

# A Deadly Dozen *By Robin Bernard*

## Introduction

What do a blue-ringed octopus, a marble cone shell, and a platypus have in common? They are among the most deadly animals on earth. In *A Deadly Dozen*, find out about 12 animals that defend themselves with toxic poisons.

## Reason for reading

You could use this book with your students to:

- explore the topic of methods of survival in the animal world
- learn about the world's most venomous animals.

## Setting the scene

Draw on your students' prior knowledge. If necessary, introduce concepts or vocabulary to help them access the story. Also communicate the reason for reading.

- Brainstorm ideas about animals with deadly toxins. What are their differing methods of survival? Why is it important for scientists to study them? How might that knowledge affect our lives? What important things have we learned about toxins and venoms?
- Print the KWLH chart (Template A) or create a KWLH chart on the board. Students, before reading, fill in the first two columns of this chart with what they know and want to know about poisonous animals. After reading, they can fill in the last two columns with what they have learned about these animals and how.
- Students explore the cover and determine what they think the book is about.
- Introduce vocabulary that the students may need to access the text. Refer to the vocabulary worksheets (2, 3a and 3b) for words that may be unfamiliar.

## Getting stuck in

Choose the prompts that you feel your students need. Remind them to note any unfamiliar words and check for clues to the meanings in the text or images. The meanings of words in bold text are in the glossary at the back of the book.

- End of page 2 – “What is the ‘good news’ about poisonous or venomous animals?”
- End of page 4 – “The Gila monster is one of two types of which animal?”
- End of page 5 – “Which snake has the most deadly poison of any snake?”
- End of page 6 – “What part of most frogs is toxic?”
- End of page 11 – “Most spiders use venom. Which spider has the most potent toxin of any spider?”
- End of page 12 – “What makes the platypus different from other mammals?”
- End of page 13 – “Which other mammal has a secret, toxic weapon?”
- End of page 15 – “Why were scientists surprised to learn that the hooded pitohui is poisonous?”
- End of page 17 – “Two animals that live in the sea have powerful venomous weapons. Which animals are they?”
- End of page 18 – “Which is the most venomous fish in the world?”

- End of page 21 – “Which animal is the most deadly of all?”
- End of page 23 – “In what ways can animal toxins help people?”

## Taking a closer look

Choose suggestions that suit your students and reason for reading.

### Exploring ideas and opinions

- Ask for your students’ opinions of this book. Did they find it held their attention? Why? Why do they think the author wrote it?
- After the students complete the three-level thinking guide (Worksheet 1), they discuss their responses in pairs, in small groups, or as a class.
- Students discuss in pairs or small groups: “How important is it to know about poisonous animals? Why?” They could prepare a chart of poisonous and non-poisonous animals and how they protect themselves, and present it to the class for discussion.

### Exploring structure

- Explore how the text is structured and the types of information it contains. Notice the use of headings that identify the focus of each section. You could carry out a “treasure hunt” activity in which the students use features like the contents page and headings to scan for answers to questions you give them.
- Explore the layout of the information, especially why there are lots of text boxes, photos, and diagrams. “Do these help you to understand and enjoy the text? Why or why not?” In particular, focus on the inclusion of funny or strange stories and the accompanying illustrations or photos. “Why do you think the author included these stories?” Draw out the idea that they help to bring the text alive.

### Exploring language

- Cut out the words and definitions from Worksheet 2 and mix them up. Hand them out to students, who then find their correct “partner”.
- As an alternative to the above activity, divide the class into two groups : one group fills in the second column of Worksheet 3a and the other fills in the second column of Worksheet 3b. This activity involves the students in creating definitions, which they then use to test the other group.
- Students search for: adjectives such as *razor-sharp*, *venomous*, *shy*; nouns such as *predator*, *victim*, *convulsions*; and verbs such as *unhinges*, *paralyzes*, *stings*. Do these words add to the animal descriptions?
- Students complete Worksheet 4 – the cloze activity.

## Moving beyond the text

Choose activities that suit your students and reason for reading.

### Writing

- Students prepare a chart that compares the animal described in the book and its method of self-protection with a similar but non-poisonous animal that protects itself in a different way.

## **Debating**

- Hold a class debate on: “Poisons are a necessary evil.”

## **Research**

Students do research on:

- the development of anti-venoms and how they work
- other self-protection methods used by animals.

## **Art and design**

- Students prepare a static image, poster, or book cover that advertises *A Deadly Dozen*.
- Students create a poster that shows the first aid procedures to follow when a person is bitten or stung by a poisonous animal.
- Students draw one of the animals in the book, showing or describing how it protects itself.

# WORKSHEET 1

## A Deadly Dozen – Three-level thinking guide

- Level 1 – Reading on the lines (interpreting what the text says on a literal level)
- Level 2 – Reading between the lines (inferring, or interpreting what the text might mean)
- Level 3 – Reading beyond the lines (evaluating ideas and information)

Students write “agree” or “disagree” beside each statement and then discuss their responses in pairs, in groups, or as a class. The value of this activity lies in the discussion it generates as students justify their views. The activity is not intended as a test for comprehension.

<b>LEVEL 1</b>	<b>Agree/disagree</b>
Most poisonous animals are only deadly to the small creatures they eat.	
The <i>inland taipan</i> can inject enough poison to kill 30,000 mice or 120 people.	
All frogs have a toxic, slimy coating on their skins.	
To be poisoned by a <i>golden poison-dart frog</i> , you would have to lick it.	
The female <i>death stalker scorpion</i> often eats her mate after mating.	
A <i>Sidney funnel-web spider's</i> bite can be fatal within an hour.	
A <i>platypus</i> uses the poisonous spurs on its back feet to kill its prey.	
A mother <i>slow loris</i> protects her babies with a layer of poison.	
The <i>hooded pitohui</i> is the only bird known to be poisonous.	
The <i>marble cone shell</i> is covered with a layer of a paralyzing poison.	
The poison from a <i>blue-ringed octopus</i> doesn't harm people.	
People who step on a <i>reef stonefish</i> seldom survive its venom.	
The <i>sea wasp</i> , a jellyfish, is the deadliest animal in the world.	

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<b>LEVEL 2</b>	<b>Agree/disagree</b>
Venomous animals are better able to survive than other animals.	
Humans are most unlikely to be bitten by a Gila monster.	
The inland taipan can eat animals much larger than itself.	
Only frogs that live in mild climates are edible.	
You never see lots of death stalker scorpions together.	
All spiders are poisonous and therefore are dangerous to humans.	
Scientists still need to find out more about the platypus.	
The bite of a slow loris is always poisonous.	
There is only one poisonous bird in the world.	
The blue-ringed octopus is only poisonous when its rings are bright blue.	
Many animal toxins are used to help people.	
<b>LEVEL 3</b>	<b>Agree/disagree</b>
All venomous animals are dangerous and should be killed.	
Scientists need to learn much more about poisonous animals.	
Frogs are more important than any other animal to humans.	
All poisons are useful.	

Sheet 2 of 2

*Worksheet designed by Barbara Freeman, Wellington, New Zealand, 2007*

# WORKSHEET 2

## A Deadly Dozen – Match the meaning

Cut out the terms and their definitions, mix them up, and ask your students to match the pairs.

<b><i>Word</i></b>	<b><i>Definition</i></b>
agonizing	extremely painful
antidote	substance that neutralises the venom
camouflage	making oneself difficult to see
convulsions	violent muscle spasms
fangs	long teeth
fatal	causing death
harpoon	a barbed spear
paralyzes	causes to be unable to move or feel
pincers	claw-like appendages
potent	very strong
predator	animal that hunts another
prey	animal that is killed and eaten by another

<b>Word</b>	<b>Definition</b>
secretion	a fluid that oozes out of the skin
short-circuits	causes to stop functioning or to break down
spurs	sharp, barbed spikes
suitor	an animal seeking a mate
survivors	people or other animals that live after a poisonous bite
tentacles	long appendages
toxin	poisonous substance
unhinges	separates, unhooks
venom	the poison of snakes or other animals

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Note that some words above may have different meanings in other contexts.

*Worksheet designed by Barbara Freeman, Wellington, New Zealand, 2007*

# WORKSHEET 3a – GROUP A

## A Deadly Dozen – Vocab swap

- Divide the class into two groups, and give one group Worksheet 3a and the other group Worksheet 3b.
- In the second column of its own worksheet, each group writes a definition for each of the words listed in the first column. Where a word has more than one meaning, the group may need to check the page of the book that is listed.
- Each group then folds the first column out of sight and swaps worksheets with the other group.
- Each group guesses the original words, based on the definitions given in the other group's worksheet, and writes them in the third column of that worksheet. A group can go to the page in the book that is listed if it needs help. For an extra challenge, the groups can guess without referring to the page.
- You could make this a fun competition and give points for every correct word.

<b>Word</b>	<b>Definition (Group A)</b>	<b>Word (Group B)</b>
agonizing (p 13)	(p 13)	
camouflage (p 2)	(p 2)	
fangs (p 5)	(p 5)	
harpoon (p 16)	(p 16)	
pincers (p 8)	(p 8)	
predator (p 6)	(p 6)	
secretion (p 13)	(p 13)	
spurs (p 12)	(p 12)	
survivors (p 18)	(p 18)	

<b>Word</b>	<b>Definition (Group A)</b>	<b>Word (Group B)</b>
toxin (p 2)	(p 2)	
venom (p 2)	(p 2)	

Sheet 2 of 2

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# WORKSHEET 3b – GROUP B

## A Deadly Dozen – Vocab swap

- Divide the class into two groups, and give one group Worksheet 3a and the other group Worksheet 3b.
- In the second column of its own worksheet, each group writes a definition for each of the words listed in the first column. Where a word has more than one meaning, the group may need to check the page of the book that is listed.
- Each group then folds the first column out of sight and swaps worksheets with the other group.
- Each group guesses the original words based on the definitions given in the other group's worksheet, and writes them in the third column of that worksheet. A group can go to the page in the book that is listed if it needs help. For an extra challenge, the groups can guess without referring to the page.
- You could make this a fun competition and give points for every correct word.

<b>Word</b>	<b>Definition (Group B)</b>	<b>Word (Group A)</b>
antidote (p 17)	(p 17)	
convulsions (p 8)	(p 8)	
fatal (p 11)	(p 11)	
paralyzes (p 5)	(p 5)	
potent (p 10)	(p 10)	
prey (p 2)	(p 2)	
short-circuit (p 11)	(p 11)	
suitor (p 8)	(p 8)	
tentacles (p 20)	(p 20)	
unhinges (p 5)	(p 5)	

# WORKSHEET 4

## A Deadly Dozen – Fill in the gaps

Add your own words in the spaces to make this passage come alive!

Surviving in the animal world is ..... Being..... to run fast helps. Razor-sharp claws ..... a plus, and ..... is camouflage. But some ..... have another way to capture prey and ..... themselves. They use poisons called ..... or venom. We call them “poisonous” or “.....” animals.

There are ..... of different kinds of ..... and venomous animals. The ..... news is that most of ..... are only deadly to the ..... creatures they eat. But not all of them!

Most of us ..... like to stay far, far away from venomous and poisonous ..... But scientists want to get ..... Their research has shown ..... many animal toxins can .....

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# TEMPLATE A

## KWLH chart

<u><i>KNOW</i></u>	<u><i>WANT TO KNOW</i></u>	<u><i>LEARNED</i></u>	<u><i>HOW I LEARNED</i></u>