Endangered Rescue: Chambered Nautilus

Name: _____Date: _____

Directions: Circle the letter of the best answer for each question.

1. The chambered nautilus is a type of cephalopod. Which animal below is NOT a cephalopod?

A. Cuttlefish
B. Starfish
C. Squid
D. Octopus

2. Cephalopods usually have highly developed senses, a large brain, and…

A. A backbone
B. Tentacles
C. Scales
D. A prominent head

3. The nautilus lives 1,000 to 2,000 feet underwater. What is that environment like?

A. Extremely dark
B. Many plants
C. Warm water
D. Many predators

4. True or false: Nautiluses don't occupy the entirety of their shells.

A. True
B. False

5. About how big is the largest known chambered nautilus shell?

A. About 1 inch
B. About 12 inches
C. About 3 feet
D. About 6 feet

6. How many tentacles can a chambered nautilus have?

A. Fewer than 10
B. Up to 30
C. About 60
D. As many as 90

7. True or false: The spiral of a nautilus shell is a perfect example of the golden ratio.

A. True
B. False

8. Nautiluses have a sensory structure called a rhinophore. What does it help them do?

A. See
B. Hear
C. Smell
D. Touch

9. Which foods would a chambered nautilus use its tentacles and rhinophores to find?

A. Algae and seaweed
B. Large, fresh fish
C. Clams and oysters
D. Decaying animals

10. Some call the nautilus a “living fossil.” How long has the nautilus lineage existed?

A. 2,000 years
B. 100,000 years
C. 30 million years
D. 500 million years

11. How long can a nautilus hold information in its long-term memory?

A. About 5 minutes
B. Almost 1 hour
C. Up to 24 hours
D. About 1 week

12. Experiments show nautiluses have spatial memory. What do they use it for?

A. Recognizing faces
B. Navigating familiar places
C. Changing shell color
D. Remembering sounds

13. Scientists can’t tell a grown nautilus’s exact age, but some believe nautiluses can live up to how long?

A. Less than 1 year
B. Up to 5 years
C. About 10 years
D. 50 years or more

14. What is the main reason the chambered nautilus is threatened in many ocean regions?

A. Warming waters
B. Loud boat noise
C. Too little food
D. Overfishing

15. Why is slow reproduction such a serious problem when nautilus populations are overfished?

A. More predators
B. Eggs are destroyed
C. Only live a short time
D. Cannot replace losses

Answer Key

1. B. Starfish

Cephalopods are ocean animals with arms or tentacles around their mouths, such as the octopus, squid, cuttlefish, and nautilus. Starfish are not part of this group.

2. D. A prominent head

Cephalopods are known for their prominent heads, highly developed senses, and large brains. They are curious creatures that are good at exploring and solving problems.

3. A. Extremely dark

At these depths the ocean is extremely dark, which helps keep the nautilus safe because predators are less likely to spot it. Recreational divers only go about 100 feet down.

4. A. True

The nautilus lives in only part of its spiral shell. When threatened, it can retract its full body into the shell.

5. B. About 12 inches

A nautilus shell usually ranges from 4.5 to 10 inches. The largest known nautilus shell specimen is about 12 inches in diameter.

6. D. As many as 90

A chambered nautilus typically has 90-94 tentacles, which it uses to find food and to find a mate. Other species of nautilus may have between 50 to over 90.

7. B. False

Close, but not quite! The nautilus's distinctive spiral shell is almost, but not exactly, an example of the golden ratio. Test it yourself: Myth or math? Is the nautilus shell's golden ratio real?

8. C. Smell

The rhinophore is a body part that helps a nautilus sense chemicals in the water, much like smelling. Along with its tentacles, the nautilus uses it to search out food.

9. D. Decaying animals

Though nautiluses occasionally hunt for small fish, shrimp, or crabs, they don't have great eyesight, so they mostly search out decaying food items dropped by other animals. They're like the ocean's little janitors!

10. D. 500 million years

The chambered nautilus lineage has existed with very little change to its anatomy for the last 500 million years.

11. C. Up to 24 hours

Drs. Jennifer Basil, Robyn Crook, and Gregory Barord found that nautiluses have a biphasic memory curve: short-term memory for up to an hour and long-term memory for up to 24 hours. Dig deeper: Can a living fossil learn new tricks? Meet the nautilus!

12. B. Navigating familiar places

Spatial memory means remembering where things are and how to move through a place. Nautiluses use it to navigate familiar areas more efficiently, including mazes they have been through before.

13. D. 50 years or more

A nautilus can generally live more than 20 years, and some scientists believe it may live up to and beyond 50 years. Its lifecycle is much longer and slower than other cephalopods'.

14. **D. Overfishing**

    Overfishing means catching animals faster than their populations can replace them. Nautilus shells are sold for jewelry and décor. Despite CITES protection since 2017, over 10,000 were openly used in traded goods in 2024.

15. **D. Cannot replace losses**

    Nautiluses don’t lay eggs until they mature at about age 10, and the eggs take at least a year to hatch. Populations are being depleted much faster than they can recover.