

Discussion Problems

Step 2: Making the Whole

National Curriculum Objectives:

Mathematics Year 3: (3F1b) [Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators](#)

Mathematics Year 3: (3F1c) [Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators](#)

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 3 Fractions](#) resources.






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

Making the Whole

1. Explore the value of each flower to complete the statements and key below.

$$\begin{array}{ccccccc}
 \frac{\text{Blue Flower}}{7} & + & \frac{\text{Pink Flower}}{7} & + & \frac{\text{Pink Flower}}{7} & = & \frac{7}{7} \\
 \frac{\text{Yellow Flower}}{8} & + & \frac{\text{Pink Flower}}{8} & + & \frac{4}{8} & = & \frac{\text{Red Flower}}{8} \\
 \frac{\text{Yellow Flower}}{9} & + & \frac{\text{Yellow Flower}}{9} & + & \frac{\text{Yellow Flower}}{9} & = & \frac{\text{Red Flower}}{9}
 \end{array}$$




Key:

	=	<input style="width: 50px; height: 30px;" type="text"/>
	=	<input style="width: 50px; height: 30px;" type="text"/>
	=	<input style="width: 50px; height: 30px;" type="text"/>
	=	<input style="width: 50px; height: 30px;" type="text"/>
	=	<input style="width: 50px; height: 30px;" type="text"/>

Create your own statement using the values in the completed key.

DP

2. Find a way to the exit the maze by making a whole using only three fractions. You can travel through the maze in any direction.

Start →	 $\frac{\quad}{9}$	Four equal parts out of nine	$\frac{1}{9}$	→ Finish
Start →	Two equal parts out of nine	 $\frac{\quad}{9}$	Three ninths	→ Finish
Start →	Five ninths	$\frac{1}{9}$	 $\frac{\quad}{9}$	→ Finish

Insert your own numerators for the hidden fractions and investigate three different routes that can be taken.

DP

Making the Whole

1. Explore the value of each flower to complete the statements and key below.

$$\frac{\text{Blue Flower}}{7} + \frac{\text{Pink Flower}}{7} + \frac{\text{Pink Flower}}{7} = \frac{7}{7}$$

$$\frac{\text{Yellow Flower}}{8} + \frac{\text{Pink Flower}}{8} + \frac{4}{8} = \frac{\text{Red Flower}}{8}$$

$$\frac{\text{Yellow Flower}}{9} + \frac{\text{Yellow Flower}}{9} + \frac{\text{Yellow Flower}}{9} = \frac{\text{Red Flower}}{9}$$

Key:

Blue Flower = 5
 Pink Flower = 1
 Red Flower = 8
 Yellow Flower = 3
 Red Flower = 9

Create your own statement using the values in the completed key.

Various answers, using the key above, for example: $\frac{5}{9} + \frac{1}{9} + \frac{3}{9} = \frac{9}{9}$

DP

2. Find a way to the exit the maze by making a whole using only three fractions. You can travel through the maze in any direction.

Start →	3 / 9	Four equal parts out of nine	1 / 9	→ Finish
Start →	Two equal parts out of nine	4 / 9	Three ninths	→ Finish
Start →	Five ninths	1 / 9	2 / 9	→ Finish

(Red arrows indicate a path from the top-left cell to the middle-right cell, then to the bottom-right cell, and finally to the bottom-middle cell.)

Insert your own numerators for the hidden fractions and investigate three different routes that can be taken.

Various answers, see table above.

DP