One Opening, Two Lifestyles

Compare attached polyps and swimming medusae

ZOO.2.6 "Contrast the polyp lifestyle of most Cnidarians with the medusa lifestyle of jellyfish, including how they both utilize a single body opening."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB As you read, underline how each animal catches food, circle what the passage says about its mouth, and number each place where the passage contrasts the two body forms.

From Rock to Open Water

(1) At low tide, a sea anemone grips a rock while waves sweep past. This animal is a cnidarian in a polyp form: its column-shaped body stays attached at one end, and its mouth and ring of tentacles face outward into the water. Stinging cells on the tentacles help it capture small fish or drifting animals. The tentacles move food toward the mouth, which leads to an internal digestive cavity. After the meal is digested, undigested remains leave through that same mouth. There is no separate anus. Many cnidarians, including sea anemones and corals, spend most of their lives as attached polyps.

(2) Farther from shore, a moon jelly moves through the water as a medusa. Its bell-shaped body pulses, helping it swim, though currents also carry it along. Its mouth hangs beneath the bell, and its tentacles and other stinging structures help it catch tiny prey. Food enters the mouth and reaches a digestive cavity. Material the animal cannot digest exits through the same opening, not through a separate anus. Unlike the anchored anemone, the swimming medusa can meet prey as it travels through open water. Moon jellies also have a small, attached polyp stage earlier in their life cycle.

(3) Imagine a current carrying tiny prey past both animals. The anemone remains in place and catches prey delivered within reach of its tentacles. The moon jelly drifts and pulses through the current, encountering prey along its path. Their body positions differ too: the anemone's mouth points into surrounding water from its attached body, while the jelly's mouth faces down beneath its bell. Yet both follow the same digestive route: prey enters a mouth, is broken down in a digestive cavity, and undigested material leaves by the mouth. Polyp and medusa describe body forms, not two different methods of digestion.

2 ANSWER WITH EVIDENCE

Use the passage

1. Contrast how the anemone and the moon jelly move and encounter prey.

2. How does the position of the mouth differ in these two body forms, and what do their mouths have in common?

3. A classmate says a moon jelly needs an anus because it swims. Explain why this is incorrect, using the anemone as a comparison.

4. Why is it inaccurate to say a moon jelly is always a free-swimming medusa? Compare its earlier stage with the anemone.

3 YOUR TURN

Your own words

Write a 75 to 100 word museum label comparing an attached polyp and a swimming medusa in a current carrying prey. Explain how each encounters food, trace what enters and leaves their single opening, and correct a misconception about jellyfish life stages.

ANSWER KEY

One Opening, Two Lifestyles

PART 1 · READ AND MARK

As you read, underline how each animal catches food, circle what the passage says about its mouth, and number each place where the passage contrasts the two body forms. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Contrast how the anemone and the moon jelly move and encounter prey.	**The anemone stays attached and catches prey that passes its tentacles. The moon jelly pulses and drifts through the water, encountering prey along its path.**
2	How does the position of the mouth differ in these two body forms, and what do their mouths have in common?	**The polyp's mouth faces outward from its attached body, while the medusa's hangs beneath its bell. In both, the mouth is the single opening used for food entry and the exit of undigested remains.**
3	A classmate says a moon jelly needs an anus because it swims. Explain why this is incorrect, using the anemone as a comparison.	**Swimming does not change the jelly's digestive route. Like the attached anemone, it takes food in and releases undigested remains through its mouth; neither has a separate anus.**
4	Why is it inaccurate to say a moon jelly is always a free-swimming medusa? Compare its earlier stage with the anemone.	**A moon jelly has a small, attached polyp stage earlier in its life cycle. At that stage it is attached, like an anemone, rather than swimming as a medusa.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

A sea anemone waits on a rock while a moon jelly pulses through the same current carrying prey. The attached polyp catches passing animals with its tentacles; the medusa encounters prey as it moves and drifts. The anemone's mouth faces outward, while the jelly's hangs beneath its bell. In both animals, captured food enters the mouth and reaches a digestive cavity. Undigested remains leave through that same opening because neither animal has a separate anus. A moon jelly is not always a medusa: it has an attached polyp stage earlier in life.

Accept descriptions of the polyp's mouth as facing outward or into the water. Students should distinguish undigested remains leaving through the mouth from food entering it, and should not claim that all jellyfish remain medusae for their entire lives.