

Recipe for a Crowd

Teacher Guide & Answer Keys

Grade 4 · All levels

Overview

Students prepare trail mix for a class hike. They add and subtract fractions and mixed numbers with like denominators, multiply a fraction by a whole number to make several batches, and write tenths and hundredths as decimals to compare prices and weights.

Time: 2 class periods · **Product:** Recipe Card · **Standards:** 4.NF.B.3, 4.NF.B.4, 4.NF.C.5, 4.NF.C.6, 4.NF.C.7

Suggested pacing

- Day 1: Introduce the challenge, read the scenario together, and work Parts 1–2 in pairs.
- Day 2: Finish the remaining parts and create the final product.
- Wrap-up: Share products and reflect on strategies.

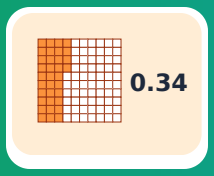
Levels

- **Remedial:** smaller numbers, fewer steps, more structure.
- **Standard:** grade-level numbers and the full set of tasks.
- **Advanced:** harder numbers, extra reasoning and multi-step questions.

All three levels practice the same learning goals, so the class can share and compare work.

Rubric

Category	4 Excellent	3 Good	2 Developing	1 Beginning
Math accuracy	All answers correct	Most answers correct	Some answers correct	Few answers correct
Shows work	Clear work for every step	Work for most steps	Some work shown	Little work shown
Explains thinking	Clear, complete explanations	Mostly clear explanations	Some explanation	Little explanation
Final product	Complete, neat and creative	Complete and neat	Partly complete	Not complete



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Answer key · Remedial KEY

Part 1: One Batch

1. How many cups of trail mix does one batch make? Show the addition.

$\frac{3}{4} + \frac{2}{4} + \frac{1}{4} = \frac{6}{4} = 1\frac{2}{4}$ cups

2. How much more oats than seeds is in one batch?

$\frac{3}{4} - \frac{1}{4} = \frac{2}{4}$ cup

3. A bowl holds 2 cups. How much room is left after one batch is poured in?

$2 - 1\frac{2}{4} = \frac{2}{4}$ cup

Part 2: Batches for the Class

4. How many cups of oats are needed? Write a multiplication equation.

$3 \times \frac{3}{4} = \frac{9}{4} = 2\frac{1}{4}$ cups

5. Show the same amount as repeated addition.

$\frac{3}{4} + \frac{3}{4} + \frac{3}{4} = \frac{9}{4}$

6. Between which two whole numbers of cups is your answer?

Between 2 and 3

Part 3: Weighing with Decimals

7. Write each weight as a decimal.

$\frac{3}{10} = 0.3$ and $\frac{25}{100} = 0.25$

8. Add the two weights. First rename the tenths as hundredths.

$\frac{30}{100} + \frac{25}{100} = \frac{55}{100} = 0.55$ kilogram

9. Which ingredient is heavier? Explain.

The nuts: 30 hundredths compared with 25 hundredths.

Part 4: Smart Shopping

10. Compare the decimals. Write >, < or =.

0.5 > 0.45

11. Which brand gives you more raisins? Explain using hundredths.

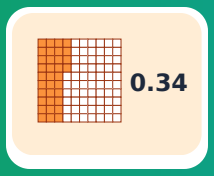
Brand A: 0.5 = 0.50, and 50 hundredths is more than 45 hundredths.

12. Write your recipe card for the whole class. Show each amount as a fraction or mixed number.

oats: $2\frac{1}{4}$ cups; raisins: $1\frac{2}{4}$ cups; seeds: $\frac{3}{4}$ cups

Extension

4 batches: $\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} = \frac{12}{4} = 3$.



Recipe for a Crowd

Teacher Guide & Answer Keys

Grade 4 · All levels

Answer key · Standard KEY

Part 1: One Batch

1. How many cups of trail mix does one batch make? Show the addition.

$\frac{7}{8} + \frac{5}{8} + \frac{3}{8} = \frac{15}{8} = 1\frac{7}{8}$ **cups**

2. How much more oats than seeds is in one batch?

$\frac{7}{8} - \frac{3}{8} = \frac{4}{8}$ **cup**

3. A bowl holds 3 cups. How much room is left after one batch is poured in?

$3 - 1\frac{7}{8} = 1\frac{1}{8}$ **cups**

Part 2: Batches for the Class

4. How many cups of oats are needed? Write a multiplication equation.

$5 \times \frac{7}{8} = \frac{35}{8} = 4\frac{3}{8}$ **cups**

5. Show the same amount as repeated addition.

$\frac{7}{8} + \frac{7}{8} + \frac{7}{8} + \frac{7}{8} + \frac{7}{8} = \frac{35}{8}$

6. Between which two whole numbers of cups is your answer?

Between 4 and 5

Part 3: Weighing with Decimals

7. Write each weight as a decimal.

$\frac{4}{10} = 0.4$ **and** $\frac{35}{100} = 0.35$

8. Add the two weights. First rename the tenths as hundredths.

$\frac{40}{100} + \frac{35}{100} = \frac{75}{100} = 0.75$ **kilogram**

9. Which ingredient is heavier? Explain.

The nuts: 40 hundredths compared with 35 hundredths.

Part 4: Smart Shopping

10. Compare the decimals. Write >, < or =.

0.7 > 0.68

11. Which brand gives you more raisins? Explain using hundredths.

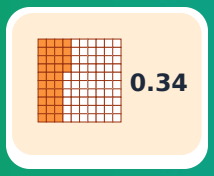
Brand A: 0.7 = 0.70, and 70 hundredths is more than 68 hundredths.

12. Write your recipe card for the whole class. Show each amount as a fraction or mixed number.

oats: $4\frac{3}{8}$ **cups; raisins:** $3\frac{1}{8}$ **cups; seeds:** $1\frac{7}{8}$ **cups**

Extension

$6 \times \frac{5}{8} = \frac{30}{8} = 3\frac{6}{8}$ **cups. Yes, 4 cups is enough, with** $\frac{2}{8}$ **cup left.**



Recipe for a Crowd

Teacher Guide & Answer Keys

Grade 4 · All levels

Answer key · Advanced KEY

Part 1: One Batch

1. How many cups of trail mix does one batch make? Show the addition.

$1\frac{5}{8} + \frac{7}{8} + \frac{5}{8} = \frac{25}{8} = 3\frac{1}{8}$ cups

2. How much more oats than seeds is in one batch?

$1\frac{5}{8} - \frac{5}{8} = 1$ cup

3. A bowl holds 4 cups. How much room is left after one batch is poured in?

$4 - 3\frac{1}{8} = \frac{7}{8}$ cup

Part 2: Batches for the Class

4. How many cups of oats are needed? Write a multiplication equation.

$6 \times 1\frac{5}{8} = \frac{78}{8} = 9\frac{6}{8}$ cups

5. Show the same amount as repeated addition.

$1\frac{5}{8} + 1\frac{5}{8} + 1\frac{5}{8} + 1\frac{5}{8} + 1\frac{5}{8} + 1\frac{5}{8} = \frac{78}{8}$

6. Between which two whole numbers of cups is your answer?

Between 9 and 10

Part 3: Weighing with Decimals

7. Write each weight as a decimal.

$\frac{6}{10} = 0.6$ and $\frac{8}{100} = 0.08$

8. Add the two weights. First rename the tenths as hundredths.

$\frac{60}{100} + \frac{8}{100} = \frac{68}{100} = 0.68$ kilogram

9. Which ingredient is heavier? Explain.

The nuts: 60 hundredths compared with 8 hundredths.

Part 4: Smart Shopping

10. Compare the decimals. Write >, < or =.

1.4 > 1.38

11. Which brand gives you more raisins? Explain using hundredths.

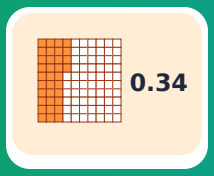
Brand A: 1.4 = 1.40, and 140 hundredths is more than 138 hundredths.

12. Write your recipe card for the whole class. Show each amount as a fraction or mixed number.

oats: $9\frac{6}{8}$ cups; raisins: $5\frac{2}{8}$ cups; seeds: $3\frac{6}{8}$ cups

Extension

No. $6 \times \frac{7}{8} = \frac{42}{8} = 5\frac{2}{8}$, which is less than 6, because each of the 6 groups is less than 1 whole.



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Worked teacher example (Standard, Part 1)

How many cups of trail mix does one batch make? Show the addition.

$\frac{7}{8} + \frac{5}{8} + \frac{3}{8} = \frac{15}{8} = 1\frac{7}{8}$ **cups**

How much more oats than seeds is in one batch?

$\frac{7}{8} - \frac{3}{8} = \frac{4}{8}$ **cup**

A bowl holds 3 cups. How much room is left after one batch is poured in?

$3 - 1\frac{7}{8} = 1\frac{1}{8}$ **cups**

Model the first part aloud: read the situation, name the operation, estimate, solve, and check. Then let partners try Part 2.

Look for

- Students use correct notation and units in every answer.
- Students explain why an answer is reasonable (estimates, benchmarks, pictures).
- Final products show the math clearly, not just the answers.