PROBABILITY & RATIOS: COMBINATIONS & FRACTIONS

Best Guess Mastery Worksheet (Target Grade 2/3)

I Do

Arabella chooses one sandwich and one snack for her lunch.

She can choose one sandwich from Ham (*H*) or Cheese (*C*) or Tuna (*T*).
She can choose one snack from Apple (*A*) or Banana (*B*) or Melon (*M*).

(a) Write down all the possible combinations that Arabella can choose.

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(2)

Tom and John share some strawberries in the ratio 2 : 5

(b) What fraction of the strawberries does John get?

..... **(1)**

We Do

Sophie chooses one main and one side for dinner.

She can choose one main from Pizza (*P*) or Burger (*B*) or Salad (*S*).
She can choose one side from Fries (*F*) or Onion rings (*O*) or Garlic bread (*G*).

(a) Write down all the possible combinations that Sophie can choose.

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(2)

Katie and Zoe share some grapes in the ratio 3 : 7

(b) What fraction of the grapes does Zoe get?

..... **(1)**

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Best Guess Mastery Worksheet (Target Grade 2/3)

You Do 1

Keeley chooses a top and a skirt.

She can choose one top from Red (*R*) or White (*W*) or Blue (*B*).
She can choose one skirt from Denim (*D*) or Cotton (*C*) or Leather (*L*).

(a) Write down all the possible combinations that Keeley can choose.

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(2)

Mark and Jo share some money in the ratio 4 : 5

(b) What fraction of the money does Mark get?

..... **(1)**

You Do 2

Niall chooses a vehicle and a color.

He can choose one vehicle from Car (*C*) or Van (*V*) or Bike (*B*).
He can choose one color from Red (*R*) or Silver (*S*) or Black (*K*).

(a) Write down all the possible combinations that Niall can choose.

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(2)

Catherine and Tom share some sweets in the ratio 5 : 8

(b) What fraction of the sweets does Tom get?

..... **(1)**

PROBABILITY & RATIOS: COMBINATIONS & FRACTIONS

Best Guess Mastery Worksheet (Target Grade 3/4)

Challenge 1

Jo chooses a starter, a main course, and a dessert.

Starter: Soup (*S*) or Prawns (*P*).
Main: Beef (*B*) or Chicken (*C*).
Dessert: Tart (*T*) or Ice cream (*I*).

(a) Write down all the possible combinations that Jo can choose.

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(2)

John, Sophie, and Mark share some counters in the ratio 2 : 3 : 4

(b) What fraction of the counters does Sophie get?

..... **(2)**

Challenge 2

Catherine rolls a fair 6-sided dice and flips a fair coin.

(a) Write down all the possible combinations that Catherine can get.
(Use numbers 1 to 6 for the dice, and H for Heads or T for Tails for the coin).

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(2)

Katie and Zoe share some money.
Katie gets $\frac{3}{8}$ of the money.

(b) Write down the ratio of Katie's money to Zoe's money.

..... **(2)**

Answers & Worked Solutions

I Do:

(a) HA, HB, HM, CA, CB, CM, TA, TB, TM

(b) Total parts = 2 + 5 = 7. John gets 5 parts. Fraction = $\mathbf{\frac{5}{7}}$

We Do:

(a) PF, PO, PG, BF, BO, BG, SF, SO, SG

(b) Total parts = 3 + 7 = 10. Zoe gets 7 parts. Fraction = $\mathbf{\frac{7}{10}}$

You Do 1:

(a) RD, RC, RL, WD, WC, WL, BD, BC, BL

(b) Total parts = 4 + 5 = 9. Mark gets 4 parts. Fraction = $\mathbf{\frac{4}{9}}$

You Do 2:

(a) CR, CS, CK, VR, VS, VK, BR, BS, BK

(b) Total parts = 5 + 8 = 13. Tom gets 8 parts. Fraction = $\mathbf{\frac{8}{13}}$

Challenge 1:

(a) SBT, SBI, SCT, SCI, PBT, PBI, PCT, PCI (8 combinations)

(b) Total parts = 2 + 3 + 4 = 9. Sophie gets 3 parts.

Fraction = $\frac{3}{9}$, which simplifies to $\mathbf{\frac{1}{3}}$

Challenge 2:

(a) 1H, 1T, 2H, 2T, 3H, 3T, 4H, 4T, 5H, 5T, 6H, 6T (12 combinations)

(b) If Katie gets 3 parts out of 8, Zoe gets the remaining 5 parts.

Ratio of Katie to Zoe = **3 : 5**