Claws With Purpose

How decapods use chelae to feed, defend themselves, and reproduce

ZOO.5.6 "Describe the importance of chela for decapods, (i.e., lobsters and crabs)."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline one sentence about getting food, one about avoiding danger, and one about attracting a mate. Number them 1, 2, and 3 in that order to track three ways chelae matter.

More Than a Pinch

1. At low tide, a crab meets a hard-shelled mussel on a rock. Its chelae, the pincers at the ends of specialized legs, close when muscles inside the hard outer skeleton pull them shut. A strong chela can crush a small mussel's shell, giving the crab access to food it could not simply bite through. Another chela may grip and turn the mussel while the crab searches for a weak spot. Not every crab eats mussels, and claw size and shape vary among species. Still, the ability to seize and process food makes chelae valuable tools for many decapods.

2. A lobster uses its chelae differently as it moves across the seafloor. In species such as the American lobster, one large claw often has broad, rounded teeth suited to crushing, while the other often has sharper teeth suited to gripping and tearing. The lobster can hold a piece of prey with one claw and break it apart with the other. Chelae also matter when danger approaches. A crab may raise and snap its claws at an intruder, making it harder for a predator to grab the crab without being pinched. A chela is useful, but it does not make an animal safe from every predator.

3. On a tidal flat, a male fiddler crab waves one oversized chela to attract females. He also uses that claw in contests with other males over space. His much smaller chela picks up bits of food from the sediment, so the two claws do different jobs. A female fiddler crab has two smaller chelae and can gather food with both. Chelae are not just weapons: they can affect how an animal feeds, protects itself, and competes for a chance to reproduce. The most useful claw for one task may be poorly suited to another, which helps explain why claw shapes differ.

2 ANSWER WITH EVIDENCE

Use the passage

1. How do a crab's chelae help it get food from a mussel?

2. Why are two differently shaped claws useful when an American lobster feeds?

3. How can raising and snapping its chelae help a crab facing a predator, and what is the limit of this defense?

4. How do a male fiddler crab's two chelae serve different needs?

3 YOUR TURN

Your own words

Imagine a crab loses one chela during an attack. In three sentences, explain how this could change both its feeding and its defense, then describe how the remaining chela could help.

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PART 1 · READ AND MARK

Underline one sentence about getting food, one about avoiding danger, and one about attracting a mate. Number them 1, 2, and 3 in that order to track three ways chelae matter. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How do a crab's chelae help it get food from a mussel?	**One chela can crush a small mussel's shell, while another may grip and turn it to help the crab reach the food inside.**
2	Why are two differently shaped claws useful when an American lobster feeds?	**A claw with broad teeth can crush prey, while one with sharper teeth can grip and tear it.**
3	How can raising and snapping its chelae help a crab facing a predator, and what is the limit of this defense?	**The chelae can make the crab harder to grab without being pinched, but they cannot protect it from every predator.**
4	How do a male fiddler crab's two chelae serve different needs?	**The enlarged chela helps attract females and compete with males, while the smaller chela gathers food.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

With one chela missing, the crab might have trouble holding food steady while breaking it apart. It could also have fewer ways to pinch a predator. Its remaining chela could still grip food or help discourage an attacker.

Accept other passage-supported explanations of feeding and defense. Responses should describe what a chela does and why that action matters, rather than only naming a use.