Escape on the Reef

Trace how cephalopod traits help an octopus feed and survive.

ZOO.3.6 "Examine how the unique characteristics of cephalopods lead to survival."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline five octopus features or actions that help it survive. Circle the survival benefit of each one, then give each matching pair the same number.

An Octopus at Dusk

1 At dusk, an octopus leaves a rocky reef to hunt. Its eight arms carry suckers that grip surfaces and detect chemicals when they touch prey. By sweeping an arm into a dark crevice, it can locate a hidden crab without putting its whole body inside. A crab's hard shell is difficult to open, but the suckers help hold the crab while the octopus uses its beak to bite. Finding and securing prey provide energy for growth and escape. Yet hunting can draw the octopus into the path of a large grouper.

2 A grouper spots the octopus beside a pale rock. Tiny pigment sacs called chromatophores expand or contract in its skin, changing visible colors and patterns. The octopus can match nearby surfaces well enough to be harder for a predator to spot, although camouflage does not make it invisible. If the grouper comes closer, the octopus can expel ink into the water. The dark cloud briefly obscures the grouper's view while the octopus moves away. Ink is not a shield; its value comes from buying time. These defenses work differently: one lowers the chance of being noticed, while the other interrupts an attack already underway.

3 When the grouper rushes forward, the octopus draws water into its mantle cavity and forces it out through a funnel. This jet pushes its body in the opposite direction, allowing a quick escape. It heads for a tight gap between rocks. With no rigid skeleton, its soft body can squeeze through openings wider than its hard beak. The large grouper cannot follow it into that narrow gap. Jetting uses energy, so the octopus cannot depend on sprinting forever. Rapid movement gets it to shelter, and its flexible body makes that shelter useful after the chase.

2 ANSWER WITH EVIDENCE

Use the passage

1. How do the octopus's suckers help it survive while hunting the crab?

2. How do changing skin patterns and releasing ink protect the octopus at different points in an encounter?

3. Why are both jetting and a flexible body useful during the octopus's escape?

4. How does the octopus's beak limit where it can hide, even though its body is soft?

3 YOUR TURN

Your own words

Imagine an octopus crosses open sand toward a crab hidden beneath a shell. A large fish approaches, and a rocky gap is nearby. In three sentences, describe a sequence using at least two traits from the passage to get food or avoid the fish, and explain one limit of a trait you use.

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PART 1 · READ AND MARK

Underline five octopus features or actions that help it survive. Circle the survival benefit of each one, then give each matching pair the same number. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How do the octopus's suckers help it survive while hunting the crab?	**They help it detect and hold the crab, allowing it to secure food that provides energy.**
2	How do changing skin patterns and releasing ink protect the octopus at different points in an encounter?	**Skin patterns make the octopus harder to spot. Once the grouper approaches, ink briefly obscures its view and gives the octopus time to move away.**
3	Why are both jetting and a flexible body useful during the octopus's escape?	**Jetting moves the octopus quickly toward shelter, and its flexible body lets it squeeze into the narrow gap.**
4	How does the octopus's beak limit where it can hide, even though its body is soft?	**Its hard beak cannot squeeze through a gap narrower than the beak, so the opening must be wider than that.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would reach beneath the shell with an arm and use its suckers to find and grip the crab. When the large fish approached, I would release ink and jet toward the rocky gap, making it harder for the fish to track me. Jetting uses energy, so I would hide in the gap instead of trying to sprint for a long time.

Accept other accurate sequences that use at least two passage traits, connect them to feeding or escape, and explain a stated limit. Ink briefly obscures a predator's view; it does not block the predator physically.