SIGMABUDGIE · GRADE 3

# Fractions Focus

A gentle walkthrough & a 12-question drill

Part 1 walks through fractions from the very beginning, with drawings. Part 2 is a 12-question drill to practice what the lesson taught. Work through the lesson together first, then let your child try the drill. The answer key at the back explains every question, and the online drill at sigmabudgie.com gives a new set every time.

## 1 · What is a fraction?

A fraction is **equal parts of one whole**, like slices of one pizza. Split a bar in 2 and shade 1: that is **one half (1/2)**.

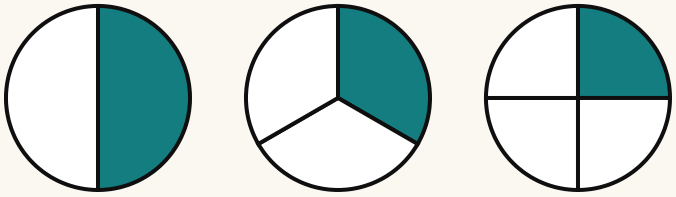
one whole

1/2 (one half)

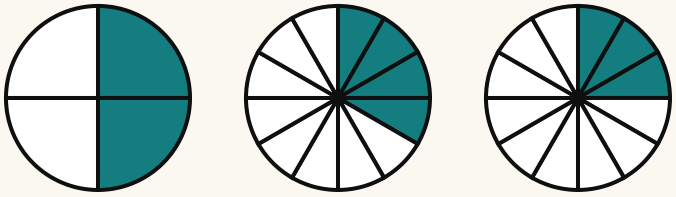
## 2 · The top and bottom numbers

The **bottom** = how many equal parts in all. The **top** = how many you count. So **1/4** means 4 equal parts, count 1.

Surprise: **2/4, 4/12, 3/12** shade the same as 1/2, 1/3, 1/4. One piece can have more than one name.



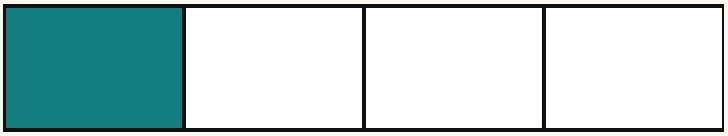
1/2 1/3 1/4



2/4 4/12 3/12

## 3 · The parts must be EQUAL

The pieces must be the **same size**. 4 equal parts = fourths. Unequal parts are *not* fourths.



fair fourths ✓

these are thirds (1/3)

## 4 · Fractions of a group

A fraction can also mean **part of a group**. 2 of these 6 dots are shaded → **2/6**.

2/6 of the dots are shaded

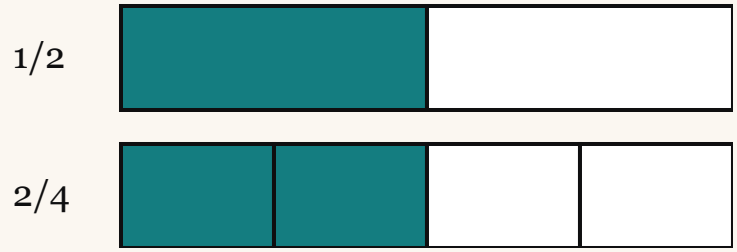
## 5 · Fractions live on the number line

Split the line from 0 to 1 into equal steps. This dot sits on the 3rd of 4 steps → **3/4**.


the dot is at 3/4

## 6 · Different fractions, same amount

Some fractions look different but are the **same amount**. They are **equivalent**. 1/2 and 2/4 shade the same, so **1/2 = 2/4**.



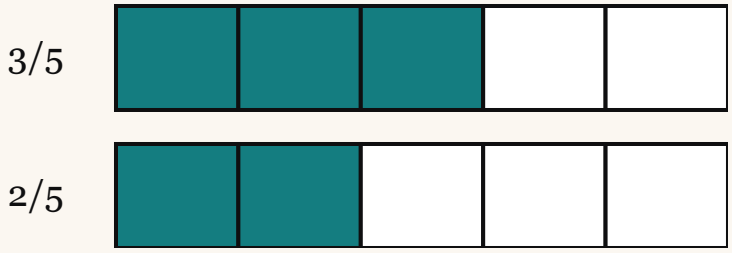

same shaded amount

## 7 · Comparing fractions

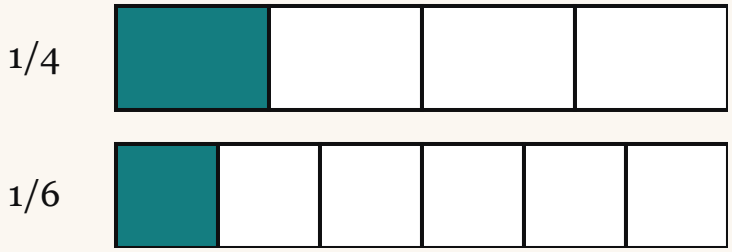
**Same bottom:** more pieces wins → 3/5 > 2/5.

**Same top:** fewer pieces wins (bigger pieces) → 1/4 > 1/6.

**Different bottoms?** Rename so they match, then compare tops: 1/4 = 6/24, 1/6 = 4/24 → 1/4 > 1/6.



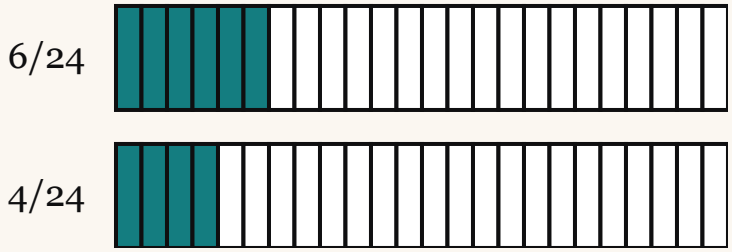

same bottom → more pieces wins




same top → bigger pieces win

$$\frac{1}{4} \times \frac{6}{6} = \frac{6}{24}$$
$$\frac{1}{6} \times \frac{4}{4} = \frac{4}{24}$$

rename both to 24ths



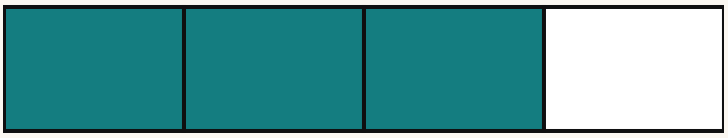

now 6 beats 4, so 1/4 > 1/6

## 8 · The whole: adding and subtracting

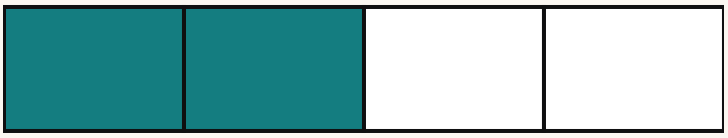
Shade **all** the parts = one whole: **4/4 = 1**.

**Same bottom:** add or subtract the tops, keep the bottom. **1/4 + 2/4 = 3/4**, and **3/4 − 1/4 = 2/4**.

4/4 = 1 whole



1/4 + 2/4 = 3/4



3/4 − 1/4 = 2/4

## 9 · Whole numbers are fractions too

Any whole number is that number **over 1**: **1 = 1/1, 2 = 2/1, 3 = 3/1**.

If the top divides evenly by the bottom, it is a whole number: **8/2 = 4**, **50/10 = 5**.

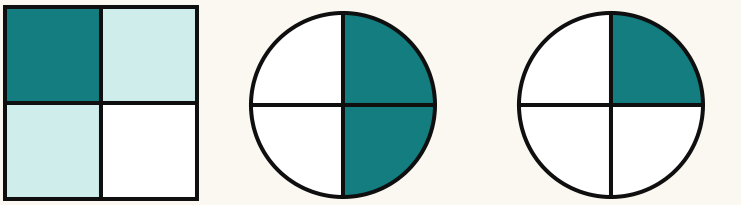
1/1 = 1 2/1 = 2 3/1 = 3

8/2 = 4 (eight halves) 50/10 = 5 (fifty tenths)

## 10 · A peek ahead: multiply & divide

Fractions can also **multiply** and **divide**. Half of a half is a quarter: **1/2 × 1/2 = 1/4**.

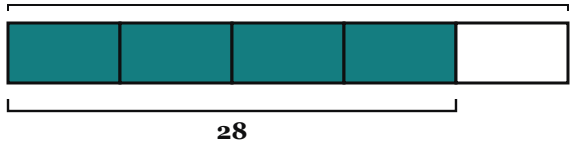
You don't need these yet. Naming, comparing, adding, and subtracting is a great start! 🎉



1/2 × 1/2 = 1/4 ½ a pizza… …shared by 2 = ¼ each

Read each question and any drawing, then circle the best answer. Take your time, there is no clock here.

**1** Four fifths of a number is 28. What is the number?




**A** 38 **B** 140

**C** 35 **D** 112

**2** Wen has 16 books. One fourth of them are about animals. How many of the books are about animals?

**A** 7 **B** 4

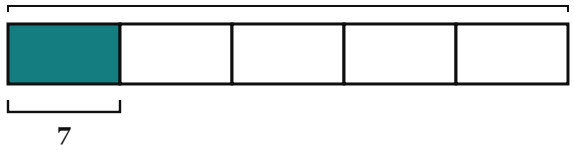
**C** 8 **D** 12

**3** A tank holds 36 fish. 9 are clownfish. There are twice as many guppies as clownfish. The rest are tetras. How many tetras are there?

**A** 12 **B** 27

**C** 9 **D** 18

**4** One fifth of a number is 7. What is the number?




**A** 12 **B** 35

**C** 28 **D** 1

**5** Ben has 27 balloons. Two thirds of them are red. How many of the balloons are red?

**A** 6 **B** 18

**C** 9 **D** 27

**6** A tank holds 25 fish. 6 are clownfish. There are twice as many guppies as clownfish. The rest are tetras. How many tetras are there?

**A** 13

**B** 18

**C** 19

**D** 7

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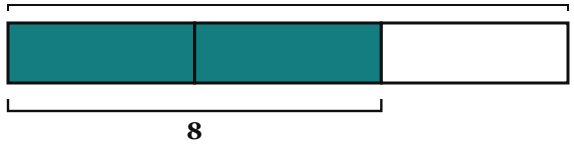
**7** Two thirds of a number is 8. What is the number?




**A** 24

**B** 16

**C** 15

**D** 12

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**8** What is 1/8 of 64?

**A** 8

**B** 56

**C** 16

**D** 11

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**9** A tank holds 31 fish. 7 are clownfish. There are twice as many guppies as clownfish. The rest are tetras. How many tetras are there?

**A** 21

**B** 10

**C** 17

**D** 24

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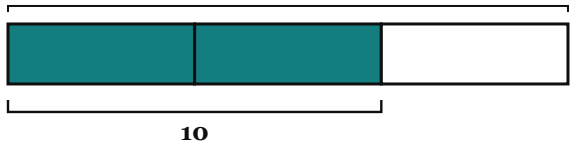
**10** Two thirds of a number is 10. What is the number?




**A** 20

**B** 18

**C** 15

**D** 30

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**11** What is 1/6 of 12?

**A** 10

**B** 6

**C** 2

**D** 4

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**12** A tank holds 40 fish. 10 are clownfish. There are twice as many guppies as clownfish. The rest are tetras. How many tetras are there?

**A** 30

**B** 20

**C** 13

**D** 10

## ANSWER KEY & EXPLANATIONS

| | | |
|---|---|---|
| **1** | **C** | 4 parts make 28, so one part is 28 ÷ 4 = 7, and 5 parts make 5 × 7 = 35. |
| **2** | **B** | 16 split into 4 equal parts is 4 in each part. So 4 are about animals. |
| **3** | **C** | Guppies: 18. Clownfish and guppies together: 27. Tetras: 36 − 27 = 9. |
| **4** | **B** | One fifth is 7, so 5 fifths make 5 × 7 = 35. |
| **5** | **B** | 27 split into 3 equal parts is 9 in each part, and 2 parts make 2 × 9 = 18. |
| **6** | **D** | Guppies: 12. Clownfish and guppies together: 18. Tetras: 25 − 18 = 7. |
| **7** | **D** | 2 parts make 8, so one part is 8 ÷ 2 = 4, and 3 parts make 3 × 4 = 12. |
| **8** | **A** | One eighth of 64: 64 split into 8 equal parts is 8 in each part. |
| **9** | **B** | Guppies: 14. Clownfish and guppies together: 21. Tetras: 31 − 21 = 10. |
| **10** | **C** | 2 parts make 10, so one part is 10 ÷ 2 = 5, and 3 parts make 3 × 5 = 15. |
| **11** | **C** | One sixth of 12: 12 split into 6 equal parts is 2 in each part. |
| **12** | **D** | Guppies: 20. Clownfish and guppies together: 30. Tetras: 40 − 30 = 10. |