RATIOS

A WHAT IS A RATIO?
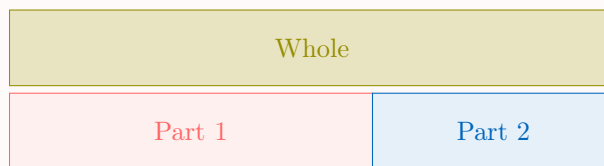
> **Definition Ratio**
>
> A **ratio** is a comparison of two quantities. The ratio of 2 to 3 can be expressed as the fraction $\frac{2}{3}$.

B PART-TO-PART RATIOS

> **Definition Part-Part Ratio**
>
> A **part-part ratio** compares two distinct parts of a whole.
>
> Part 1 : Part 2
>
> | Whole |
> |:---:|
>
> | Part 1 | Part 2 |
> |:---:|:---:|

Ex: A fruit bowl contains 3 cherries and 2 apples. What is the ratio of cherries to apples?

The ratio of cherries to apples is 3 : 2. This compares the two parts of the fruit collection to each other.
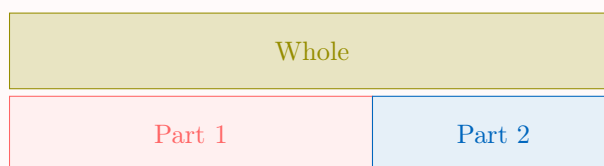
Answer: The ratio of cherries to apples is 3 : 2. This compares the two parts of the fruit collection to each other.

C PART-WHOLE RATIOS

> **Definition Part-Whole Ratio**
>
> A **part-whole ratio** compares one part of a whole to the whole.
>
> Part 1 : Whole or Part 2 : Whole
>
> | Whole |
> |:---:|
>
> | Part 1 | Part 2 |
> |:---:|:---:|

Ex: A juice is made with 1 lemon and 2 oranges. What is the ratio of oranges to the total number of fruits?

Answer:

- First, determine the total number of fruits. The total is $1 + 2 = 3$ fruits.

- The ratio of oranges (the part) to the total number of fruits (the whole) is 2 : 3.

- This part-to-whole ratio can also be expressed as the fraction $\frac{2}{3}$.

D EQUIVALENT RATIOS

The fraction of red apples to all apples is $\frac{2}{4}$, which simplifies to $\frac{1}{2}$ (half are red).

E PART IN WHOLE-PART RELATIONSHIPS

Method **Finding a Part in Whole-Part Relationships**

To find the number of apples corresponding to $\frac{1}{2}$ of 4 apples, we start with the whole:

- **Divide the whole into 2 equal parts (the denominator) and select 1 part (the numerator):**

- **Count the apples in the selected part:** there are 2 apples.