

Wetland Sorting Lab

Use shared traits and nested ranks to evaluate organism groups.

S5L1 "Obtain, evaluate, and communicate information to group organisms using scientific classification procedures."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Circle the seven rank names in paragraph 2. In paragraph 3, underline the four sentences that describe an animal's traits, not the final warning sentence, to mark evidence scientists use for grouping.

Grouping Wetland Vertebrates

- ① When biologists sort living things, they do more than place them by where they live. They compare inherited body traits, such as feathers, hair, scales, or a backbone. Organisms with many shared traits are placed in the same group. A useful group has a clear rule, so another scientist can check the evidence and sort the organisms again.
- ② Scientific classification uses nested ranks. Each smaller rank fits inside a broader one, like labeled boxes. The ranks are kingdom, phylum, class, order, family, genus, and species. Scientists identify an organism at several ranks because one trait alone can be misleading. A species name identifies one kind of organism, while higher ranks include many kinds.
- ③ At a wetland study, students recorded traits of four vertebrates. A mallard has feathers and lays eggs. A painted turtle has dry scales and lays eggs. A bluegill has scales, fins, and gills. An American bullfrog has moist skin and begins life with gills. The students should not group the turtle and bluegill only because both have scales. Their other traits show important differences.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 Using the rule "lays eggs," which two animals belong in one group? What passage evidence supports the group?

2 The painted turtle and bluegill both have scales. What other recorded traits distinguish them?

3 A student says, "The bluegill and bullfrog should be in the same narrow group because both have gills." Is one shared trait enough? Use the passage to explain.

4 How do nested ranks help scientists communicate a classification?

3 YOUR TURN _____ Your own words

Create two different evidence-based groups using the animals in paragraph 3. In each row, list two members and a shared trait stated in the passage, then write one sentence explaining why another scientist could check the rule.

GROUP MEMBERS	SHARED TRAIT	WHY IS THE RULE CHECKABLE?

PART 1 • READ AND MARK

Circle the seven rank names in paragraph 2. In paragraph 3, underline the four sentences that describe an animal's traits, not the final warning sentence, to mark evidence scientists use for grouping. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Using the rule "lays eggs," which two animals belong in one group? What passage evidence supports the group?	The mallard and painted turtle belong together. The passage says that both lay eggs.
2	The painted turtle and bluegill both have scales. What other recorded traits distinguish them?	The painted turtle has dry scales and lays eggs. The bluegill has scales, fins, and gills.
3	A student says, "The bluegill and bullfrog should be in the same narrow group because both have gills." Is one shared trait enough? Use the passage to explain.	No. Scientists compare several traits because one trait can be misleading. The bluegill has scales, fins, and gills, while the bullfrog has moist skin and begins life with gills.
4	How do nested ranks help scientists communicate a classification?	They show that smaller groups fit inside broader groups. Scientists can identify an organism at several ranks.

PART 3 • YOUR TURN (SAMPLE ANSWER)

GROUP MEMBERS	SHARED TRAIT	WHY IS THE RULE CHECKABLE?
Mallard and painted turtle	Lays eggs	Both animals are stated to lay eggs, so another scientist can check this rule.
Bluegill and American bullfrog	Gills are recorded	The passage says the bluegill has gills and the bullfrog begins life with gills, so another scientist can check this rule.

Accept groups supported by stated shared traits, including mallard and painted turtle for laying eggs, painted turtle and bluegill for scales, or bluegill and bullfrog for gills. The final column should explain that the rule can be checked by returning to the recorded traits in the passage.