: _____

What to do:

- Reread the section Self Defense on page 6 of “The Deadly Dose” (*Poison*, pages 2–7).
- Use the Venn diagram below to compare the poisons of a poisonous insect and a poisonous reptile.
- Use the Internet and other resources to gather information about the two creatures.
- Compare how they poison their prey, the symptoms of their poison, and the cure for their poison (if there is one).
- To label your Venn diagram correctly, refer to the graphic organizer on pages 8 and 9.



Write a statement describing the similarities between the insect and the reptile.

Monitoring for Meaning

Name: _____ Date: _____

What to do:

- Read “Something Fishy” (*Poison*, pages 18–25).
- In the second column of the chart below, write any words, phrases, or sentences that you found difficult to understand. Note the page number in the first column.
- Refer to the list of strategies your class created to help regain understanding.
- In the third column, write the fix-up strategy or strategies that you used to help you regain your understanding.
- Record at least four quotes and four fix-up strategies. (Use the back of the page if you need more space.)

Page Number	Words, Phrases, or Sentences I Didn't Understand	Fix-up Strategy I Used

Probable Passage

Name: _____ Date: _____

What to do:

- Read and discuss the following words from “Something Fishy” (*Poison*, pages 18–25).
- Write the words from the list into the passage below. Check that the passage makes sense with the words you’ve added.
- Based on the passage, make a prediction about what the three friends might have discovered.

bobbed	peered	trash	several
upstream	banks	stream	pollution
swimming	flood	poisoned	damaged
belly-up	dwindled	lifelessly	

Enrique, Leila, and Ryan walked along the _____ looking for a place to fish. They wondered if there would be any fish _____ in the water, especially when they noticed all the _____ that had been washed downstream with the _____. Ryan poked a long stick into the water and a fish _____ to the surface floating _____. As Enrique and Leila _____ down at the fish, they noticed _____ more fish drifting _____ on the surface of the water, nudging the _____ of the stream. They knew the fish could not have grown up in a _____ stream. The three friends continued to walk _____ searching the water for more dead fish and looking for the source of the _____. They walked for miles along the bank. They were ready to turn back when the stream _____ to a shallow trickle and they came to a _____ wire fence. Then Leila called out, “Hey! Look over there.”

My Prediction:

