Clues on the Dock

Identify arthropod groups using body features

ZOO.5.4 "Identify organisms and characteristics of chelicerates, crustaceans, and insects."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each animal's leg and antenna clues in the passage. Then number the six animals and write C for chelicerate, R for crustacean, or I for insect beside each number.

Six Finds at a Field Station

1 At a field station, a student finds six arthropods and needs more than a quick glance to sort them. Arthropods have jointed legs and a hard outer covering, but three major groups show useful patterns. Chelicerates usually have four pairs of walking legs and no antennae. Crustaceans typically have two pairs of antennae, and many have at least five pairs of legs, including legs adapted as claws. Insects have three pairs of legs, one pair of antennae, and a body divided into head, thorax, and abdomen. Wings, when present, attach to an insect's thorax. Claws alone do not identify a group.

2 On a dock, a shore crab sidesteps into a crack. Its first pair of legs ends in large claws; behind them are four pairs of walking legs. Two short pairs of antennae extend near its eyes. Under a board, a cellar spider holds eight long walking legs around a body with two main regions. It has no antennae. A dragonfly rests beside the dock. Its six legs grip a reed, and two pairs of wings rise from its thorax. A single pair of short antennae points forward from its head. The three animals share the dock, not the same body plan.

3 In the damp leaf litter beyond the dock, a pill bug curls into a ball. It has seven pairs of walking legs and two pairs of antennae, although one antenna pair is tiny. Nearby, a scorpion raises its pincers. The pincers are not its walking legs: it has four pairs of walking legs and no antennae. A worker ant carries a seed past both animals. It has three pairs of legs, a head, a thorax, an abdomen, and one pair of antennae. The ant has no wings. A missing wing is less informative than leg and antenna counts.

2 ANSWER WITH EVIDENCE

Use the passage

1. Which group includes both the cellar spider and the scorpion? Give the two clues they share.

2. Which group includes both the shore crab and the pill bug? What antenna clue supports your answer?

3. The worker ant has no wings, but the dragonfly has wings. Why do they belong in the same group?

4. The shore crab and the scorpion both have pincers or claws. Which clue places them in different groups?

3 YOUR TURN

Your own words

Invent three new arthropod specimens and give each a nickname. Write one or two sentences for each specimen that describe its legs and antennae, identify its group, and explain how those clues support your choice.

Clues on the Dock

PART 1 · READ AND MARK

Underline each animal's leg and antenna clues in the passage. Then number the six animals and write C for chelicerate, R for crustacean, or I for insect beside each number. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Which group includes both the cellar spider and the scorpion? Give the two clues they share.	**Both are chelicerates. Each has four pairs of walking legs and no antennae.**
2	Which group includes both the shore crab and the pill bug? What antenna clue supports your answer?	**Both are crustaceans. Each has two pairs of antennae.**
3	The worker ant has no wings, but the dragonfly has wings. Why do they belong in the same group?	**Both are insects because each has three pairs of legs, one pair of antennae, and a head, thorax, and abdomen.**
4	The shore crab and the scorpion both have pincers or claws. Which clue places them in different groups?	**The shore crab has two pairs of antennae, so it is a crustacean. The scorpion has no antennae and four pairs of walking legs, so it is a chelicerate.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Pebble Runner has four pairs of walking legs and no antennae. Those clues make it a chelicerate. Marsh Crawler has seven pairs of legs and two pairs of antennae, so I classify it as a crustacean. Reed Hopper has three pairs of legs and one pair of antennae. Those features identify it as an insect.

Accept any invented specimens whose leg and antenna descriptions support their assigned groups. A crustacean may have legs adapted as claws rather than all walking legs.