



SHAPE OF LIFE: CNIDARIANS

1. This video is titled, "Cnidarians: *Life on the Move*." Which phylum did we learn about prior to cnidarians that includes members that are all sessile and do not frequently move?

Porifera (sponges)

2. True or False: Early naturalists thought anemones may have been plants. True

3. What group of animals existed prior to cnidarians? Sponges

4. What turning point in animal behavior did cnidarians mark?

Cnidarians have tentacles that are sensitive, can reach out, and can perceive the world.

5. When did cnidarians develop other features such as a mouth and stomach?

More than 500 million years ago

6. Cnidarians were the very first animals to move.

7. How many sets of muscles do cnidarians have? What does this allow them to do?

Cnidarians have 2 sets of muscles. This allows them to bend in any direction.

8. What type of cells do cnidarians have to control their muscles through electrical impulses?

Nerve cells (nerves)

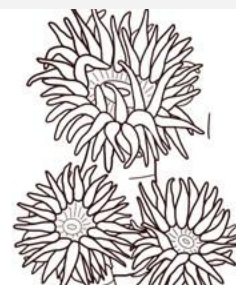
9. True or false: Cnidarians were the first active predators on the planet. True

10. How do **nematocysts** help a cnidarian to hunt?

The nematocysts discharge at a rapid rate when touched, filling the prey with toxins.

11. What did the anemone do when it caught the goby?

The sea anemone dragged the goby into its mouth using its tentacles, digesting the goby while it was still alive.



12. True or false: Nematocysts always appear the same. False

13. True or false: All cnidarian toxins are fatal to humans. False

14. In addition to capturing food with their nematocysts, what else do cnidarians use them for?

Cnidarians also use them to battle against each other over territory.

15. While you watch the anemones battling does it appear that they can sense pain? Why or why not?

It does appear that they can sense pain! Each time they are touched by the other anemone, they retract back.

16. True or False: An anemone can kill another anemone. True

17. What does the losing anemone do?

The losing anemone curls within itself and will eventually move to a new location.

18. What do coral polyps eat? plankton

19. How did stomphia know that the sea star was near it?

Stomphia was able to feel the sea star

20. What can stomphia do to avoid predation by the sea star?

Stomphia detached its basal disk from the ground and swam away!

21. Which type of cnidarians existed first: polyps or medusae? polyps

22. What are two differences between a polyp and a medusa?

The location of the mouth, thinner tentacles in polyp, the medusa has a bell, the medusa is like a polyp flipped upside-down.



23. Where can you find jellyfish? Circle all that apply.

upper oceans

deeper water

24. Describe praya.

Praya is a combination of the polyp and medusa body plans. It has a pulsing medusa at the top with a stalk-like polyp and trailing tentacles.

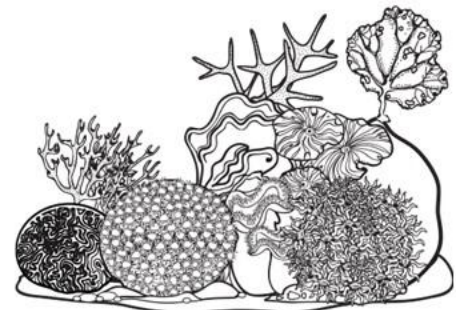
25. How long can praya be? 120 feet

26. What is colobonema's defense mechanism?

Colobonema detaches its tentacles to deter and distract predators.

27. **Conclusion Question:** Sponges did not need to have muscles. Why do cnidarians need to have muscles?

Cnidarians need to have muscles so that they can hunt prey, either swimming towards it or moving towards it. Cnidarians also use their muscles to swim (the bell of a jellyfish contracting). Lastly, cnidarians use their muscles to avoid predation (ex. stomphia escaping the sea star).



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MYTH OR FACT CHALLENGE
Phylum Cnidaria

Cnidaria Myth or Fact #1
• Phylum Cnidaria includes sea stars, sea cucumbers, jellyfish, and sea anemones.
Myth

Cnidaria Myth or Fact #10
• A Portuguese man-of-war is a colony of hundreds of individual organisms living together.
Fact

Cnidaria Myth or Fact #11
• Unlike sponges, jellyfish have separate male and female forms.
Myth

Cnidaria Myth or Fact #17
• The Great Barrier Reef began growing around 2,000 years ago.
Myth

VERSATILE & LOW PREP

Science from SCRATCH

PHYLUM CNIDARIA
Coloring Activity

Cnidocyte Anatomy

Medusa Anatomy

Polyp Anatomy

NO PRIOR LEARNING NEEDED!

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Unit 4: Phylum Mollusca

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