

Educator Guide for A Deathly Compendium of Poisonous Plants: Wicked Weeds and Sinister Seeds

Created by Rebecca E. Hirsch

Notes for the Teacher

These resources are written to be used with *A Deathly Compendium of Poisonous Plants: Wicked Weeds and Sinister Seeds* by Rebecca E. Hirsch and illustrated by Eugenia Nobati. They are aligned with the English Language Arts Common Core Standards for grades 8-12, as shown below.

In this book, each chapter is dedicated to a specific plant or topic, and each chapter stands alone. Students do not need to read the book from cover to cover, nor to read the chapters in a specific order.

ELA Common Core Standards	Acrostic Poem	Secret Message	Compare and Contrast	Painful Plant Projects	Word Search
Language Anchor Standards					
CCSS.ELA-Literacy.CCRA.L.4		✓			
CCSS.ELA-Literacy.CCRA.L.6	✓			✓	
Reading Anchor Standards					
CCSS.ELA-Literacy.CCRA.R.1	✓	✓	✓	✓	✓
CCSS.ELA-Literacy.CCRA.R.2	✓		✓		
CCSS.ELA-Literacy.CCRA.R.4		✓			
CCSS.ELA-Literacy.CCRA.R.10	✓	✓	✓	✓	✓
Language Standards					
CCSS.ELA-Literacy L.8.4.a L.9-10.4.a L.11-12.4.a	✓	✓	✓	✓	✓
Reading Informational Text Standards					
CCSS.ELA-Literacy RI.8.2 RI.9-10.2 RI.11-12.2		✓			

Acrostic Poem

In an acrostic poem, the first letter of the lines, read downwards on the page, spells out a word, phrase, or sentence that is the subject of the poem. Here's a famous example:

London

by William Blake

How the Chimney-sweepers cry
Every blackning Church appalls,
And the hapless Soldiers sigh
Runs in blood down Palace walls

Roam the chapters of *A Deathly Compendium of Poisonous Plants* and find a word or phrase to use as the subject of your poem. You might choose the name of a plant (Henbane) or plant family (Solanaceae). Or you might choose a person or historical event from the book. Write the letters vertically on the page, like this:

H
E
N
B
A
N
E

Describe your subject, using the letters as the first letters of the lines of your poem. You can use just one word for each line of the poem, or you can let the lines be as many words as they should be. Your lines do not have to rhyme.



Secret Message: Castor Bean

Answer the questions, then use your answers to solve the word scramble puzzle.

1. Journalist Georgi Markov was assassinated with ricin, a poison from the castor bean. The pellet gun used to deliver the poison was disguised as what ordinary object?
 - a. umbrella
 - b. pen
 - c. flashlight
2. Markov was a defector from Bulgaria, an oppressive Communist country. Based on your reading, oppressive probably means:
 - d. severe
 - e. democratic
 - f. impoverished
3. The scientific name *ricinus* comes from castor bean's resemblance to what creature?
 - l. slug
 - m. beetle
 - n. tick
4. The castor bean plant is well known for its:
 - o. beautiful seeds
 - p. terrible odor
 - q. painful sting
5. The castor bean plant is native to:
 - r. Australia
 - s. Central America and the Caribbean
 - t. Africa and Asia
6. Ancient Egyptians were known to use castor oil for what purpose?
 - d. as an eye drop
 - e. as a fuel for lamps
 - f. as a lubricant for machines
7. Ricin is made of what type of molecule?
 - o. protein
 - p. lipid
 - q. alkaloid
8. Ricin wreaks havoc in the body by disabling what essential part of human cells?
 - r. nucleus
 - s. mitochondria
 - t. ribosome



Arrange the circled letters to spell a message that the burgundy swirls of castor seeds send:

___ _ ___ _ ___ _ ___ _ ___ _ ___ _ ___ _ ___ _ !

Secret Message: Castor Bean **ANSWER KEY**

Answer the questions, then use your answers to solve the word scramble puzzle.

1. Journalist Georgi Markov was assassinated with ricin, a poison from the castor bean. The pellet gun used to deliver the poison was disguised as what ordinary object?

- a. **umbrella**
- b. pen
- c. flashlight

2. Markov was a defector from Bulgaria, an oppressive Communist country. Based on your reading, oppressive probably means:

- d. **severe**
- e. democratic
- f. impoverished

3. The scientific name ricinus comes from castor bean's resemblance to what creature?

- l. slug
- m. beetle
- n. **tick**

4. The castor bean plant is well known for its:

- o. **beautiful seeds**
- p. terrible odor
- q. painful sting

5. The castor bean plant is native to:

- r. Australia
- s. Central America and the Caribbean
- t. **Africa and Asia**

6. Ancient Egyptians were known to use castor oil for what purpose?

- d. as an eye drop
- e. **as a fuel for lamps**
- f. as a lubricant for machines

7. Ricin is made of what type of molecule?

- o. **protein**
- p. lipid
- q. alkaloid

8. Ricin wreaks havoc in the body by disabling what essential part of human cells?

- r. nucleus
- s. mitochondria
- t. **ribosome**



Arrange the circled letters to spell a message that the burgundy swirls of castor seeds send:

D O N O T E A T!

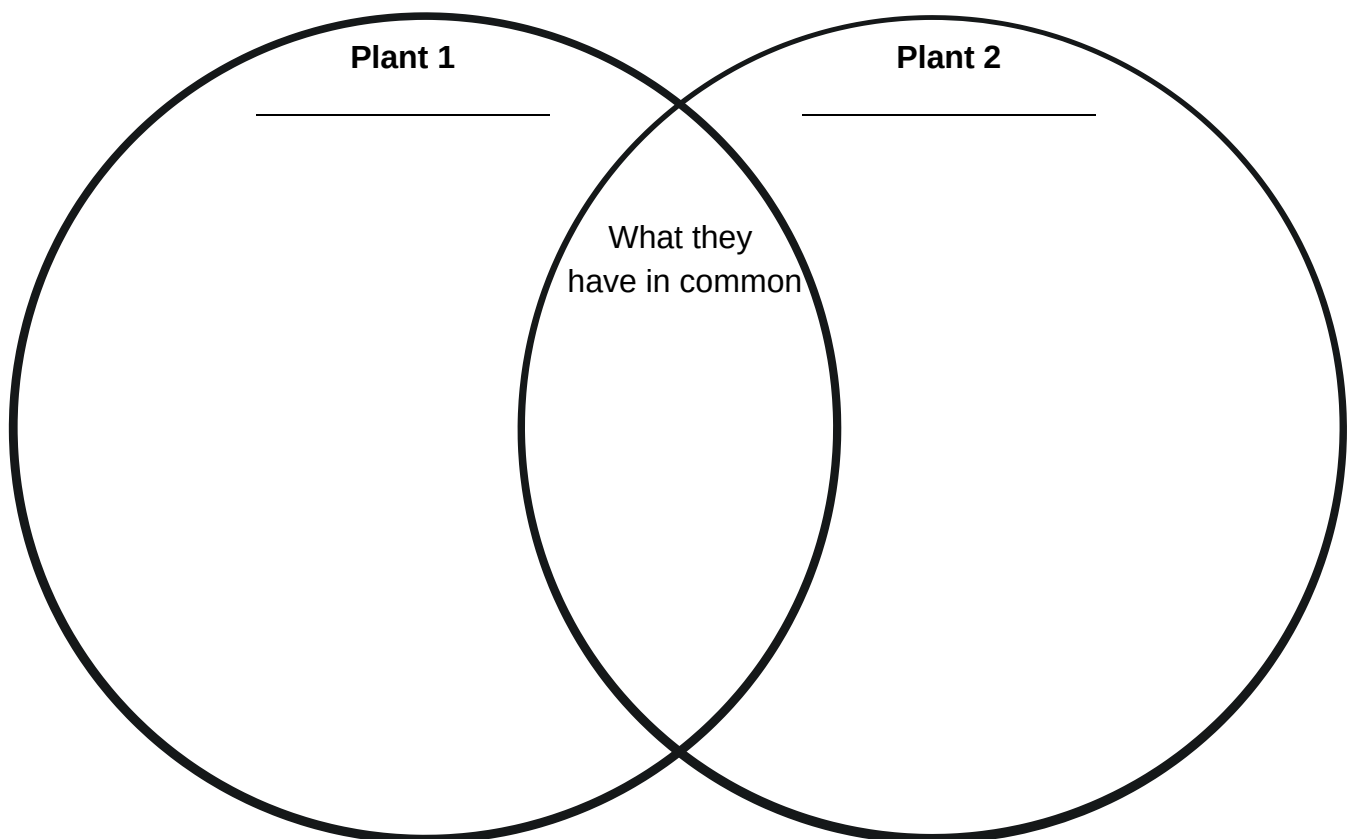
Compare and Contrast: Nightshade Family

In a contest for the most sinister plant family, the nightshades, would be a top contender. But this family also contains edibles, like tomatoes and potatoes, and flowers like petunia.

Choose two different nightshades from the list below. Fill in the chart to compare and contrast their appearance, toxicity, how people have used them in the past, and how people use them today.

You may need to conduct research on the internet to find details about some of these plants. Page numbers are given for plants that appear in *A Deathly Compendium of Poisonous Plants*.

Bell Pepper
Belladonna (pages 22-29)
Datura (pages 52-59)
Eggplant
Habanero Chili (pages 76-83)
Henbane (pages 91-99)
Mandrake (pages 114-121)
Petunia
Potato
Tomato
Tobacco (pages 160-167)



Project: Painful Plants

Parks and nature centers often use kiosks and brochures to educate the public about the natural world. Create an illustrated sign, brochure, or other visual display to warn tourists about a painful plant they could encounter in the wild. Choose one of the following plants:

- Gympie-Gympie
- Manchineel Tree
- Poison Ivy
- Poison Oak
- Poison Sumac
- Tree Nettle

You may need to conduct research on the internet to find details about your plant in addition to using the book *A Deathly Compendium of Poisonous Plants*.

Your brochure should include:

- where the plant is found (state, province, or country)
- the type of habitat where the plant grows
- the plant's common name and alternate names, if any
- the plant's scientific name
- advice on how to identify the plant
- a description of which parts of the plant are toxic
- an explanation of what symptoms the plant can cause
- suggested remedies for those symptoms, if any
- beneficial properties or uses of the plant, if any



Painful Plants Example Flyer

Leaves of Three

Poison ivy, or *Toxicodendron radicans*, is a highly adaptive woody vine that can be found in forests, fields, wetlands and along streams, road sides, and even in urban environments, such as, parks and backyards.

When you brush against the leaves or other damaged parts of the plant, it releases urushiol, an oil which causes an allergic reaction in humans. Typically reaction manifest as a itchy red rash with bumps or blisters. The urushiol can spread through indirect contact, such as touching tools, livestock, or clothing that have the oil on them or the inhalation of particles containing urushiol from burning plants.



Remedies

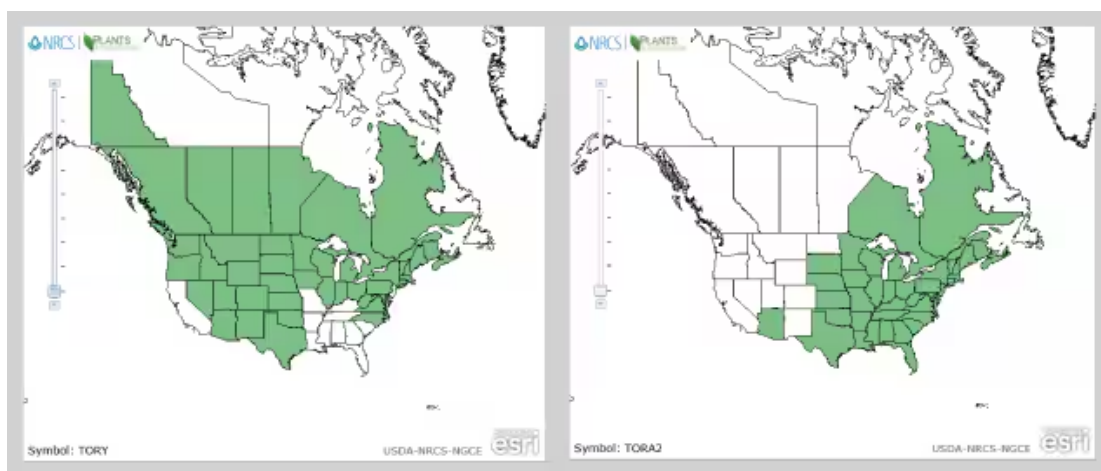


- Wear long sleeves and pants
- If contact is made, wash the area with cold water *immediately*
- Apply hydrocortisone cream or calamine lotion to relieve itch
- The stems of the jewelweed flower has a watery juice that may soothe a poison ivy rash

Identification

- Leaves grow in clusters of three with the center leaf on a longer stem
- Alternate branching
- Leaves may be any size but usually grow on a woody vine or stem
- Leaves may have a reddish hue and be shiny especially in spring
- Center leaf is symmetrical, but the side leaves are glove shaped

Pervasive and Poisonous



Western poison ivy (left); Eastern poison ivy (right):
Maps courtesy of U.S. Department of Agriculture

Word Search: Poison Hemlock

Answer the questions, then find the answer words in the word search puzzle.

1. Socrates, the father of Western philosophy, was accused of corrupting the youth of _____, Greece.
2. In 399 BCE Socrates was found guilty of _____ and made to drink a tea of poison hemlock.
3. The written account of Socrates' symptoms of poisoning comes from his student, _____.
4. Poison hemlock is a highly toxic member of the _____ family.
5. The stems of poison hemlock are smooth, shiny, and mottled with _____ splotches.
6. The plant is full of toxic chemicals called _____.
7. In the United States, poison hemlock is an invasive species that often grows near streams and _____.
8. Children have died after using poison hemlock stems to make _____.
9. In the play Macbeth, Shakespeare's witches brew a potion with "hemlock _____digged i' th' dark."
10. Medieval physicians made a painkiller of poison hemlock mixed with opium poppy and _____.
11. The toxins in poison hemlock block _____, a neurotransmitter that relays nerve impulses in the human body.
12. 19th century physician John Harley used poison hemlock to treat highly _____ children.

K L H M Z G F D Q A U F U G L
A K E O A E B C A R R O T R G
S L N I O R S I F A D V D T E
L R B T K Z S B M E C Y S D S
O Q A K N G D H Z W T T M U K
P F N L C A M Q E E I Y I K S
U G E O W O V D Z S Z D G V X
R A C E T Y L C H O L I N E E
P P J J Y G M X R O O T U A P
L K S W K B X B M K K E X I L
E C I T N Z P A D E O P T W A
A T H E N S T R E A S O N V T
O D J Q K D K Y C V S F F N O
W X A L K A L O I D S P I S A
R O Q U W H I S T L E S O U T

Word Search: Poison Hemlock

ANSWER KEY

Answer the questions, then find the answer words in the word search puzzle.

1. Socrates, the father of Western philosophy, was accused of corrupting the youth of **Athens**, Greece.
2. In 399 BCE Socrates was found guilty of **treason** and made to drink a tea of poison hemlock.
3. The written account of Socrates' symptoms of poisoning comes from his student, **Plato**.
4. Poison hemlock is a highly toxic member of the **carrot** family.
5. The stems of poison hemlock are smooth, shiny, and mottled with **purple** splotches.
6. The plant is full of toxic chemicals called **alkaloids**.
7. In the United States, poison hemlock is an invasive species that often grows near streams and **marshes**.
8. Children have died after using poison hemlock stems to make **whistles**.
9. In the play Macbeth, Shakespeare's witches brew a potion with "hemlock **root** digged i' th' dark."
10. Medieval physicians made a painkiller of poison hemlock mixed with opium poppy and **henbane**.
11. The toxins in poison hemlock block **acetylcholine**, a neurotransmitter that relays nerve impulses in the human body.
12. 19th century physician John Harley used poison hemlock to treat highly **active** children.





**A Deathly Compendium of Poisonous Plants:
Wicked Weeds and Sinister Seeds**

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eBooks also available



Rebecca E. Hirsch, PhD, is the author of numerous books about science, nature, and geography for children. She lives with her husband and three children in State College, Pennsylvania. You can visit her online at rebeccahirsch.com.



Eugenia Nobati is an illustrator based in Buenos Aires, Argentina.