

Introducing Ratio



Aim

- I can write ratio statements and use multiplication and division facts to calculate alternative statements.

Success Criteria

- I can write a ratio statement to compare two values.
- I can write a ratio in its simplest form.
- I can recognise and write equivalent ratios.

Ratio

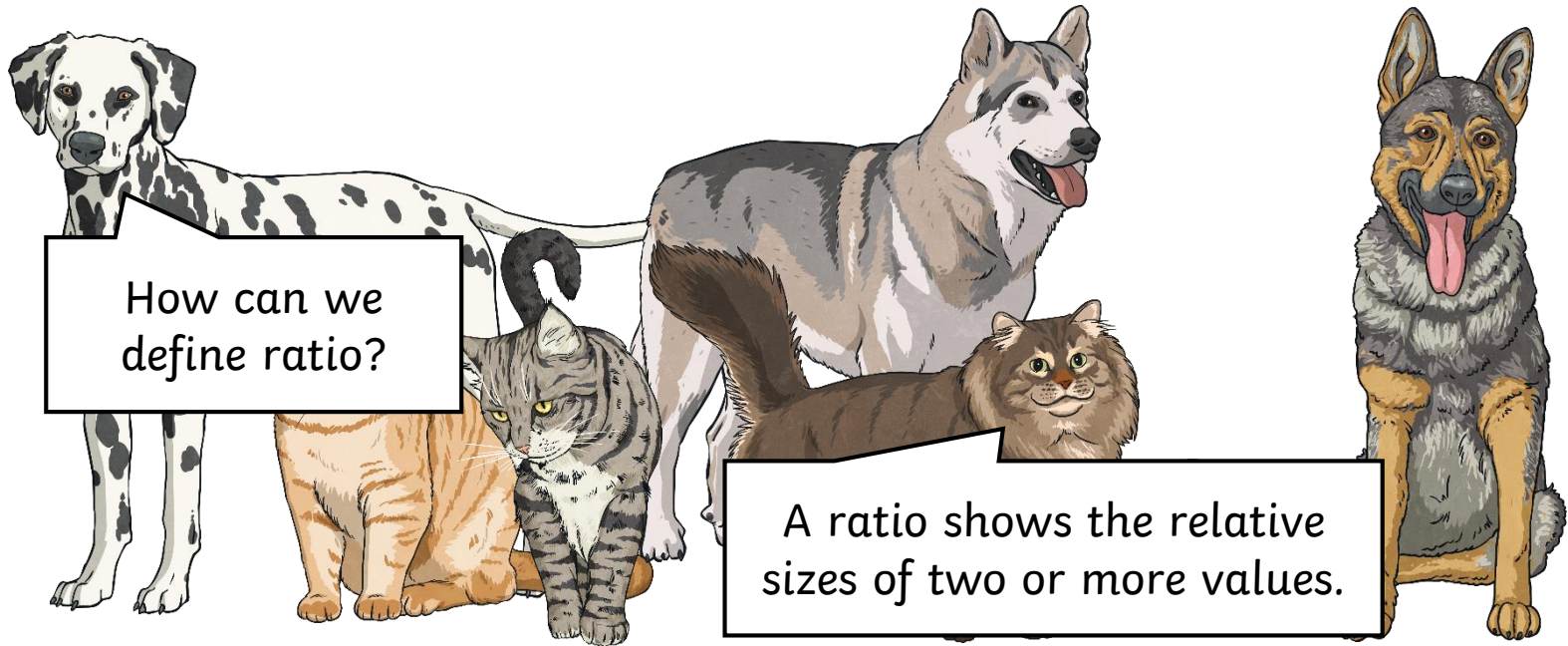


In this bag, there are five balls. Two of the balls are big and red and three of the balls are small and blue.

We can say that the ratio of red balls to blue is 2:3.

A ratio shows the relative sizes of two or more values.

Ratio



Here we have seven pets: three cats and four dogs.

The ratio of cats to dogs is 3:4.

We could also say the ratio of dogs to cats is 4:3.

Ratio



5:4

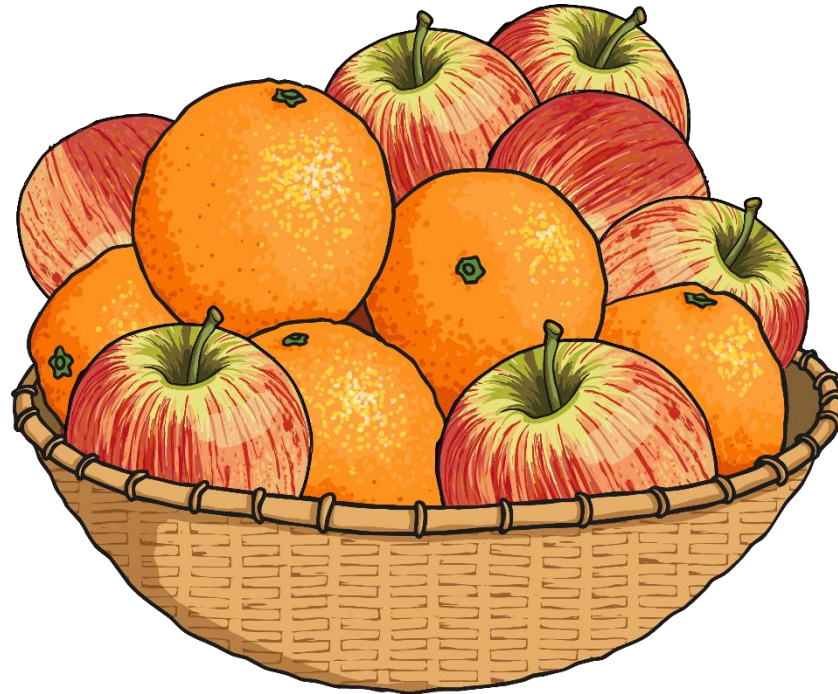


The ratio of big green balls to small yellow balls.

Ratio



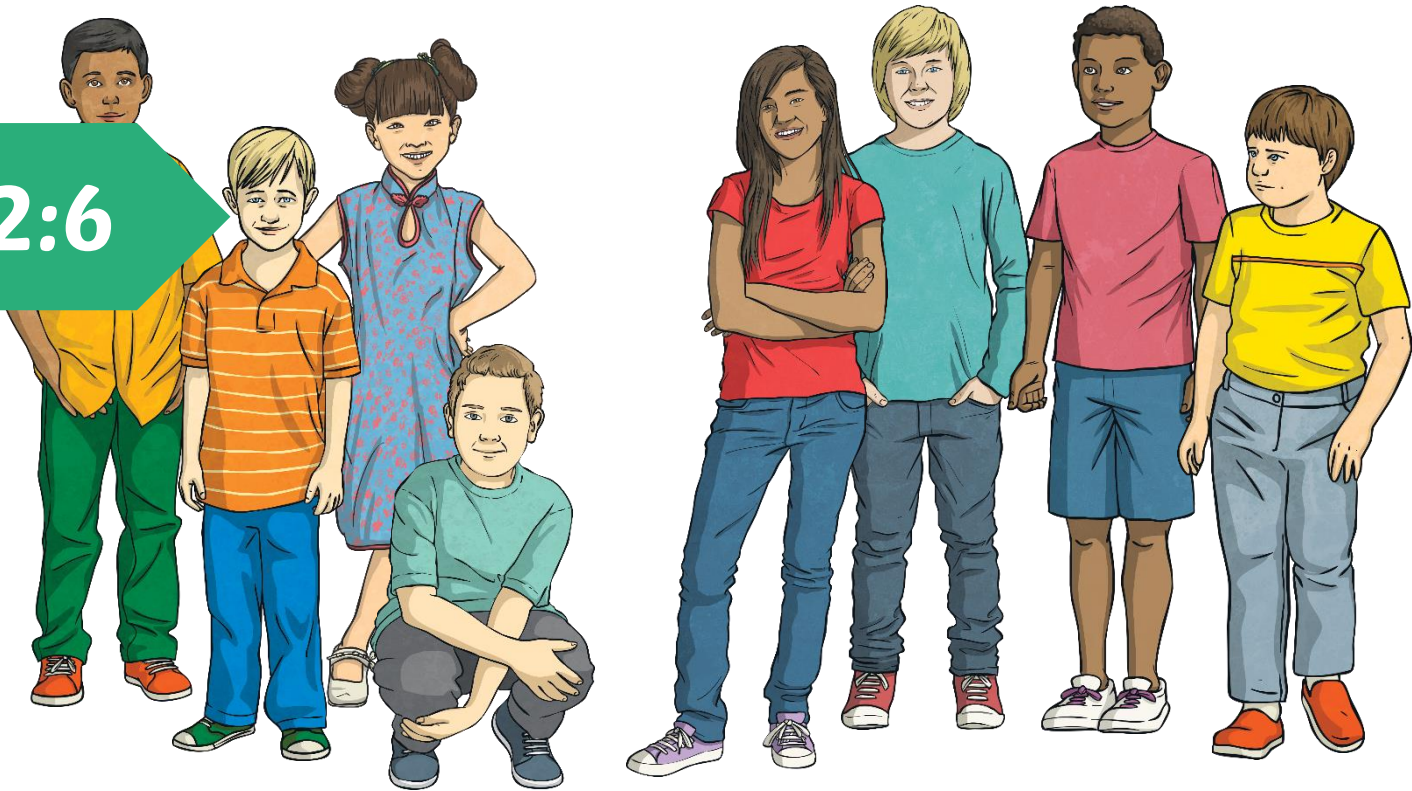
5:7



The ratio of oranges to apples.

Simplest Form Ratios

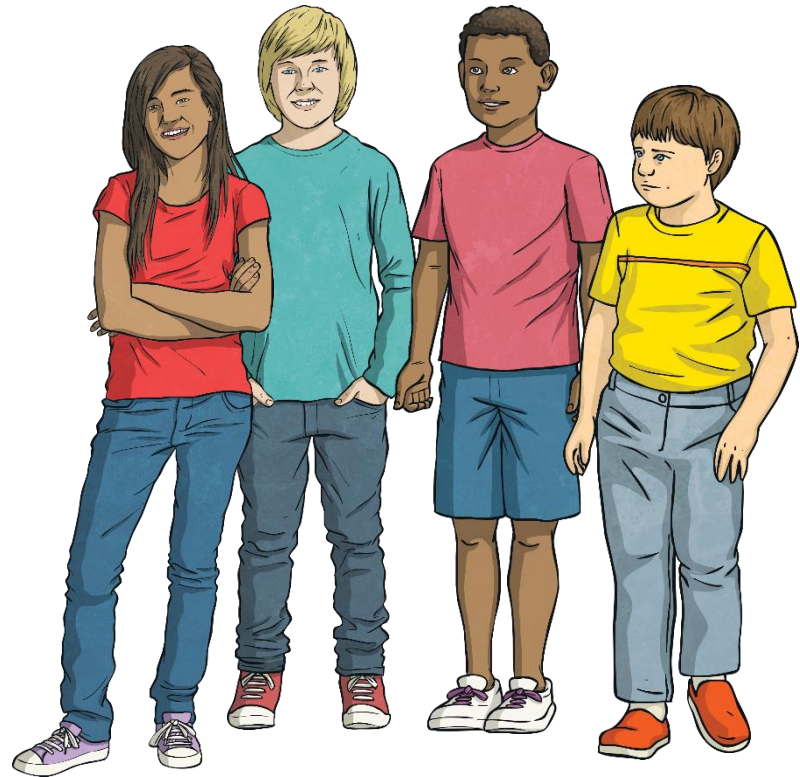
2:6



The ratio of girls to boys?

Simplest Form Ratios

1:3



The ratio of girls to boys now?

Simplest Form Ratios



The ratio 2:6 can also be written as 1:3.

This is the simplest form.

Simplest Form Ratios

10:20


$$10 \div 10 = 1 \quad 20 \div 10 = 2$$

so in the simplest form

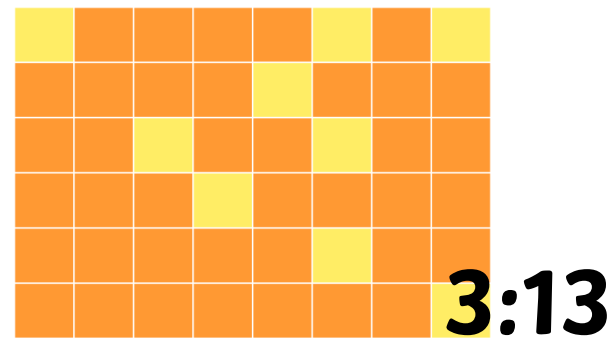
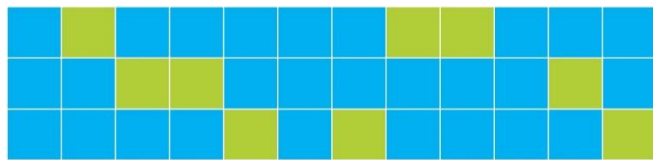
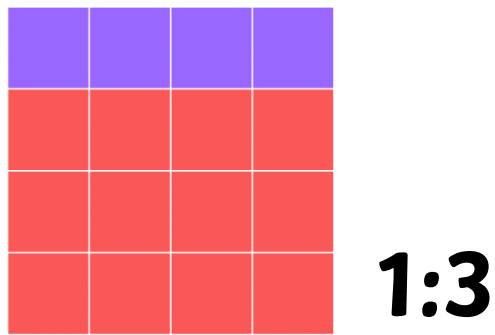
1:2

We could rearrange the pattern like this. It still has the same number of green and blue squares, but you can see that for every green square, there are two blue squares. The ratio is 1:2.

We could also have worked out the simplest form by dividing by the highest common factor.

There are 30 squares - 10 of them are green and 20 are blue. We could say that the ratio of green squares to blue is 10:20.

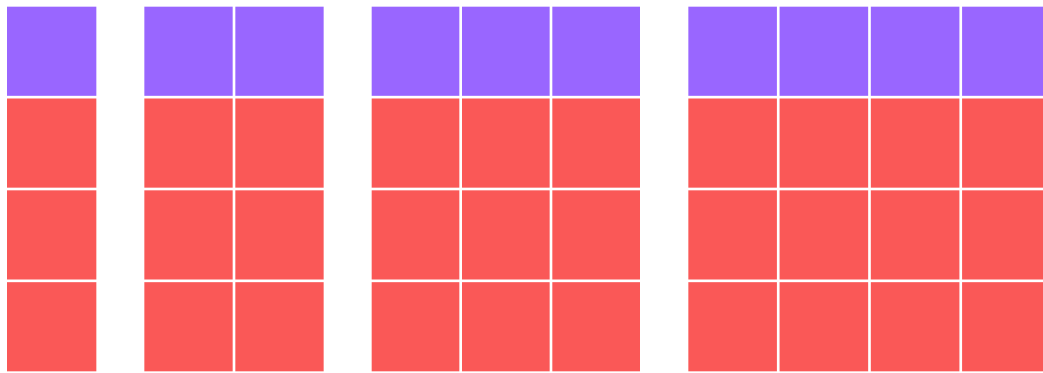
Simplest Form Ratios



Equivalent Ratios

To find equivalent ratios, start with the simplest form ratio and continue the multiple pattern for each number of the ratio.

Continue the equivalent ratio sequence:



1:3

2:6

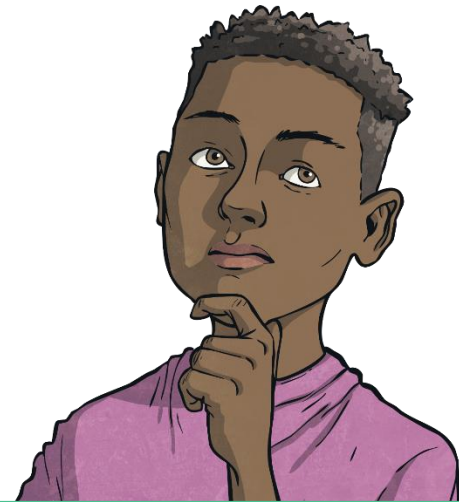
3:9

4:12

5:15

6:18

Equivalent Ratios



1:4

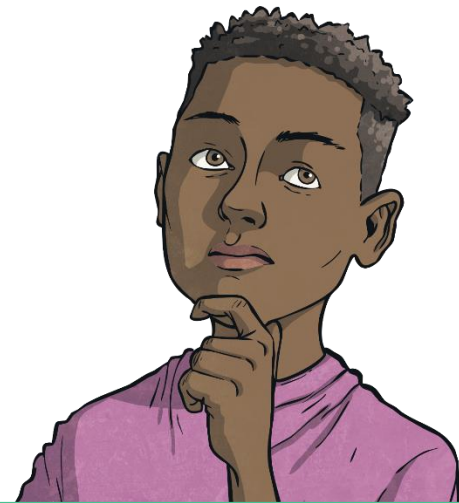
2:8

3:12

4:16

5:20

Equivalent Ratios



2:5

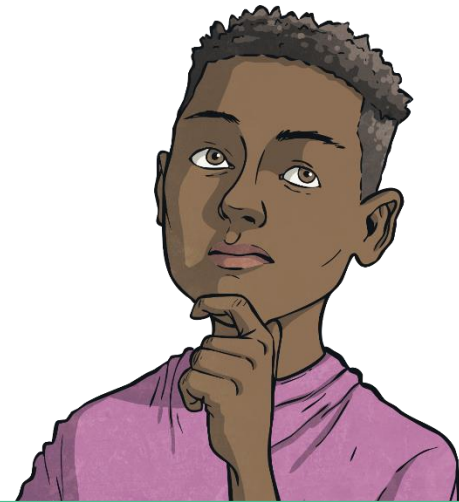
4:10

6:15

8:20

10:25

Equivalent Ratios



3:2

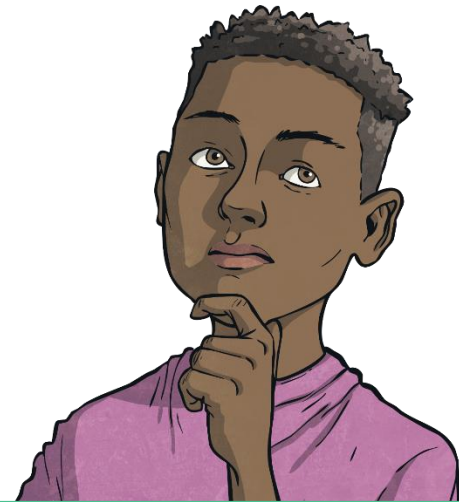
6:4

9:6

12:8

15:10

Equivalent Ratios



4:7

8:14

12:21

16:28

20:35