

In a "bizarre" biological twist, a mother lion adopts a leopard cub in India

By Smithsonian.com, adapted by Newsela staff on 03.12.20

Word Count 649

Level 700L

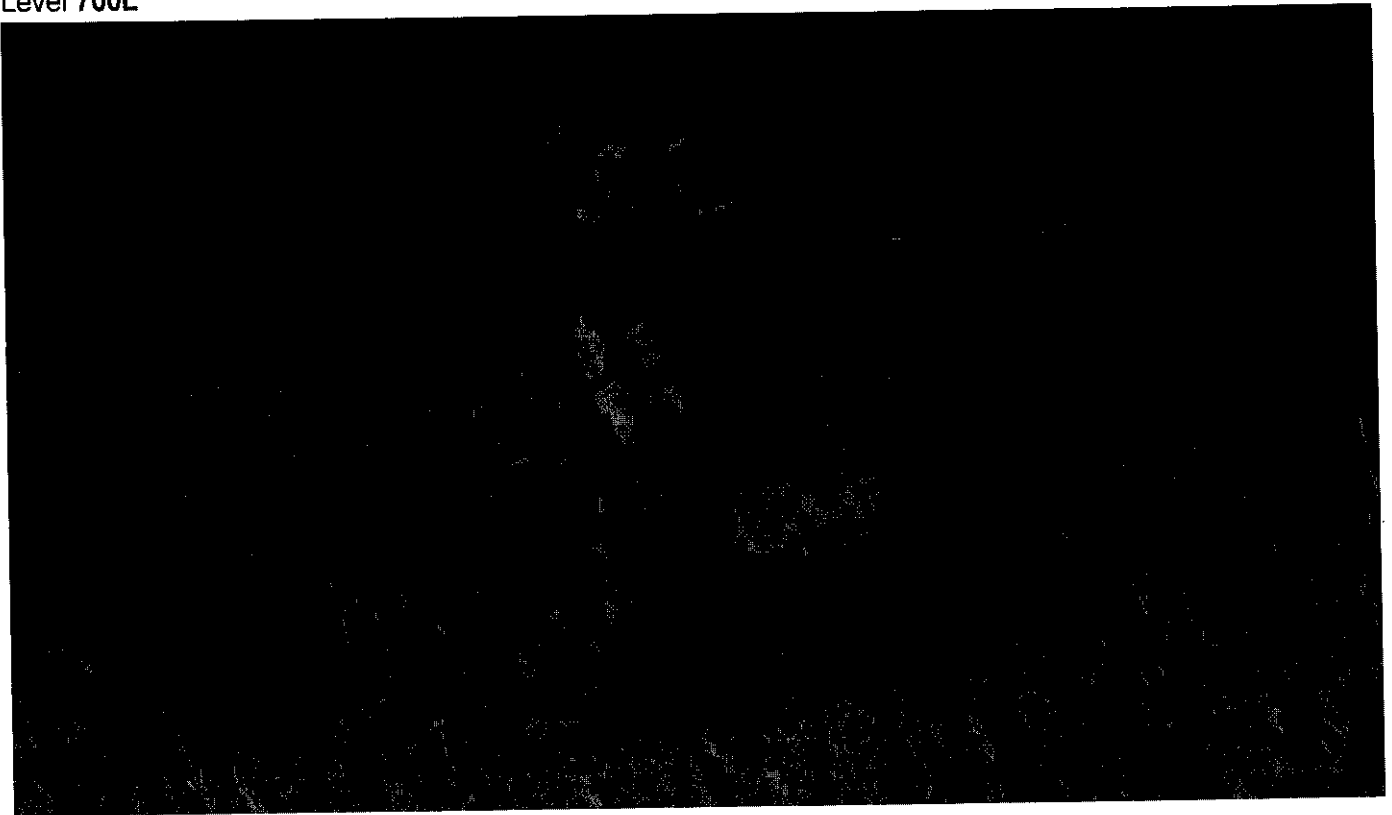


Image 1. The mother lion, her lion cubs and her adopted spotted leopard baby all get along just fine. Photo by: Dheeraj Mittal/Deputy Conservator of Forests in India

In December 2018, scientists at Gir National Park in Gujarat, India, discovered something very unusual. A lioness had adopted a baby leopard as one of her own cubs. The little leopard cub was around 2 months old. He was drinking the lioness's milk. He was also playing with her two lion cubs. They were around the same age as him. This discovery puzzled the scientists greatly. It was just plain weird, they said.

In the wild, caring for the babies of another animal does not make much sense. Raising young takes a lot of time and energy. The mother has to feed them milk. She has to gather food for them. She has to make sure they stay safe.

Wild animals do sometimes take care of babies born to other members of their own group. For example, cheetah moms sometimes adopt cheetah cubs if the cub's own mother has died. This helps the survival of the cheetah species. A species is a type of animal. In this case, lions and leopards are different species. It does not make much sense for a lion to care for a baby leopard.

Two Other Examples

Before now, there were only two other known examples of one species adopting another species in the wild. In 2006, scientists discovered that a marmoset, which is a type of monkey, had been adopted by a family of capuchin monkeys. More recently, a bottlenose dolphin mother was seen caring for a melon-headed whale calf.

In both of these cases, the different species were not competitors. They did not eat the same kinds of food. They had no reason to fight against each other. Lions and leopards do compete for the same food in the wild. They usually do not get along.

Species Were Enemies — But Got Along Fine

The two species are enemies, scientist Stotra Chakrabarti said. Lions kill both adult leopards and their cubs. Leopards often attack lion cubs.

Yet, this mother lion, her lion cubs and her leopard baby all got along just fine. The scientists thought this would last only briefly. The leopard cub ended up staying with his lion family for another 29 days.

The relationship ended when the baby leopard died. In February 2019, his body was found. He had not been attacked. The scientists believe he died because of a medical problem he was born with.

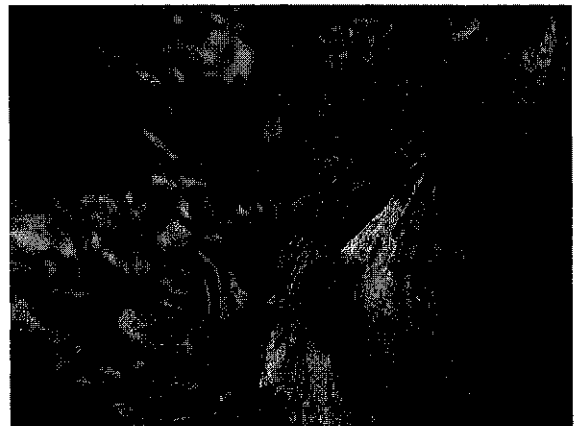
It is not clear why the leopard cub was adopted. One day after he was seen with the lioness, a female leopard was spotted nearby. She may have been the cub's birth mother. Perhaps she gave up her baby, who was then adopted by the lioness. But why?

It is possible the lioness just was not experienced at being a mother. She was only 5 or 6 years old. Perhaps she did not know she was not supposed to care for leopard babies. At the time, she was making milk for her cubs. Maybe she did not notice one of her cubs was a leopard.

There could be another reason the leopard cub was able to remain with his lion family. In Africa, male lions live together with lionesses. In India, they do not. Females are left on their own after giving birth. This perhaps allowed the lioness and leopard cub to live together. What would have happened if the leopard cub had been around male lions? Would a lion have killed him? Or would he have been able to continue living around lions?

We will never know because of the cub's early death.

"It would have been fantastic to see, when the leopard cub grew up, how things would be," Chakrabarti said. "But it didn't happen."



Quiz

- 1 Which sentence from the article helps the reader understand that it is rare for a wild animal to care for the orphaned young of a different species?
- (A) In the wild, caring for the babies of another animal does not make much sense.
 - (B) Wild animals do sometimes take care of babies born to other members of their own group.
 - (C) Before now, there were only two other known examples of one species adopting another species in the wild.
 - (D) In 2006, scientists discovered that a marmoset, which is a type of monkey, had been adopted by a family of capuchin monkeys.
- 2 Read the section "Species Were Enemies — But Got Along Fine."
Which selection explains why the lioness may have adopted the leopard cub?
- (A) The leopard cub ended up staying with his lion family for another 29 days.
 - (B) It is not clear why the leopard cub was adopted. One day after he was seen with the lioness, a female leopard was spotted nearby.
 - (C) There could be another reason the leopard cub was able to remain with his lion family.
 - (D) Females are left on their own after giving birth. This perhaps allowed the lioness and leopard cub to live together.
- 3 Why does Chakrabarti feel disappointed by the death of the leopard cub?
- (A) He cared about the leopard cub and wanted it to be happy.
 - (B) He wanted to study what happened as the cub grew up.
 - (C) He did not know that the cub had a medical problem.
 - (D) He hoped to return the leopard cub to its mother.
- 4 How do lions and leopards usually interact?
- (A) They compete for food and sometimes kill each other.
 - (B) They do not usually interact with each other.
 - (C) They often cooperate to hunt and share food.
 - (D) They live in the same areas, but try to avoid each other.

Name: _____

Camouflaged Creatures

by Guy Belleranti

In nature, predators and prey seem to play a game of hide-and-seek. Prey need to hide, so predators do not find them and eat them. Predators need to hide too, so smaller prey cannot see them approaching. Some animals have special colors or marks on their bodies that help them hide among trees, rocks, and grass. This blending is called camouflage.



Can you see the green snake in this picture? The snake's shape and color help it hide among the green forest leaves.

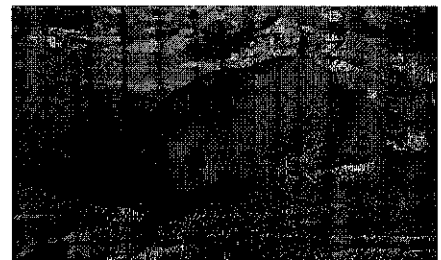
The earth tone colors of deer and squirrels help them hide from predators among the browns of trees, bushes and soil. A brown squirrel can be difficult to see when it is scampering among brown autumn leaves. A brown deer can be overlooked when it is hiding between tree trunks. The deer and squirrel's special coloring help them hide from predators.



African lions have a tan body coloring. However, lions use it not to hide from predators, but to hide in savanna grasses while watching for prey. A lion can sneak up on prey without being seen more easily by blending into the grassy environment.

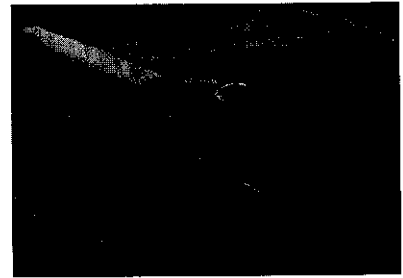
This owl sleeps during the day, so it does not want to be seen by other animals. Notice how its feather pattern and coloring match the tree trunk.

Another popular animal camouflage color is green. The green tree frogs of Australia blend in and hide from predators better because of their color. Green tree pythons and emerald boas, meanwhile, are more like lions, using their green color to blend in. When a likely meal (a rodent, bird or lizard) comes along these snakes strike quickly, catching the prey.



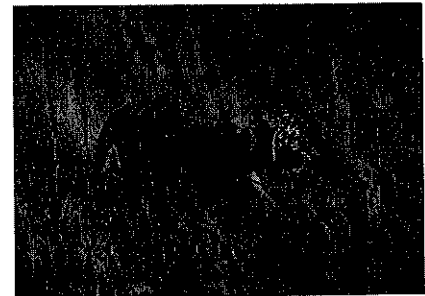
Is this polar bear camouflaged to protect itself from predators or to hunt prey?

The praying mantis takes things a step further. While its green to brown color helps it blend in with vegetation, the mantis also mimics the shape of a stem or leaf. The mantis uses these camouflage methods both to hide from predators like birds, frogs, snakes, spiders and bats, and to await prey such as insects (including other mantises!), spiders, hummingbirds, and small frogs and mice.



This praying mantis' body mimics its environment. It looks much like a leaf or twig. This type of blending is called mimicry.

Just as important as color camouflage and mimicry is pattern camouflage. Tiger stripes and leopard and jaguar spots are all patterns which help these cats hide among the plants and shadows when they search for prey.



A tiger has vertical stripes that help to hide it among tall grass. This is pattern camouflage.

In nature, hide-and-seek is a game of life and death. Pattern and color camouflage, and mimicry, can give predators and prey a survival advantage. Can you think of any other animals that have camouflage?

About the Author



Guy Belleranti is an author of fiction, poetry, articles, puzzles, and humor for children and adults. He also works as a docent at the Reid Park Zoo in Tucson, Arizona. The information in this article comes from his experiences teaching children about the wild animals at the zoo.

Name: _____

Camouflaged Creatures

by Guy Belleranti



1. How does a lion's special coloring help it survive?
 - a. It helps protect the lion from predators.
 - b. It helps the lion sneak up on predators without being heard.
 - c. It helps the lion hunt prey without being seen.
 - d. It makes the lion completely invisible.

2. Explain how a praying mantis uses more than just color to blend into its surroundings.

3. How does camouflage help a polar bear become a better predator?
 - a. It makes the polar bear more difficult to see in the woods.
 - b. It makes the polar bear more difficult to see on rocky ledges.
 - c. It makes the polar bear more difficult to see in a snowy environment.
 - d. It makes the polar bear more difficult to see underwater.

4. Read the following sentence from the article and choose the best definition for the underlined words.

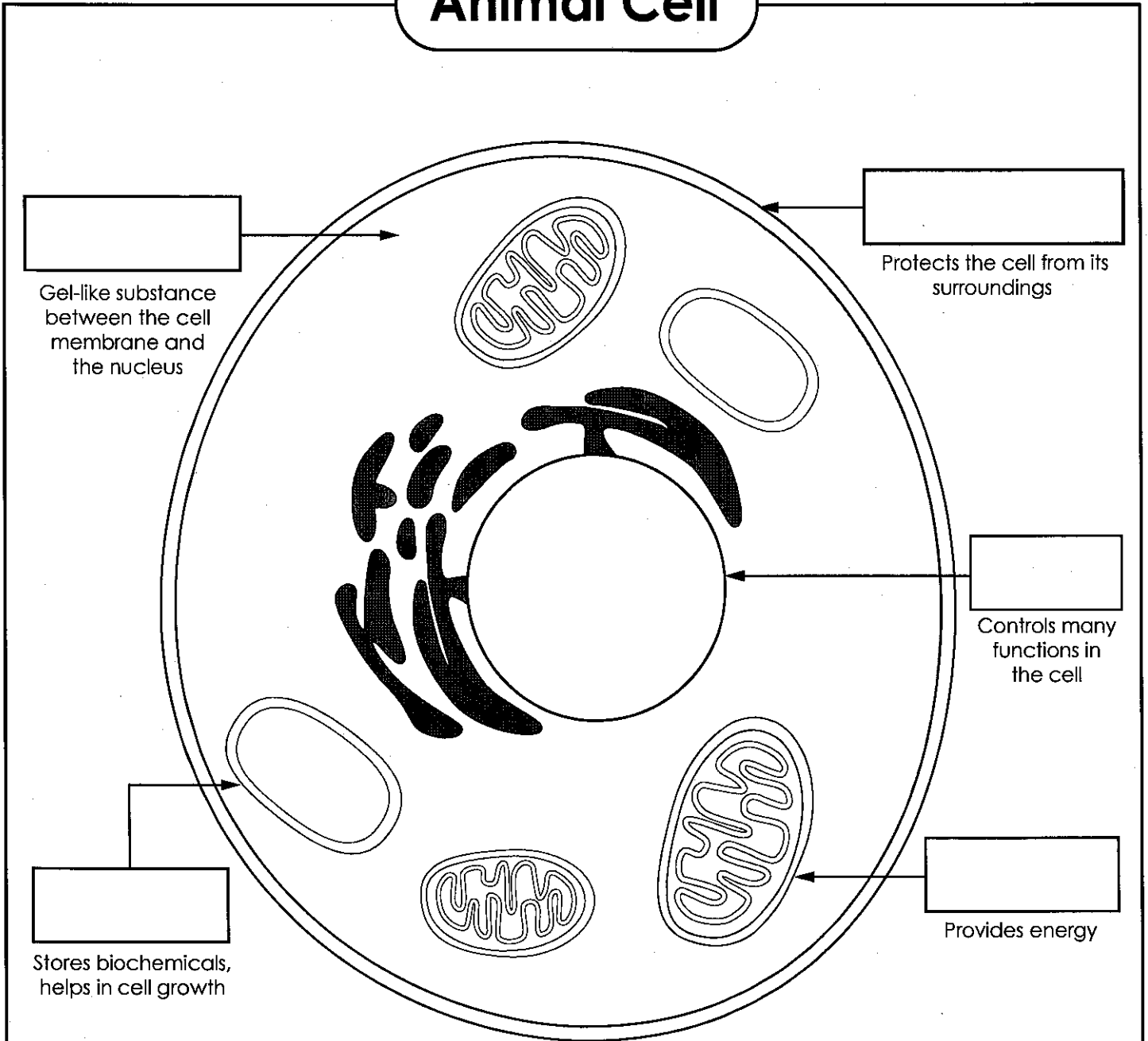
The earth tone colors of deer and squirrels help them hide from predators.

- a. color of summer leaves
- b. color of the morning sky
- c. color of soil and ground
- d. color of the planet Earth

Challenge: Draw a picture of a scene in nature. Include several camouflaged animals in your picture.

Name: _____

Animal Cell



Word Bank

Cell Membrane

Mitochondria

Vacuole

Cytoplasm

Nucleus

Name: _____

Plant Cell

Identify each part of the cell.

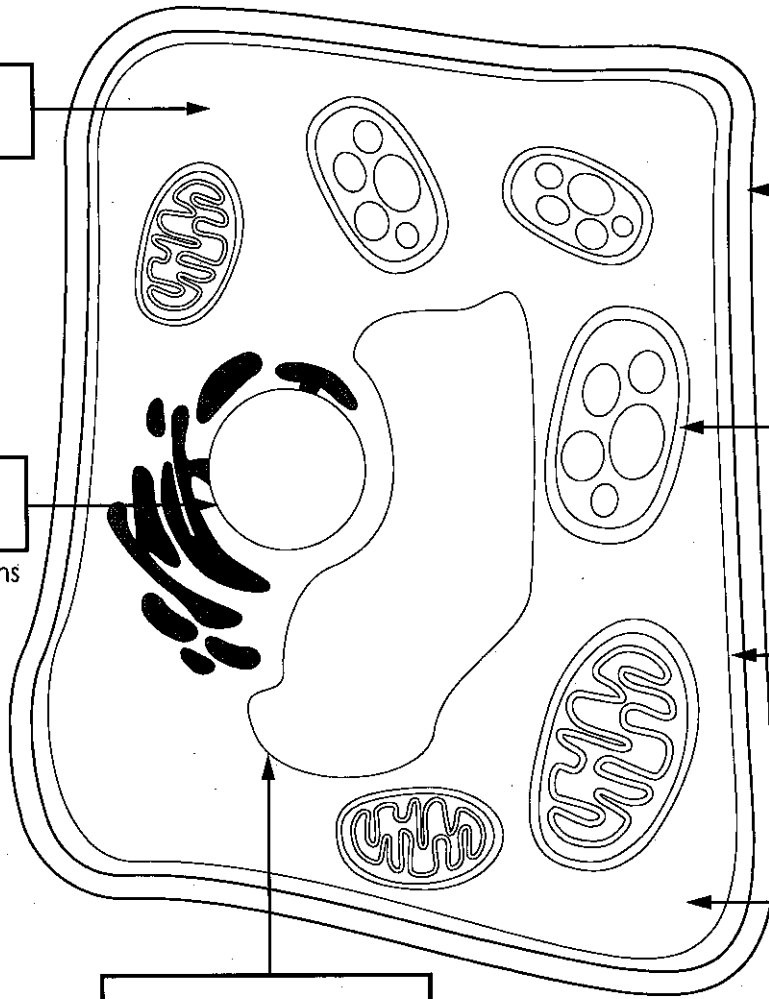
Gel-like substance between the cell membrane and the nucleus

Protects the cell from injury and holds the shape of the cell

Makes sugars and starches through photosynthesis

Controls what comes in and out of the cell

Provides energy



Controls many functions in the cell

Stores biochemicals, helps in plant growth

Word Bank

Cell Membrane

Mitochondrion

Vacuole

Cell Wall

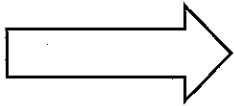
Nucleus

Chloroplast

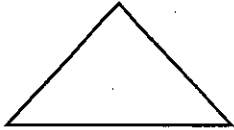
Cytoplasm

TEXT ANNOTATION

Use the following directions to annotate each of the texts in this journal.



Draw an arrow pointing at any words, phrases, or paragraphs that help the reader identify something new about the topic presented.



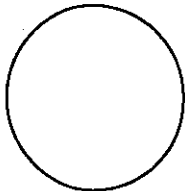
Draw a triangle next to or around any words you do not know. Then, look up the definition of the word. Write it in the margin or in your notes for future reference.



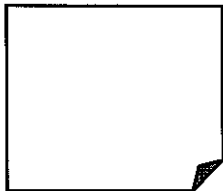
Draw a star next to any significant quotes. In the margin or in your notes, write WHY you believe the quote is significant to the passage.



Draw a rectangle around the part of the passage that BEST represents the author's main idea. In the margin or in your notes, explain why.



Draw a circle around any use of figurative language. In the margin or in your notes, explain how the figurative language impacts the passage.



Place a sticky note next to any part of the passage that you do not understand. Write a specific question on the sticky note for class discussion.



Highlight ONE quote that stands out most to you. In the margin or in your notes, explain why this quote made such an impact on you.



Underline any EXAMPLES the author provides about the topic.



Cross out any information that is irrelevant to the topic, if any.

Creatures FROM THE DEEP

Earth's surface is two-thirds covered by ocean. Unbelievably, 95% of the oceans have remained unexplored. From the shore, the first 200 meters of water is teeming with life because that's where sunlight penetrates. Beyond that the light quickly fades away, until at 1,000 meters the water is completely devoid of light and the deep ocean abyss awaits.

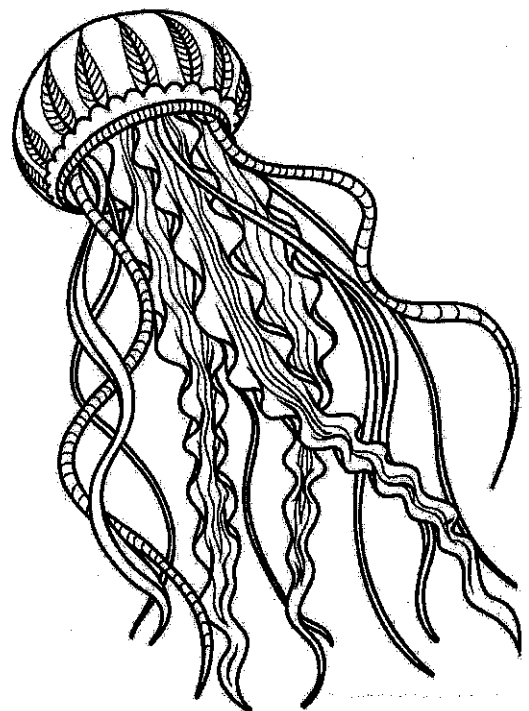
You might assume that without sunlight no lifeforms can exist in this pitch-black environment, but you would be wrong. There is an astounding variety of creatures that will boggle your mind. Because the temperatures are so cold, and the pressure is 40-110 times that of Earth, scientists can't scuba dive there. Instead, they must use sophisticated technologies to explore this vast frontier.

James Cameron, the maker of the movies *Avatar* and *Titanic*, is an avid deep-sea explorer. He explored the deepest part of the ocean called the Mariana Trench using a solo submarine called the Challenger Deep. Other types of exploration vehicles are human-occupied vehicles (HOVs) that can transport up to three people to the ocean floor. Autonomous underwater vehicles (AUVs) are robotic vehicles that can collect data from the deep parts of the ocean. These vehicles allow for greater depth in exploration of the deep ocean.

What kinds of creatures can live in this icy cold, pitch-black, crushing environment? The answer to that is thousands of fascinating animals including jellyfish, crustaceans such as shrimp and crabs, corals, fish, and worms. These animals look quite strange compared to their counterparts closer to shore. Their eyes might be huge or even eyes on stalks to capture what little light there is. Others have extremely large mouths and fang-like teeth which are always open, ready to catch food from above. Some have transparent bodies for camouflage.

A surprise discovery in the 1970s led famous deep-sea explorer Robert Ballard, who also discovered the *Titanic*, to find hydrothermal vents on the ocean floor. Here through cracks in the ocean floor he observed hot steaming water and smoke bubbling up into the cold ocean water. The animals living around these vents were converting energy from the minerals in the water to give them life.

There were many new species found during Ballard's discovery. The strangest creatures were giant red-tipped tube worms and white worms as tall as your refrigerator. Explorers continue to learn many lessons from visits to the abyss.



Creatures FROM THE DEEP

Answer the questions below based on the article about creatures from the deep.

COMPREHENSION QUESTIONS:

1. What is the deepest part of the ocean called? Highlight your answer in the text.

2. Why can't scuba divers dive to the deepest parts of the ocean? Underline your answer in the text.

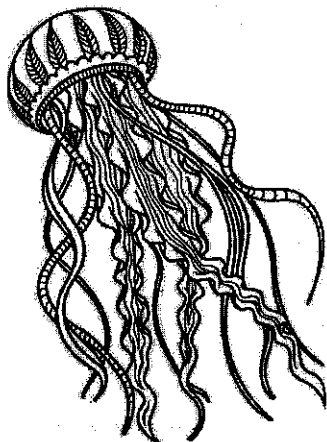
3. How do explorers and scientists explore the deep ocean floor? Put a star * next to your answer in the text.

4. What did Robert Ballard discover in the 1970s?

5. What kind of animals are found in the harsh environment of the floor of the ocean?

6. What are some physical differences in these ocean animals?

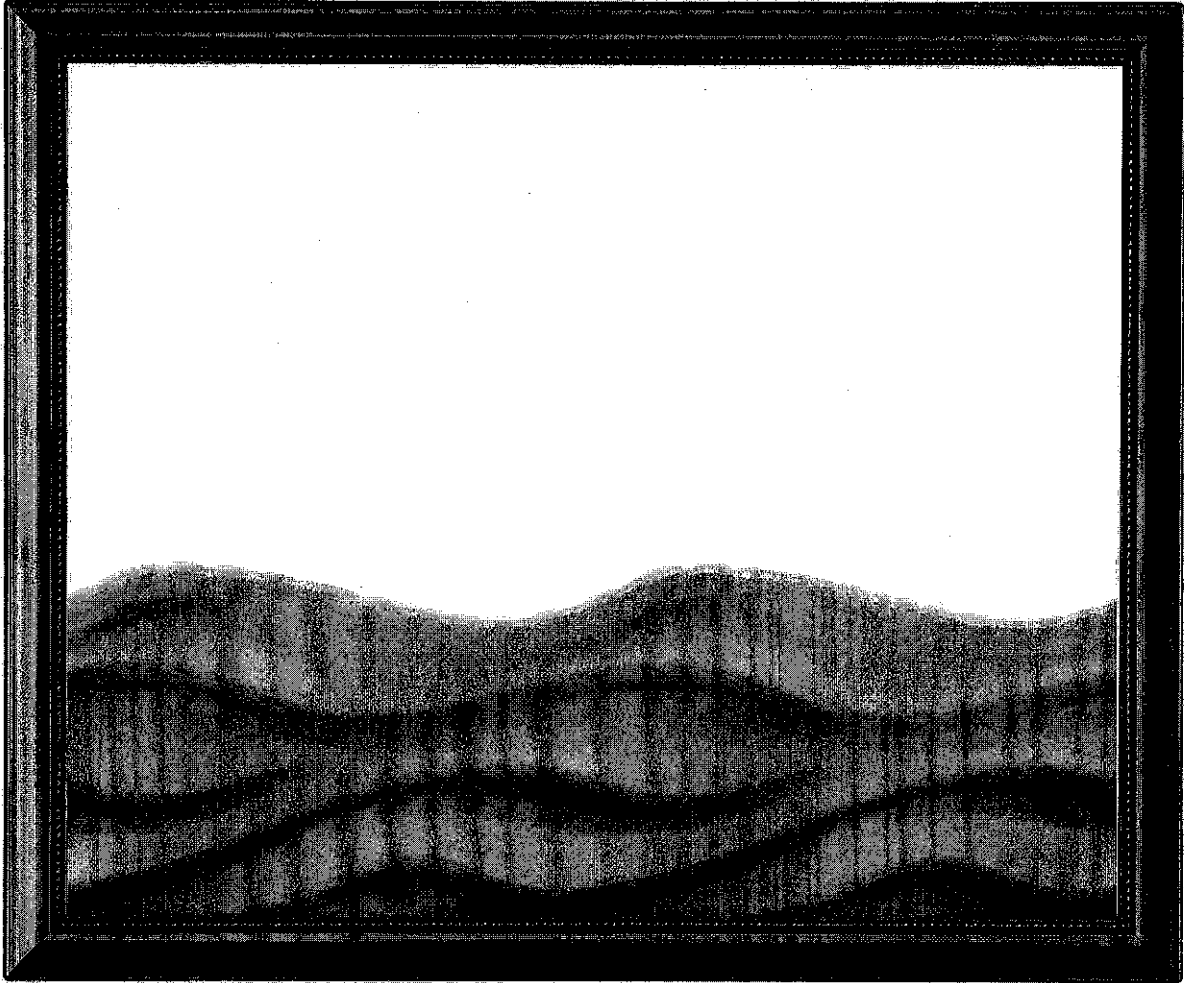
Mini-PROJECT: INVENT A CREATURE



You are a scientist researching the deep ocean floor. You have discovered a new sea animal. Draw a picture using document provided. Then on your own sheet of notebook paper, explain its habitat, and describe the new species in detail.

- Sketch and name the new species
- Determine its habitat, diet, and similar species
- Explain all of the above in a three-paragraph essay

Creatures FROM THE DEEP



Describe the creature's habitat, diet, and similar species.

Name: _____

Armored Animal

by Guy Belleranti

What mammal lives only in the Americas, looks a little like a monster-sized pillbug, and wears a coat of armor on its back, head, legs, and tail? An armadillo, of course.

What is an armadillo's armor like?

The armadillo's armor is made up of plates of skin-covered bone. Between these bony sections are flexible bands of skin. Hair grows through the skin on these bands and also on the animal's sides and much softer belly. How many bands an armadillo has depends upon the species.



Where do armadillos live? Wild armadillos live in the grasslands, forests, and deserts of North and South America. One species, the nine-banded armadillo, has extended its range as far north as the United States. They can be found in several states, including Texas, Florida, Georgia, and the Carolinas. Most other species live in South America, with some also in Central America and Mexico.

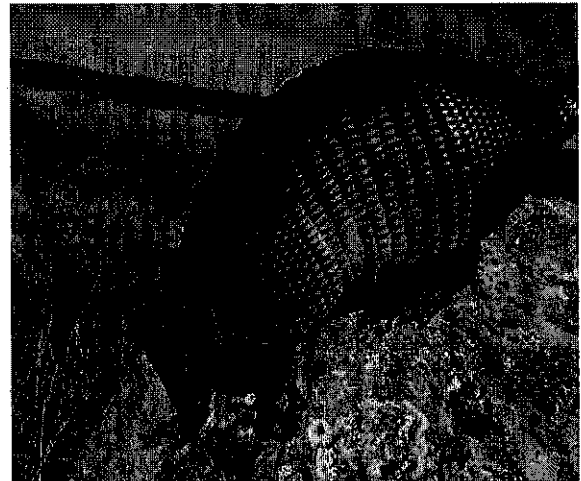
How big are they? The smallest armadillo, the pink fairy armadillo, is only six inches long. Meanwhile, the giant armadillo can be five feet long and weigh up to 100 pounds! The nine-banded variety that is found in the United States can grow up to two feet long and weigh up to 22 pounds.

Can they roll up in a ball to protect themselves from predators? While the animal's armor provides some protection, only the small three-banded armadillo can roll into a complete ball. Other species escape predators like wild cats and birds of prey by racing into thorny bushes or by burrowing into the ground with their sharp claws. In fact, most armadillos sleep in the warmth of an underground burrow.

What do armadillos eat? Their main diet consists of insects. Using their nose for smelling and their claws for digging, armadillos find beetles, ants and termites and pull them into their mouths with their worm-like tongues. Armadillos also eat plants, fruit, eggs, and small animals, both alive and dead.

What time of day does an armadillo search for food? Well, that depends on the season. Armadillos don't do well in cold weather, so in winter they come out more during the warmth of day. In summer they become more nocturnal, coming out during the night or at dusk or dawn.

Do armadillos swim? You'd think swimming with a suit of armor would be hard. However, by gulping air into their digestive tract armadillos are able to stay afloat as they paddle. Armadillos can also go underwater and walk along a stream bottom for up to six minutes.



Do armadillos live in groups? Armadillos tend to be solitary. However, when it's cold they do sometimes group together.

What are baby armadillos like? At birth an armadillo's armor is soft and leathery. It hardens as the animal grows. Armadillo mothers give birth to differing numbers of young depending upon the species. The nine-banded armadillo always has four identical babies, either four brothers or four sisters.

Are armadillos endangered? The nine-banded variety is not endangered, and their numbers are growing. Most other armadillo varieties are decreasing in number. They've lost habitat to farms and other human settlements. Also, armadillos are often hit by cars while crossing roads. A few people even hunt them for food.

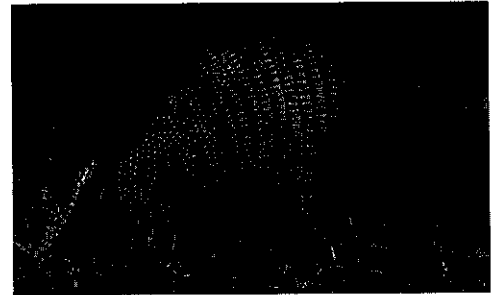
About the Author

Guy Belleranti works as a docent at Reid Park Zoo in Tucson, Arizona. The information in this article comes mainly from his experiences working with animals and teaching others.

Name: _____

Armored Animal

by Guy Bellerant



1. An armadillo's diet is mainly composed of...
- a. eggs
 - b. fruit
 - c. plants
 - d. insects

2. Can armadillos roll up in a ball to protect themselves from predators?
- a. Most species of armadillos can roll up into a ball to protect themselves.
 - b. Only baby armadillos can roll up into a ball to protect themselves.
 - c. Only adult armadillos can roll up into a ball to protect themselves.
 - d. Only one species of armadillo can roll up into a ball for protection.

3. Name two natural predators of armadillos mentioned in the article.
- _____ and _____

4. Armadillos in the United States are...
- a. do not have as much armor as South American armadillos
 - b. not endangered
 - c. only found in Texas and Florida
 - d. found in every state except Alaska and Hawaii

5. An adult armadillo in the United States would probably measure about...
- a. 60 inches long
 - b. six inches long
 - c. 24 inches long
 - d. twelve inches long

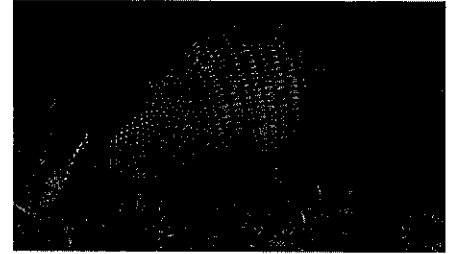
5. An armadillo is a...
- a. reptile
 - b. amphibian
 - c. arthropod
 - d. mammal

Name: _____

Armored Animal

by Guy Belleranti

Match each vocabulary word from the article with the correct definition.



- | | |
|---------------------|---|
| _____ 1. pillbug | a. diminishing; going down in number |
| _____ 2. flexible | b. hard surface used for protection |
| _____ 3. burrowing | c. time of day shortly before the sun rises |
| _____ 4. armor | d. twilight |
| _____ 5. dusk | e. small animal that can roll up into a ball for protection |
| _____ 6. dawn | f. digging a hole or tunnel in the ground |
| _____ 7. solitary | g. bendable |
| _____ 8. decreasing | h. alone |

- ◆ Now try this: On a sheet of lined paper, use each vocabulary word from above in a sentence.

