

'Weird but Wonderful...the Octopus'

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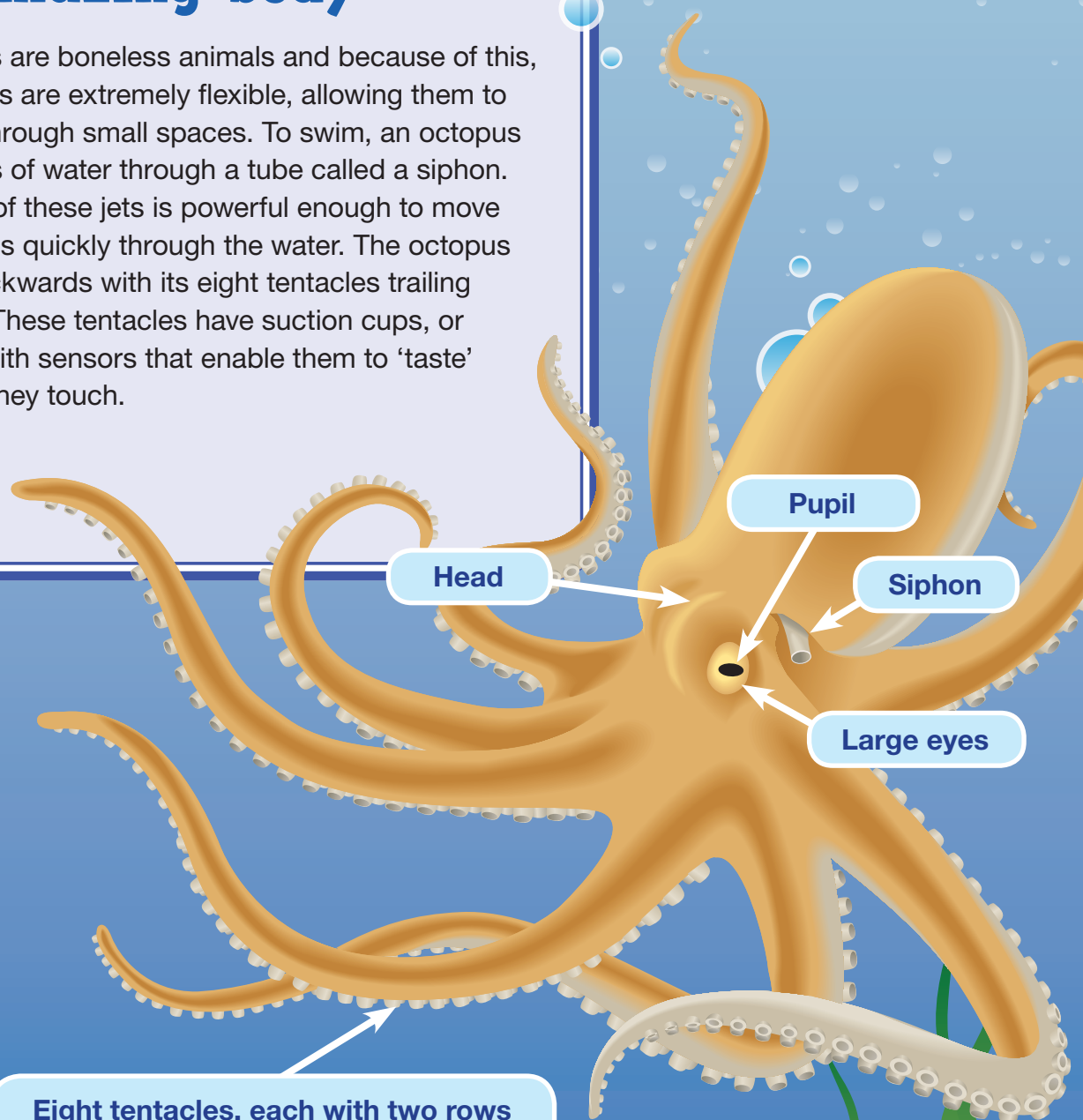
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Weird but wonderful...

The Octopus

An amazing body

Octopuses are boneless animals and because of this, their bodies are extremely flexible, allowing them to squeeze through small spaces. To swim, an octopus squirts jets of water through a tube called a siphon. The force of these jets is powerful enough to move the octopus quickly through the water. The octopus travels backwards with its eight tentacles trailing behind it. These tentacles have suction cups, or suckers, with sensors that enable them to 'taste' whatever they touch.



Head

Pupil

Siphon

Large eyes

Eight tentacles, each with two rows of suction cups on the underside



Octopuses have the largest brains of any invertebrate (an animal that does not have a backbone). They can learn and invent solutions to problems. Captive octopuses have been observed to play, repeatedly releasing bottles or toys into a circular current in their tanks and then catching them again. Octopuses often escape from their tanks in search of food and sometimes even break into the tanks of other creatures. They have also been known to board fishing boats and open the cargo hold to eat crabs.

The way the octopus's nervous system is organised means that only part of it is in the brain. The majority of an octopus's nerve cells are actually in its tentacles. This has some curious results: when an octopus's tentacle is cut off, it will crawl away on its own. But that's not all. If this tentacle meets a food item, it will seize it and try to pass it to where the mouth would have been if it was still connected to the body.

Part of body	How many	What it does	Weird but wonderful
Tentacle	8	Catches and chokes prey	The underside of each tentacle is covered in 240 suckers. That means an octopus has a total of 1,920 suckers.
Heart	3	Pumps blood	The blood that each heart pumps is blue.
Eye	2	Sees prey and predators, even in low light	The pupils remain horizontal even if the octopus turns on its side or upside down.

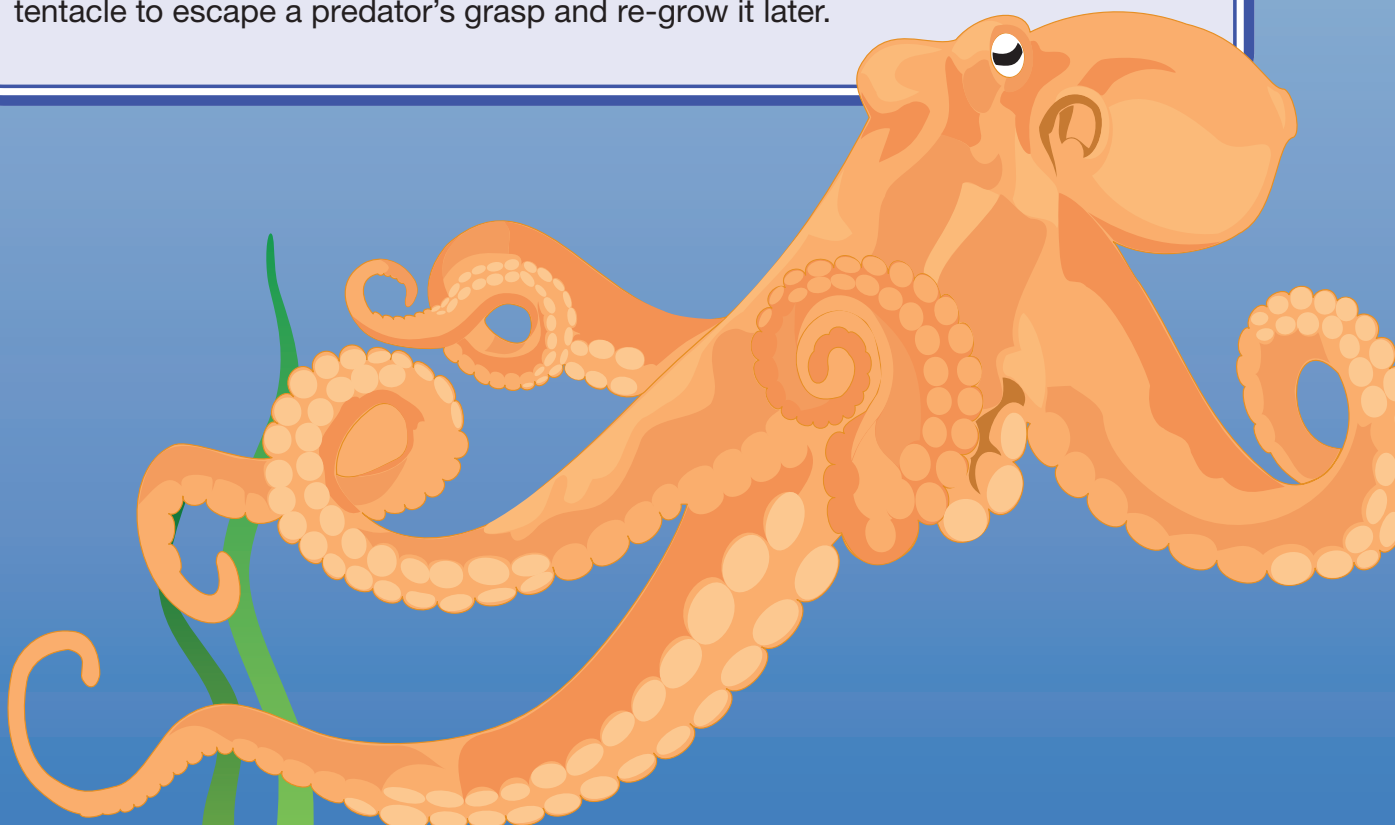
Defence and attack

Octopuses have a number of different ways to defend themselves.

They have a well-developed ability to hide. For example, the common octopus is able to camouflage itself by changing its skin to match the colours, patterns and even textures of its surroundings. Predators such as sharks, eels and dolphins swim by without even noticing it.

When an octopus is discovered, it releases a cloud of black ink. This blocks the predator's view, giving the octopus time to escape. The ink also contains a substance that can reduce the predator's ability to smell, making the fleeing octopus even harder to track.

If necessary, an octopus can squeeze into tiny cracks and crevices where predators can't reach it. If all else fails, an octopus can lose a tentacle to escape a predator's grasp and re-grow it later.



Invertebrate imitators

An octopus in a German zoo learned to open jars of shrimps by copying zoo staff. The octopus, named Frida, opened the jars by pressing her whole body onto the lid and grasping the sides with her eight tentacles. She unscrewed the lid by repeatedly twisting her body. It took Frida anything from ten seconds to an hour to get a lid off, depending on how tightly it had been screwed on.



Octopus facts

Type of animal

Invertebrate (no backbone)

Diet

Carnivore: crabs, crayfish, shellfish

Average lifespan in the wild

1 to 3 years

Largest octopus

Giant Pacific Octopus

Weighs up to 70kg (close to the weight of an average person)

Measures 7.5m from tentacle tip to tentacle tip

Smallest octopus

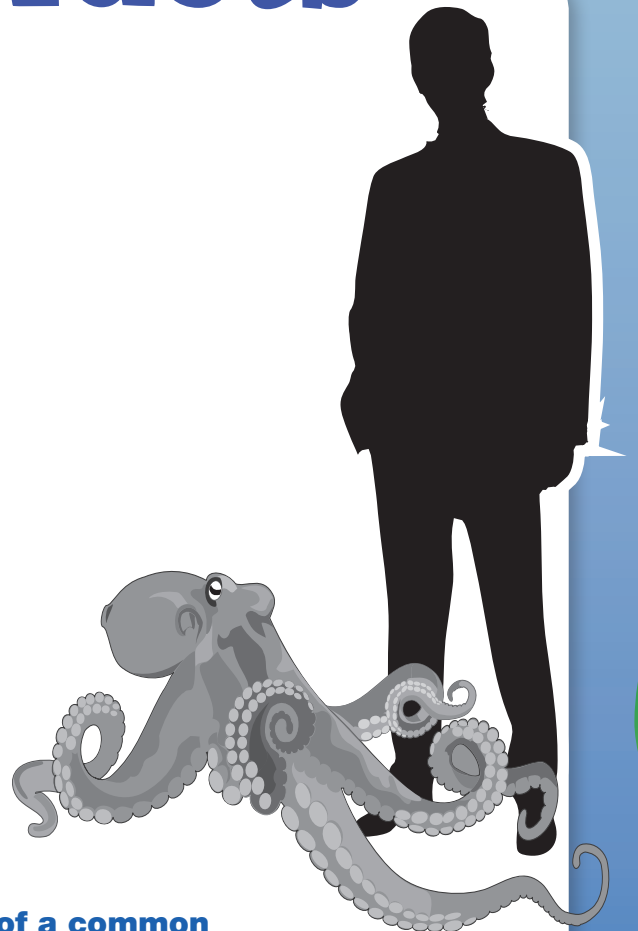
Octopus Wolfi

Can be as light as 1g (the weight of 1 raisin)

Measures 1.5cm in length

Venom

The tiny Blue-ringed Octopus of Australia is the only octopus that has venom deadly to humans.



Size of a common octopus relative to an average man

Questions 13–24 are about *Weird but wonderful...
The Octopus* (pages 6–9).

13. What allows octopuses to be *extremely flexible*?

13
1 mark

14.

(a). Which body part does an octopus use to move through the water?

14a
1 mark

(b). How does this body part help it to move?

14b
1 mark

15. Where is most of an octopus's nervous system located?

15
1 mark

please turn over Total
7 marks

Questions 13–24 are about *Weird but wonderful...
The Octopus* (pages 6–9).

13. What allows octopuses to be *extremely flexible*?

They don't have any bones

13
1 mark

14.

(a). Which body part does an octopus use to move through the water?

siphon

14a
1 mark

(b). How does this body part help it to move?

The siphon squirts water which makes a force

14b
1 mark

15. Where is most of an octopus's nervous system located?

in its tentacles

15
1 mark

please turn over Total
7 marks

16. The table on page 8 contains information that is weird but wonderful about octopuses' tentacles:

Part of body	How many	What it does	Weird but wonderful
Tentacle	8	Catches and chokes prey	The underside of each tentacle is covered in 240 suckers. That means an octopus has a total of 1,920 suckers.

Give **two** other pieces of information about octopuses' tentacles that could have been included in this table.

1. _____
2. _____

16
2 marks

17. How does releasing black ink help the octopus to escape from predators?
Give **two** ways.

1. _____
2. _____

17
2 marks

16. The table on page 8 contains information that is weird but wonderful about octopuses' tentacles:

Part of body	How many	What it does	Weird but wonderful
Tentacle	8	Catches and chokes prey	The underside of each tentacle is covered in 240 suckers. That means an octopus has a total of 1,920 suckers.

Give **two** other pieces of information about octopuses' tentacles that could have been included in this table.

1. Most of the octopus' nerve cells are in its tentacles.
2. If a tentacle is cut off, the octopus can grow another one.

16
2 marks

17. How does releasing black ink help the octopus to escape from predators?
Give **two** ways.

1. blocks the predator's view
2. reduces predator's ability to smell

17
2 marks

18. Look at the section headed: **Defence and attack.**

Octopuses can squeeze into small spaces. How does this protect them?

18
1 mark

19. Octopuses are very determined.

Give **two** examples from the text that support this.

1. _____

2. _____

19
2 marks

please turn over

Total

7 marks

18. Look at the section headed: **Defence and attack**.

Octopuses can squeeze into small spaces. How does this protect them?

The predator can't reach them.

18
1 mark

19. Octopuses are very determined.

Give **two** examples from the text that support this.

1. Octopuses often escape from their tanks in search of food.

2. An octopus can lose a tentacle to escape a predator's grasp and re-grow it later.

19
2 marks

please turn over

Total
7 marks

20. What is special about *Octopus Wolfi*?

20
1 mark

21. Which octopus produces a poison that can kill people?

21
1 mark

22.
(a). What creatures do octopuses eat?

22a
1 mark

(b). What creatures eat octopuses?

22b
1 mark

20. What is special about *Octopus Wolfi*?

It is the smallest octopus of all.

20
1 mark

21. Which octopus produces a poison that can kill people?

Blue-ringed Octopus of Australia

21
1 mark

22.

(a). What creatures do octopuses eat?

crabs, crayfish, shellfish

22a
1 mark

(b). What creatures eat octopuses?

sharks, eels, dolphins

22b
1 mark

23. Draw a line to match the heading with the information that is provided in each text box of ***Weird but wonderful... The Octopus.***

Heading	Information
<p><i>Octopus facts</i></p>	<p>an explanation of how octopuses swim</p>
<p><i>Defence and attack</i></p>	<p>simple statements about octopuses</p>
<p><i>Invertebrate imitators</i></p>	<p>an example of how octopuses learn</p>
<p><i>An amazing body</i></p>	<p>a description of how octopuses escape from predators</p>

23
1 mark

24. Where would you expect to find the text ***Weird but wonderful... The Octopus?***

Tick **one**.

- on the front page of a newspaper
- in an advertising leaflet for an aquarium
- in a report on a scientific investigation
- in a magazine about the natural world

24
1 mark

please turn over Total
6 marks

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24
1 mark

Total
6 marks

please turn over

VOCABULARY (from 'Weird but Wonderful...The Octopus')
Use each word in a new sentence

WORD	MEANING	PART OF GRAMMAR
flexible	can bend easily and not break	adjective

Octopuses are boneless animals and because of this, their bodies are extremely flexible,

SENTENCE.....

.....

WORD	MEANING	PART OF GRAMMAR
captive	locked up	adjective

Captive octopuses have been observed to play,

SENTENCE.....

.....

WORD	MEANING	PART OF GRAMMAR
current	movement of water	noun

Captive octopuses have been observed to play, repeatedly releasing bottles or toys into a circular current in their tanks

SENTENCE.....

.....

WORD	MEANING	PART OF GRAMMAR
cargo	things carried on boats, trains, lorries and planes which are going to be sold	noun

They have also been known to board fishing boats and open the cargo hold to eat crabs.

SENTENCE.....

.....

VOCABULARY SHEET 2 (from 'Weird but Wonderful...The Octopus')
Use each word in a new sentence

WORD	MEANING	PART OF GRAMMAR
majority	the greatest part	noun (abstract)

The majority of an octopus's nerve cells are actually in its tentacles.

SENTENCE.....

WORD	MEANING	PART OF GRAMMAR
horizontal	straight across, not up and down	adjective

The pupils remain horizontal even if the octopus turns on its side or upside down.

SENTENCE.....

WORD	MEANING	PART OF GRAMMAR
substance	what something is made from / has inside it	noun

The ink also contains a substance that can reduce the predator's ability to smell,

SENTENCE.....

WORD	MEANING	PART OF GRAMMAR
textures	how things feel	noun (plural)

the common octopus is able to camouflage itself by changing its skin to match the colours, patterns and even textures of its surroundings.

SENTENCE.....

REPORT WRITING

'Weird but Wonderful...the Octopus' is a report

It is a report because it gives information on a subject - the octopus. Also, it is non-chronological and doesn't follow a time order.

It is written in a certain way

As it is a report, it is written in the present tense. It uses the the third person (an/the octopus or it/they). It also uses formal, complex vocabulary and tables & pictures to help back up information. The pictures have captions (words to explain what the picture is about).

It has a report structure

It has a main title which clearly states what the report is about - 'Weird but Wonderful...the Octopus'. There are sub-headings which explain what a particular paragraph or section is about. The first sub-heading is 'An amazing body', the second sub-heading is 'Defence and attack', the third sub-heading is 'Invertebrate imitators' and the fourth & final sub-heading is 'Octopus facts'

Write a report

Choose an animal either real or imagined. Write a report about this animal in the style of 'Weird but Wonderful...the Octopus'. Use the planning sheet to help you decide what information you want to include. Here are some ideas:

- Where in the world it lives
- What it looks like
- What it eats; what eats it
- Its behaviour
- Other interesting facts

PLANNING YOUR REPORT

MAIN TITLE

FIRST SUB-HEADING

SECOND SUB-HEADING

THIRD SUB-HEADING

FOURTH SUB-HEADING

