

## ANIMAL NEWS



# THE GLOW IN THE DARK SHARKS



It's thought the sharks glow to protect themselves from attack from below

**SCIENTISTS** have discovered that three species of deep-water shark can glow in the dark – including the largest known luminous vertebrate.

It's well known that some fish can produce their own light, but marine biologists working near New Zealand were the first to discover that the kitefin shark, blackbelly lanternshark and southern lanternshark were also bioluminescent (able to glow in the dark).

The researchers, from Université Catholique de Louvain in Belgium and New Zealand's National Institute of Water and Atmospheric Research, were most surprised to find that the kitefin shark was luminous, as it can reach sizes of 180cm – making it the largest known luminous vertebrate (creatures with spines).

Seen from below in the dark ocean, fish are silhouetted against the surface of the water. It's thought the sharks glow from below as camouflage to protect them from attack.

# DON'T LOSE YOUR HEAD!

Sayaka Mitoh



**SCIENTISTS** in Japan have discovered that certain types of sea slug have the ability to remove their head and grow a whole new body!

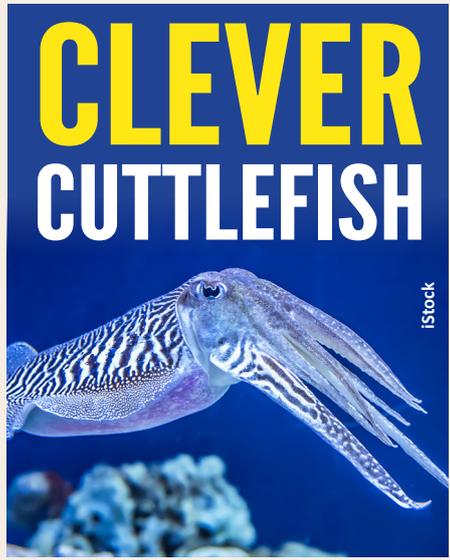
The incredible talent belongs to two species of sacoglossan sea slug. Researchers at Nara Women's University were shocked at what they saw. Sayaka Mitoh said: "We were surprised to see the head moving just after autotomy."

Autotomy is when a creature can lose part of its body. The most well-known examples are probably the lizards that can 'drop' their tail if threatened, then grow one back later.

That's pretty amazing in itself, but the sea slug's ability is on another level. Once removed, the head can move around on its own. Within a few weeks, it can grow a whole new body, complete with heart and other internal organs.

It's not known why the slugs detach their heads from their body. One reason could be a way of removing a parasite (something harmful that lives on or inside something else).

The sea slugs' other trick is to fuel themselves from the sun, just like plants do, by using bits of algae that they eat.



# CLEVER CUTTLFISH

**A STUDY** has shown that cuttlefish are clever enough to miss out on a snack to get an even tastier one.

Looking at the eyes of cuttlefish, you get a feeling there is more going on inside than you would expect, and it has been known for some time that they show signs of intelligence. We know they are cunning when hunting prey and use camouflage to completely disappear, but how intelligent are they? Could they pass the 'marshmallow test', designed to show signs of complex problem solving? A team from Cambridge University in the UK decided to adapt the test to find out.

The test was originally devised for young children to see if they could delay eating one marshmallow if they could get two by waiting. The scientists replaced marshmallows with seafood snacks that were put in glass boxes. The door on the box with the less tasty option opened immediately, but the door on the tastier snack opened a few seconds later. The cuttlefish would hang around at the bottom of the tank until their favourite was released.

Not many animals are able to show such self-control, and the behaviour is usually found among longer-living animals, such as apes and parrots.

ANIMAL NEWS



GLOSSARY

**luminous** – Something that produces light  
**vertebrate** – A creature that has a backbone  
**autotomy** – The ability of an animal to shed or discard a body part, usually for self-defence

**camouflage** – Using colour or shape to help an animal blend in with its background and avoid being seen

**parasite** – A form of life that lives on or inside another living thing and causes damage  
**self-control** – The ability to control our actions and emotions

1. Complete the table.

Animal being studied	University or institute doing the research	Country
	Université Catholique de Louvain	
	National Institute of Water and Atmospheric Research	
		UK
Sea slugs		

2a. Why have brackets have been used three times in the articles?

2b. Some tricky scientific words are used in these reports. Match the word to the correct definition.

camouflage	The ability of an animal to shed a body part
vertebrate	Describing an animal that can make light
bioluminous	A lifeform that lives in, or on, another living thing causing harm
autotomy	Where an animal uses colour or shape to blend in with its surroundings
parasite	A creature with a backbone

■ Look at the story ‘Glow in the dark sharks’

- The kitefin shark now has a new record, or title, as the ...
- How does the sharks’ ability to make light help them to camouflage themselves in the deep sea?
- What is the difference between the words **luminescent** and **bioluminescent**?

■ Look at the story ‘Don't lose your head!’

- Sea slugs can shed their entire bodies! Give one other example of ‘autotomy’.
- Why does the journalist say the sea slugs’ ability is “on another level”?

■ Look at the story ‘Clever cuttlefish’

8. The scientists altered a famous test to use on the cuttlefish. Complete the details of this test.

THE _____ TEST	
Who it was originally used on	
Explanation of the test	
Skills tested	

■ Consider all of the articles

- What **topics** or **themes** link the three articles and could be used as a heading for the page?
- Choose one of the animals. Imagine you are a researcher at a university. Can you come up with **three questions** that you would like to investigate in the next stage of your research?

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■ Look at the story ‘Glow in the dark sharks’

3. The kitefin shark now has a new record, or title, as the...

.....

4. How does the sharks’ ability to make light help to camouflage them in the deep sea?

.....

.....

5. What is the difference between the words **luminescent** and **bioluminescent**?

.....

.....

■ Look at the story ‘Don't lose your head!’

6. Sea slugs can shed their entire bodies! Give one other example of ‘autotomy’.

.....

.....

7. Why does the journalist say the sea slugs’ ability is “on another level”?

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■ Look at the story ‘Clever cuttlefish’

8. The scientists altered a famous test to use on the cuttlefish. Complete the details of this test.

THE _____ TEST	
<b>Who it was originally used on</b>	..... .....
<b>Explanation of the test</b>	..... ..... ..... .....
<b>Skills tested</b>	..... .....

■ Consider all of the articles

9. What **topics** or **themes** link the three articles and could be used as a heading for the page?

.....

.....

10. Choose one of the animals.

Imagine you are a researcher at a university. Can you come up with **three questions** that you would like to investigate in the next stage of your research?

1.....

.....

2.....

.....

3.....

.....

**TEACHER ANSWERS**

**AIM OF THE NEWS COMPREHENSIONS:** News reports are unique non-fiction texts. Being real, they naturally engage students, and with the range of topics that are covered, help to develop pupils’ knowledge and understanding of the wider world outside the classroom. The reports are ideal for short, focused comprehension or discussion activities. Along with the opportunity to find fascinating facts and appreciate the opinions of those involved, there is plenty to be inferred and deduced to understand in more depth what is being reported. Like authors, journalists play with language, so news ‘stories’ are rich nuggets of text to investigate and provide the opportunity for literacy programmes.

**TEACHER ANSWER GUIDE:** The teacher answers are intended to provide a quick reference guide. Suggestions are given for the ‘Expected response’ or starting point that pupils could give. The ‘Development’ then gives more in-depth ideas that students can work towards as they develop their reading comprehension skills.

For a list of the reading skills used, please email [schools@firstnews.co.uk](mailto:schools@firstnews.co.uk).

**1. Complete the details about the scientific research in the news this week.**

READING SKILL – Find and explain information

(NC 2a)

**Expected response**

Animal being studied	University or institute doing the research	Country
• Sharks	Université Catholique de Louvain	• Belgium
	National Institute of Water and Atmospheric Research	• New Zealand
• Cuttlefish	• Cambridge University	UK
Sea slugs	• Nara Women’s University	• Japan

**2. a) Why have brackets have been used three times in the articles?**

READING SKILL – Identifying benefits of text organisation and presentation in non-fiction texts

(NC 2f)

**Expected response**

- To include definitions of scientific words

**2. b) Some tricky scientific words are used in these reports. Match the word to the correct definition.**

READING SKILL – Understand vocabulary in context

(NC 2a)

**Expected response**

camouflage	The ability of an animal to shed a body part
vertebrate	Describing an animal that can make light
bioluminous	A lifeform that lives in, or on, another living thing causing harm
autotomy	Where an animal uses colour or shape to blend in with its surroundings
parasite	A creature with a backbone

**Look at the story ‘Glow in the dark sharks’**

**3. The kitefin shark now has a new record, or title, as the...**

READING SKILL – Find and explain information

(NC 2a)

**Expected response**

- Largest known luminescent vertebrate

**4. How does the sharks’ ability to make light help them to camouflage themselves in the deep sea?**

READING SKILL – Infer information and justify with evidence

(NC 2c & 8)

**Expected response**

- It makes them pale, like the surface of the water.

**Development**

- Deep in the ocean, the surface is paler than the rest of the water.
- By lighting up their undersides, the sharks appear paler too and blend in with the surface of the water when seen by creatures below.

**5. What is the difference between the words luminescent and bioluminescent?**

READING SKILL – Infer information and justify with evidence  
(NC 2c & 8)

**Expected response**

- Bioluminescent is just for animals

**Development**

- Luminescent describes anything that gives off light. Bioluminescent describes an animal that has ability to create light.

**Look at the story ‘Don’t lose your head’**

**6. Sea slugs can shed their entire bodies! Give one other example of ‘autotomy’.**

READING SKILL – Find and explain information  
(NC 2a)

**Expected response**

- Certain types of lizard can shed their tails if caught by a predator.

**7. Why does the journalist say the sea slugs’ ability is “on another level”?**

READING SKILL – Infer information and justify with evidence  
(NC 2c & 8)

**Expected response**

- They can grow back their whole body including their heart.

**Development**

- The journalist is saying that the sea slugs are more skilled at autotomy than the lizards because they shed their entire body and can grow back internal organs including the heart!

**Look at the story ‘Clever cuttlefish’**

**8. The scientists altered a famous test to use on the cuttlefish. Complete the details of this test.**

READING SKILL – Find and explain information  
(NC 2a)

**Expected response**

<b>THE • Marshmallow TEST</b>	
<b>Who it was originally used on</b>	• Young children
<b>Explanation of the test</b>	• Can the children learn to not eat a marshmallow, if it means they get two by waiting?
<b>Skills tested</b>	• Self-control, intelligence, problem solving

**Consider all of the articles**

**9. What topics or themes link the three articles and could be used as a heading for the page?**

READING SKILL – Make comparisons between texts  
(NC 1e & 1f)

**Expected response**

- Marine animals/creatures of the sea
- Science
- Clever animals

**Development**

- Marine animals
- Scientific research/university research
- Skilful sea creatures

**10. Choose one of the animals.**

Imagine you are a researcher at a university. Can you come up with three questions that you would like to investigate in the next stage of your research?

READING SKILL – Ask questions to help understanding  
(NC2b)

**Answers similar to:**

**Sharks**

- How exactly do the sharks create light in their bodies?
- Which parts of their body light up?
- Are there other reasons why the sharks create light?
- Do any other types of shark create light?

**Cuttlefish**

- Can the cuttlefish do any other tests to prove their intelligence?
- Can they be tested to compare their intelligence to other creatures?
- Can they remember the test?
- Can they learn from other creatures?

**Sea slugs**

- What causes them to shed their bodies?
- How do they live without a heart and other organs?
- Are there any other animals that can do this?
- Is the body that grows back exactly the same?
- Can they do this more than once?