

Discussion Problems

Step 1: Simplify Fractions

National Curriculum Objectives:

Mathematics Year 6: (6F2) [Use common factors to simplify fractions; use common multiples to express fractions in the same denomination](#)

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.



More [Year 6 Fractions](#) resources.

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

Simplify Fractions

1. Paul is simplifying fractions but he has spilt paint over his work.

A.  = 
 $\frac{150}{6}$

B.  = 
 $\frac{160}{8}$

C. $\frac{1}{\text{blue splat}}$ = $\frac{12}{\text{teal splat}}$

D. $\frac{24}{\text{brown splat}}$ = $\frac{\text{blue splat}}{4}$

E. $\frac{18}{\text{yellow splat}}$ = $\frac{\text{yellow splat}}{4}$

F. $\frac{3}{\text{pink splat}}$ = $\frac{9}{\text{yellow splat}}$

Investigate what the missing numbers could be.

DP

2. Investigate which fractions below can be simplified.

$\frac{120}{240}$	$\frac{140}{160}$	$\frac{36}{49}$	$\frac{64}{108}$	$\frac{56}{81}$	$\frac{150}{600}$
-------------------	-------------------	-----------------	------------------	-----------------	-------------------

$\frac{7}{150}$	$\frac{75}{99}$	$\frac{121}{144}$	$\frac{42}{55}$	$\frac{63}{84}$	$\frac{81}{90}$
-----------------	-----------------	-------------------	-----------------	-----------------	-----------------

For any fractions that can't be simplified, explore alternative numerators so that the fraction could be simplified.

DP

Simplify Fractions

1. Paul is simplifying fractions but he has spilt paint over his work.

A. $\frac{75}{150} = \frac{3}{6}$

B. $\frac{120}{160} = \frac{6}{8}$

C. $\frac{1}{12} = \frac{12}{144}$

D. $\frac{24}{32} = \frac{3}{4}$

E. $\frac{18}{36} = \frac{2}{4}$

F. $\frac{3}{11} = \frac{9}{33}$

Investigate what the missing numbers could be.

Various answers, examples given above.

DP

2. Investigate which fractions below can be simplified.

Various answers, for example:

$\frac{120}{240} = \frac{1}{2}$

$\frac{140}{160} = \frac{7}{8}$

$\frac{64}{108} = \frac{16}{27}$

$\frac{150}{600} = \frac{1}{4}$

$\frac{75}{99} = \frac{25}{33}$

$\frac{63}{84} = \frac{3}{4}$

$\frac{81}{90} = \frac{9}{10}$

For any fractions that can't be simplified, explore alternative numerators so that the fraction could be simplified.

Various answers, for example:

$\frac{36}{49} \rightarrow \frac{42}{49}$

$\frac{7}{150} \rightarrow \frac{6}{150}$

$\frac{42}{55} \rightarrow \frac{45}{55}$

$\frac{121}{144} \rightarrow \frac{132}{144}$

$\frac{56}{81} \rightarrow \frac{54}{81}$

DP