



# Colin and Coco's Daily Maths Workout

## Workout 3.4

### Fractions: Representing and Equivalence

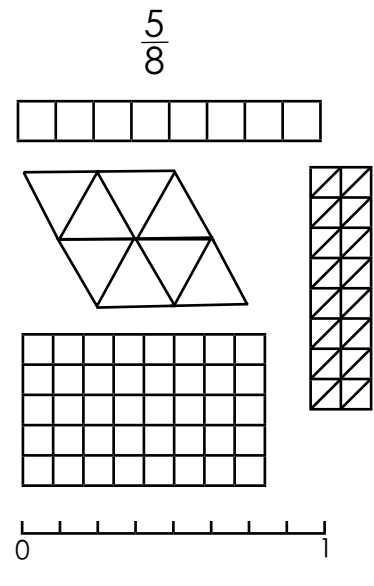
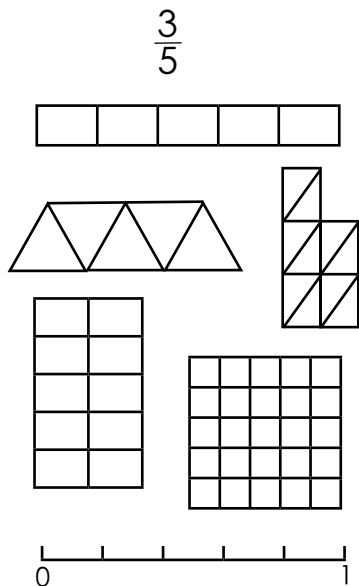
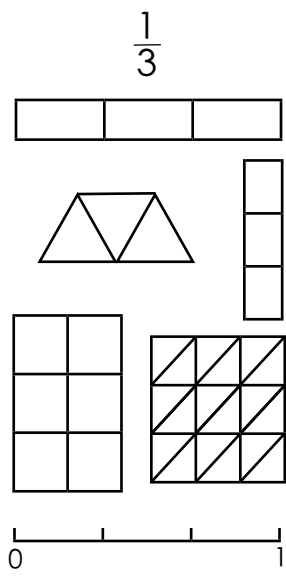




# Fractions Workout

Workout A

Represent each fraction in different ways using the diagrams and number line.



# Fractions Workout

Workout B

Put the fractions in order from smallest to largest.

|                                            |                      |                                          |                      |                                          |                      |
|--------------------------------------------|----------------------|------------------------------------------|----------------------|------------------------------------------|----------------------|
| $\frac{1}{5}, \frac{4}{5}, \frac{2}{5}$    | <input type="text"/> | $\frac{1}{3}, \frac{1}{2}, \frac{1}{4}$  | <input type="text"/> | $\frac{2}{5}, \frac{2}{3}, \frac{2}{4}$  | <input type="text"/> |
| $\frac{1}{8}, \frac{4}{8}, \frac{2}{8}$    | <input type="text"/> | $\frac{1}{4}, \frac{1}{5}, \frac{1}{3}$  | <input type="text"/> | $\frac{3}{5}, \frac{3}{4}, \frac{3}{8}$  | <input type="text"/> |
| $\frac{3}{4}, \frac{1}{4}, \frac{2}{4}$    | <input type="text"/> | $\frac{1}{3}, \frac{1}{8}, \frac{1}{5}$  | <input type="text"/> | $\frac{4}{5}, \frac{4}{8}, \frac{4}{10}$ | <input type="text"/> |
| $\frac{7}{10}, \frac{3}{10}, \frac{6}{10}$ | <input type="text"/> | $\frac{1}{8}, \frac{1}{5}, \frac{1}{10}$ | <input type="text"/> | $\frac{3}{8}, \frac{7}{10}, \frac{7}{8}$ | <input type="text"/> |

# Fractions Workout

Workout C

Find the missing numbers.

|                                    |                                    |                                    |                                                        |
|------------------------------------|------------------------------------|------------------------------------|--------------------------------------------------------|
| $\frac{1}{3} = \frac{\square}{6}$  | $\frac{1}{5} = \frac{\square}{10}$ | $\frac{1}{2} = \frac{\square}{8}$  | $\frac{\square}{3} = \frac{8}{12}$                     |
| $\frac{1}{3} = \frac{\square}{9}$  | $\frac{1}{5} = \frac{\square}{15}$ | $\frac{1}{8} = \frac{\square}{16}$ | $\frac{\square}{8} = \frac{15}{40}$                    |
| $\frac{1}{3} = \frac{\square}{15}$ | $\frac{5}{25} = \frac{\square}{5}$ | $\frac{1}{4} = \frac{\square}{8}$  | $\frac{32}{40} = \frac{\square}{5}$                    |
| $\frac{\square}{30} = \frac{1}{3}$ | $\frac{1}{5} = \frac{10}{\square}$ | $\frac{5}{40} = \frac{\square}{8}$ | $\frac{6}{8} = \frac{\square}{24} = \frac{\square}{4}$ |



# Equivalent Fractions Game

Workout D

You need:

Fraction Cards (at the bottom of this page.)

Equivalent Fractions Board (next page.)

Pen/pencil/counters

To play:

Shuffle the cards and put them in a deck face down.

Take it in turns to turn over a card.

Calculate an equivalent fraction (You can not choose the fraction itself,) and colour/cover the numerator and denominator anywhere on the board. The numbers do not need to be next to each other.

I have turned over  $\frac{1}{4}$  so I could make  $\frac{2}{8}$  or  $\frac{3}{12}$  or  $\frac{4}{16}$  ...and so on.  
I choose to colour a 3 and a 12 on the board.

If you can not go it is the next player's turn.

Place the card back into the deck.

To win:

The winner is the first player to colour 5 in a line, next to each other, horizontally, vertically or diagonally.

$$\frac{1}{4}$$

$$\frac{1}{2}$$

$$\frac{1}{3}$$

$$\frac{1}{5}$$

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

$$\frac{1}{10}$$

$$\frac{3}{8}$$

$$\frac{3}{4}$$

$$\frac{2}{3}$$

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



## Equivalent Fractions Board

|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| 2  | 3  | 9  | 6  | 4  | 10 | 3  | 2  |
| 20 | 4  | 3  | 12 | 40 | 8  | 6  | 5  |
| 12 | 5  | 24 | 4  | 8  | 3  | 25 | 2  |
| 5  | 16 | 4  | 2  | 9  | 4  | 40 | 4  |
| 2  | 6  | 12 | 30 | 6  | 2  | 12 | 20 |
| 3  | 4  | 8  | 4  | 24 | 8  | 10 | 5  |
| 18 | 15 | 4  | 16 | 2  | 10 | 8  | 15 |
| 2  | 3  | 10 | 6  | 3  | 30 | 15 | 2  |



## Missing Number Workout

Workout E

Put digits in the empty boxes to make pairs of equivalent fractions.

Complete each pair in several different ways.

$$\frac{2}{\square} = \frac{\square}{\square 2}$$

$$\frac{2}{5} = \frac{\square}{1\square}$$

$$\frac{\square}{1\square} = \frac{1}{\square}$$

Are there any boxes that it is impossible to put a 7 in?  
Why?

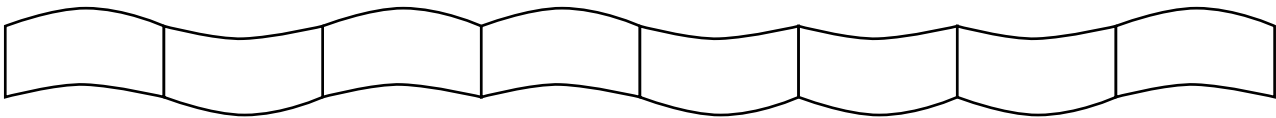
Are there any boxes that could have any of the digits in them?

Now complete it using the digits 1, 2, 3, 4, 5, 6, 7 and 8  
once each.



# Scarf Challenge

Coco is knitting a scarf for Colin.  
She wants to draw a plan for the scarf before she starts knitting.



She has three colours and plans to knit a fraction of the scarf in each colour.

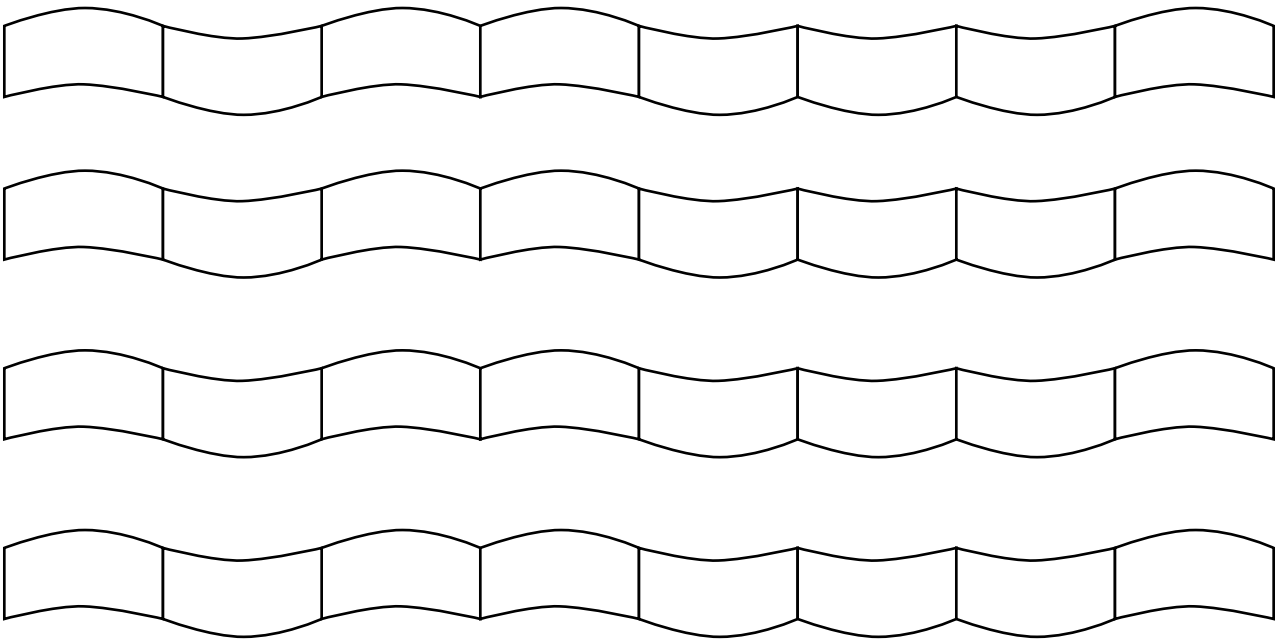
Once she starts a colour, she keeps knitting with that colour until it is finished, to save having too many joins.

$\frac{1}{2}$  of the scarf is going to be brown. (Colin's favourite colour.)

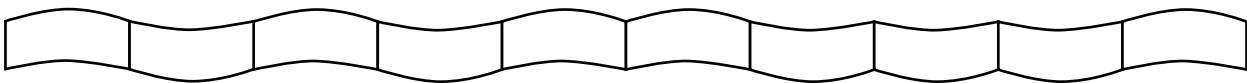
$\frac{1}{4}$  of the scarf is going to be yellow.

$\frac{2}{8}$  of the scarf is going to be orange.

The template may be helpful, but you will need more than four scarves!



Investigate the possible designs if  $\frac{1}{2}$  is brown,  $\frac{2}{5}$  is yellow and  $\frac{1}{10}$  is orange.





## Word Problem Workout

Workout G

Coco climbs  $\frac{1}{5}$  of the way up the mountain.  
Colin climbs  $\frac{1}{8}$  of the way up the mountain.  
Who has climbed further up the mountain?

Colin eats  $\frac{3}{5}$  of his cake. Coco eats  $\frac{3}{4}$  of her cake.  
Who has eaten more of their cake?

Colin paves  $\frac{2}{5}$  of his patio with white slabs.  
He paves  $\frac{3}{10}$  of his patio with grey slabs.  
Are there more white slabs or grey slabs?

Coco shades  $\frac{2}{5}$  of a shape in red.  
Colin shades  $\frac{4}{10}$  of the same shape in blue.  
Which colour is there more of?

Coco is making a fruit salad.  
 $\frac{5}{8}$  of the salad is apples. Oranges make up  $\frac{1}{8}$  of the salad.  
Bananas make up  $\frac{2}{8}$  of the salad.  
Put the fruit in order of quantity in the salad, from most to least.

Create your own problems to compare or order fractions.



# Number of the Day Workout

Today's number is

Write it in words

Draw It

Double It

Halve It

List its factors

List some multiples

10 more

10 less

Calculation so it  
is the difference.

Calculation so it  
is the total.