

Discussion Problems

Step 5: Count in Fractions

National Curriculum Objectives:

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

About this resource:

This resource has been designed for pupils who understand the concepts within [this step](#). It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

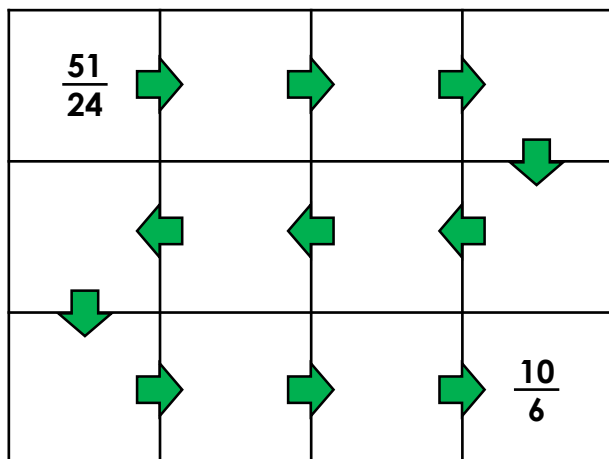
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Count in Fractions

1. Using the rules below, complete the track from start to finish by counting in equal fractions. Remember to use equivalent fractions to save your 6ths!

Start



Finish

Rules

1. Three of the boxes must contain 6ths.
2. Three of the boxes must contain 12ths.
3. Six of the boxes must contain 24ths.

DP

2. Help Francesca the frog cross the river by exploring which of the starting fractions she can use. Choose one of the starting fractions below, and then create your own fractions to complete the number line.

The final number must be 2 and the jumps between stepping stones must be equal.

$1 \frac{1}{16}$

$\frac{7}{8}$

$1 \frac{11}{16}$

$\frac{3}{4}$

$\frac{1}{8}$



START

FINISH

Explore the fractions that can be used to start the number line. Which fraction can not be used?

DP

Count in Fractions

1. Using the rules below, complete the track from start to finish by counting in equal fractions. Remember to use equivalent fractions to save your 6ths!

Start

$\frac{51}{24}$	→	$\frac{25}{12}$	→	$\frac{49}{24}$	→	$\frac{12}{6}$
$\frac{11}{6}$	←	$\frac{45}{24}$	←	$\frac{23}{12}$	←	$\frac{47}{24}$
$\frac{43}{24}$	→	$\frac{21}{12}$	→	$\frac{41}{24}$	→	$\frac{10}{6}$

Finish

Rules

1. Three of the boxes must contain 6ths.
2. Three of the boxes must contain 12ths.
3. Six of the boxes must contain 24ths.

The sequence decreases by $\frac{1}{24}$ each time. To ensure the number of 6ths, 12ths and 24ths is not exceeded, the fractions need to be simplified.

DP

2. Help Francesca the frog cross the river by exploring which of the starting fractions she can use. Choose one of the starting fractions below, and then create your own fractions to complete the number line.

The final number must be 2 and the jumps between stepping stones must be equal.

$$1 \frac{1}{16} \quad \frac{7}{8} \quad 1 \frac{11}{16} \quad \frac{3}{4} \quad \frac{1}{8}$$



$$\frac{1}{8}$$

$$\frac{4}{8}$$

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

$$\frac{10}{8}$$

$$\frac{13}{8}$$

$$2$$

START

FINISH

Explore the fractions that can be used to start the number line. Which fraction can not be used?

Various answers, for example: see above. $\frac{7}{8}$ cannot be used.

DP