

Reasoning and Problem Solving

Step 5: Count in Fractions

National Curriculum Objectives:

Mathematics Year 4: (4F4) [Add and subtract fractions with the same denominator](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Identify the sequence when counting in fractions in ascending or descending order where the sequence uses one fraction increment. Using mixed numbers and improper fractions.

Expected Identify the sequence when counting in fractions in ascending and descending order where the sequence uses up to 3 fraction increments. Using mixed numbers and improper fractions.

Greater Depth Identify the sequence when counting in fractions in ascending and descending order, using up to 3 fraction increments and some denominators that are double or half of the previous fraction. Using mixed numbers and improper fractions.

Questions 2, 5 and 8 (Problem Solving)

Developing Find the n^{th} number in a sequence when counting in fractions in ascending or descending order where the sequence uses one fraction increment. Using mixed numbers and improper fractions.

Expected Find the n^{th} number in a sequence when counting in fractions in ascending or descending order. Using mixed numbers and improper fractions.

Greater Depth Find the n^{th} number in a sequence when counting in ascending or descending order, using some denominators that are double or half of the previous fraction. Using mixed numbers and improper fractions.

Questions 3, 6 and 9 (Reasoning)

Developing Decide and explain whether a statement is correct when counting in fractions in ascending or descending order where the sequence uses one fraction increment. Using mixed numbers and improper fractions.

Expected Decide and explain whether a statement is correct when counting in fractions in ascending and descending order. Using mixed numbers and improper fractions.

Greater Depth Decide and explain whether a statement is correct when counting in fractions in ascending and descending order, using some denominators that are double or half of the previous fraction. Using mixed numbers and improper fractions.

More [Year 4 Fraction](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Count in Fractions

1a. Choose three fractions to create a sequence which decreases by $\frac{1}{3}$ each time.

$$\frac{7}{3} \quad \frac{3}{3} \quad \frac{6}{3} \quad \frac{2}{3} \quad \frac{4}{3}$$

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Place the fractions on the number line and record as mixed numbers below.



PS

Count in Fractions

1b. Choose three fractions to create a sequence which increases by $\frac{1}{4}$ each time.

$$\frac{1}{4} \quad \frac{3}{4} \quad \frac{5}{4} \quad \frac{7}{4} \quad \frac{4}{4}$$

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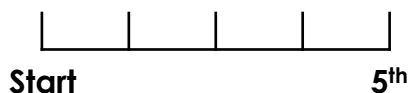
Place the fractions on the number line and record as mixed numbers below.



PS

2a. If a sequence starts at $\frac{9}{7}$ and the fifth number is less than 1 whole, what could the number be?

$$\frac{9}{7}$$



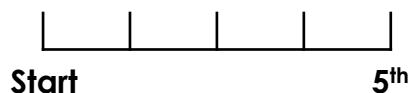
Explain your answer.



PS

2b. If a sequence starts at $\frac{7}{8}$ and the fifth number is greater than 1 whole, what could the number be?

$$\frac{7}{8}$$



Explain your answer.



PS

3a. Adam has written the following sequence:

$$1\frac{4}{5}, 1\frac{3}{5}, 1\frac{2}{5}$$



The next number will be $\frac{4}{5}$.

Is he correct?
Explain your answer.



R

3b. Carys has written the following sequence:

$$1\frac{1}{4}, 1\frac{2}{4}, 1\frac{3}{4}$$



The next number will be 2.

Is she correct?
Explain your answer.



R

Count in Fractions

4a. Choose three fractions to create a sequence which decreases by $\frac{3}{8}$ each time.

$$\frac{1}{8} \quad \frac{11}{8} \quad \frac{5}{8} \quad \frac{8}{8} \quad \frac{4}{8}$$

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Place the fractions on the number line and record as mixed numbers below.



PS

Count in Fractions

4b. Choose three fractions to create a sequence which increases by $\frac{2}{5}$ each time.

$$\frac{3}{5} \quad \frac{5}{5} \quad \frac{4}{5} \quad \frac{8}{5} \quad \frac{6}{5}$$

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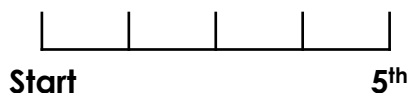
Place the fractions on the number line and record as mixed numbers below.



PS

5a. If a sequence starts at $\frac{9}{10}$ and the fifth number is greater than 2 wholes, what could the number be?

$$\frac{9}{10}$$



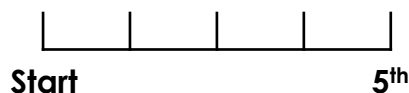
Explain your answer.



PS

5b. If a sequence starts at $3\frac{5}{9}$ and the fifth number is greater than 2 wholes but less than 3, what could the number be?

$$3\frac{5}{9}$$



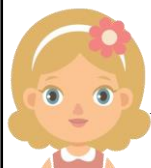
Explain your answer.



PS

6a. Alice has written the following sequence:

$$2, 1\frac{3}{5}, 1\frac{1}{5}$$



The next number will be 1.

Is she correct?
Explain your answer.



R

6b. Sean has written the following sequence:

$$\frac{13}{4}, \frac{10}{4}, \frac{7}{4}$$



The next number will be $1\frac{1}{4}$.

Is he correct?
Explain your answer.



R

Count in Fractions

7a. Choose three fractions to create a sequence which decreases by $\frac{2}{5}$ each time.

$$\frac{13}{10} \quad \frac{6}{10} \quad \frac{17}{10} \quad \frac{1}{10} \quad \frac{9}{10}$$

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Place the fractions on the number line and record as mixed numbers below.



PS

Count in Fractions

7b. Choose three fractions to create a sequence which increases by $\frac{1}{2}$ each time.

$$\frac{3}{4} \quad \frac{7}{4} \quad \frac{4}{4} \quad \frac{6}{4} \quad \frac{5}{4}$$

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Place the fractions on the number line and record as mixed numbers below.



PS

8a. If a sequence starts at $\frac{1}{6}$ and the fifth number is greater than $2\frac{2}{3}$, what could the number be?

$$\frac{1}{6}$$

Start				5 th

Explain your answer.



PS

8b. If a sequence starts at $2\frac{5}{12}$ and the fifth number is less than $1\frac{3}{6}$, what could the number be?

$$2\frac{5}{12}$$

Start				5 th

Explain your answer.



PS

9a. Zira has written the following sequence:

$$4\frac{2}{6}, 4, 3\frac{4}{6}$$



The next number will be $3\frac{1}{3}$.

Is she correct?
Explain your answer.



R

9b. Brad has written the following sequence:

$$\frac{5}{7}, 1\frac{1}{7}, 1\frac{4}{7}$$



The next number will be 2.

Is he correct?
Explain your answer.



R

Reasoning and Problem Solving

Count in Fractions

Developing

1a. $\frac{4}{3}, \frac{3}{3}, \frac{2}{3}; 1\frac{1}{3}, 1, \frac{2}{3}$

2a. Various answers, e.g. decrease by $\frac{1}{7}$, making the fifth fraction $\frac{5}{7}$.

3a. Adam is incorrect. The next number should be $1\frac{1}{5}$ because the sequence decreases by $\frac{1}{5}$ each time.

Expected

4a. $\frac{11}{8}, \frac{8}{8}, \frac{5}{8}; 1\frac{3}{8}, 1, \frac{5}{8}$

5a. Various answers, e.g. increase by $\frac{3}{10}$, making the fifth fraction $\frac{21}{10}$.

6a. Alice is incorrect. The next number should be $\frac{4}{5}$ because the sequence decreases by $\frac{2}{5}$ each time.

Greater Depth

7a. $\frac{17}{10}, \frac{13}{10}, \frac{9}{10}; 1\frac{7}{10}, 1\frac{3}{10}, \frac{9}{10}$

8a. Various answers, e.g. increase by $\frac{4}{6}$, making the fifth fraction $2\frac{5}{6}$.

9a. Zira is correct. The next number should be $3\frac{2}{6}$ which is equivalent to $3\frac{1}{3}$ because the sequence decreases by $\frac{2}{6}$ each time.

Reasoning and Problem Solving

Count in Fractions

Developing

1b. $\frac{3}{4}, \frac{4}{4}, \frac{5}{4}; \frac{3}{4}, 1, 1\frac{1}{4}$

2b. Various answers, e.g. increase by $\frac{1}{8}$, making the fifth fraction $\frac{11}{8}$.

3b. Carys is correct. The next number would be $\frac{8}{4}$ which is equivalent to 2 wholes.

Expected

4b. $\frac{4}{5}, \frac{6}{5}, \frac{8}{5}; \frac{4}{5}, 1\frac{1}{5}, 1\frac{3}{5}$

5b. Various answers, e.g. decrease by $\frac{3}{9}$, making the fifth fraction $2\frac{2}{9}$.

6b. Sean is incorrect. The next number should be 1 or $\frac{4}{4}$ because the sequence decreases by $\frac{3}{4}$ each time.

Greater Depth

7b. $\frac{3}{4}, \frac{5}{4}, \frac{7}{4}; \frac{3}{4}, 1\frac{1}{4}, 1\frac{3}{4}$

8b. Various answers, e.g. decrease by $\frac{3}{12}$, making the fifth fraction $1\frac{5}{12}$.

9b. Brad is correct. The next number would be 2 because the sequence increases by $\frac{3}{7}$ each time.