

Grade 3 Mathematics: Mastering Fractions Assessment

Learning objective: To demonstrate understanding of unit and non-unit fractions, equivalent fractions, adding fractions with the same denominator, and calculating fractions of amounts.

Read each question carefully. Show your working out clearly, as marks are awarded for your method even if the final answer is incorrect. Ensure all money answers are written with the £ symbol.

Max the monkey is organising his fruit store. He has 12 pieces of fruit in a crate: 6 bananas, 3 apples, and 3 pears. He needs your help to calculate the value and quantity of his stock.

Word bank: numerator · denominator · equivalent · fraction · whole · part

1. Max has 12 pieces of fruit. What fraction of the fruit are bananas? Simplify your answer to its lowest terms. (2 marks)

2. If one apple costs £0.50, and Max sells $\frac{1}{3}$ of his 3 apples, how much money does he make? Show your calculation. (3 marks)

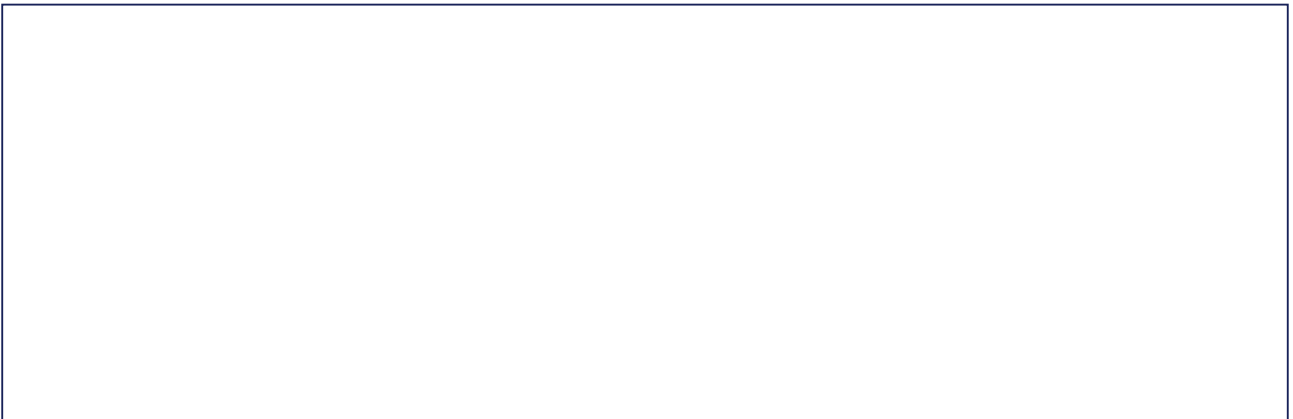
3. Compare $\frac{2}{5}$ and $\frac{4}{10}$. Are these fractions equivalent? Use a diagram or mathematical reasoning to justify your answer. (3 marks)

4. Max eats $\frac{2}{9}$ of a bunch of grapes and his friend eats $\frac{4}{9}$ of the same bunch. What fraction of the grapes have they eaten altogether? What fraction is left? (3 marks)

5. If $\frac{1}{4}$ of a collection of 20 stickers is worth £1.20, what is the value of the whole collection? Explain your reasoning. (4 marks)

6. Max says: 'If I have a larger denominator, my fraction must be bigger because the number is larger.' Explain why Max is incorrect using the terms 'numerator' and 'denominator'. (5 marks)

Draw: Draw a rectangle divided into 8 equal parts. Shade $\frac{3}{8}$ of the rectangle using a pattern, and shade $\frac{1}{4}$ of the rectangle using a solid color. Label both sections clearly.



Extension challenge: Imagine you are designing a fruit salad recipe. You need $\frac{1}{2}$ of a melon, $\frac{1}{4}$ of a pineapple, and $\frac{1}{8}$ of a bag of berries. If the melon costs £2.00, the pineapple £4.00, and the berries £3.20, calculate the total cost of your ingredients. Justify your answer and explain what might happen to the cost if you decided to double the amount of pineapple used. Total: /25