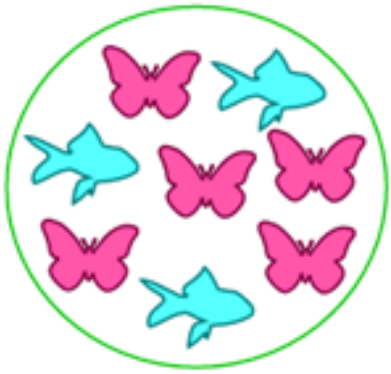
Describing and Representing Ratios

This activity is designed to uncover misconceptions and deepen understanding.

Question to Diagnose a Problem



What is the ratio of butterflies to fish?

A 3:5

B 3:8

C 5:3

D 5:8

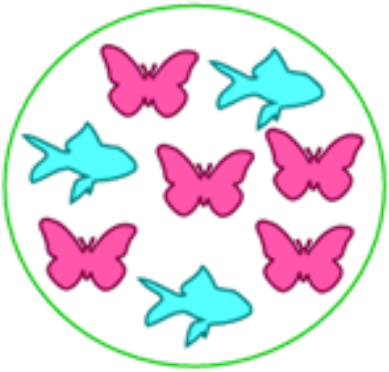
✅ Instructions for a Correct Answer

Show your student the question above. You can print the question on the next page. Ask them to choose the answer that they think is correct.
If your child answers, C. 5:3, they are correct.

To be certain that they there are no misconceptions ask them to explain why they choose that answer.

It is correct because order matters in ratio comparisons. There are 5 butterflies and 3 fish. Since we are asked for the ratio of butterflies to fish, the first number must match the butterfly count and the second number must match the fish count.

Ratios!



What is the ratio of butterflies to fish?

A 3:5

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C 5:3

D 5:8

Responses to Incorrect Answers

If they select an incorrect answer, respond with the explanations below.

Answer A, 3:5

If your student answered **A 3:5**, they chose the part to part ratio with the numbers reversed. Your child needs to be reminded that the numbers in the ratio must occur in the same order as the items described in the ratio statement. They likely counted the butterflies and fish correctly, but did not pay attention to the order of the creatures in the ratio statement.

Answer B, 3:8

If they answered **B 3:8**, they chose a part to whole ratio. In this case the ratio of fish to creatures. This is called a part to whole ratio because it compares one part of the creatures (fish) to the whole group (the total number of creatures).

Answer D, 5:8

If they answered **D 5:8**, they chose a part to whole ratio. In this case the ratio of butterflies to creatures. This is called a part to whole ratio because it compares one part of the creatures (butterflies) to the whole group (the total number of creatures).

It is likely that a student that chooses B or D doesn't distinguish the difference between part to part ratios and part to whole ratios.

In any situation there are

- 2 part to part ratios that can be described
- 2 part to whole ratios that can be described

The numbers in each part or whole must match the count in the diagram and the order given in the ratio statement.

🌱 Additional Practice

For additional practice, try these two activities.

Activity #1

Lay out 3 forks and 5 spoons on a table.

Ask them to name the part to part ratios

- forks to spoons (3:5)
- spoons to forks (5:3)

Ask them to name the part to whole ratios

- forks to cutlery (3:8)
- spoons to cutlery (5:8)

Activity #2

Place 2 oranges and 3 apples on a table.

Ask them to name the part to part ratios

- apples to oranges (3:2)
- oranges to apples (2:3)

Ask them to name the part to whole ratios

- oranges to fruit (2:5)
- apples to fruit (3:5)