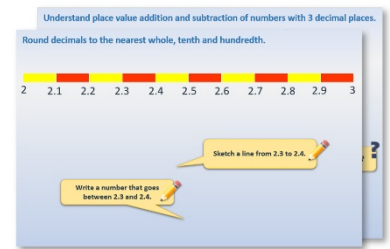


# Year 4: Week 3, Day 1

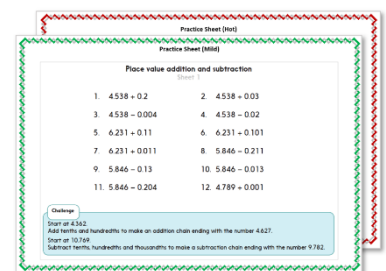
## Equivalent fractions

Each day covers one maths topic. It should take you about 1 hour or just a little more.

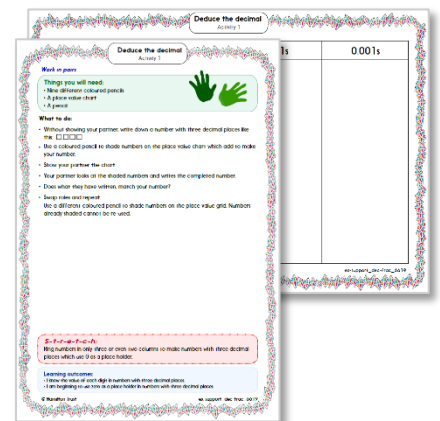
1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



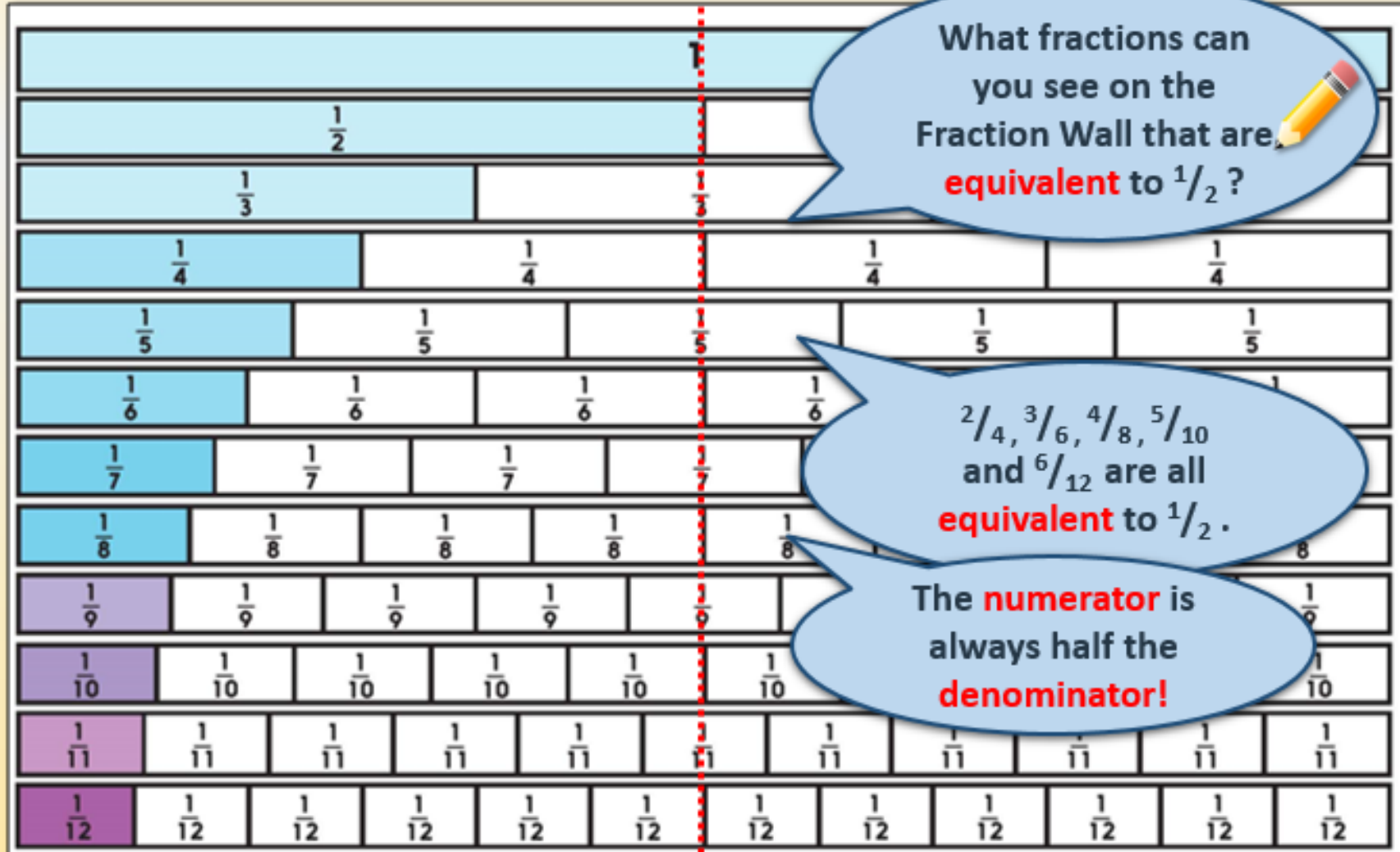
3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**



4. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the **Investigation...**

## Learning Reminders

Identify equivalent fractions.



## Learning Reminders

Write fractions in their simplest form.

We can write  $\frac{6}{12}$  as  $\frac{1}{2}$ .  
This is called writing the  
fraction in its  
**simplest form.**

We can find a fraction's  
**simplest form** by dividing  
the **numerator** and  
**denominator** by the same  
number; in this case 6.

What is the simplest  
equivalent fraction to  $\frac{2}{6}$ ?  
**What can you divide both  
2 and 6 by?**

$$\frac{2}{6} \equiv \frac{1}{3}$$

You can check on the  
Fraction Wall!

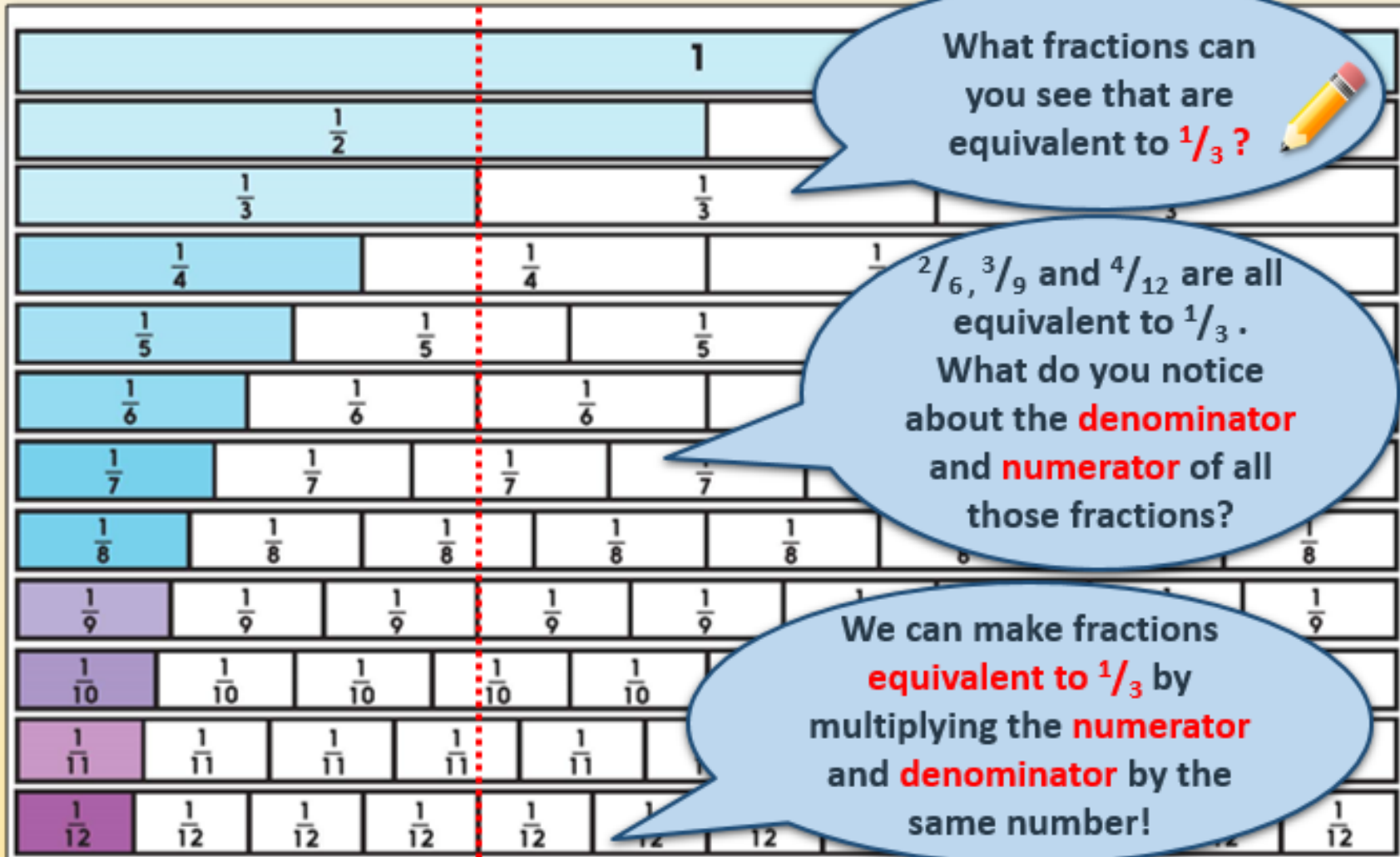
What is the simplest  
equivalent fraction to  $\frac{6}{8}$ ?  
**What can you divide both  
6 and 8 by?**

$$\frac{6}{8} \equiv \frac{3}{4}$$

Divide both the  
numerator and  
denominator by 2.

## Learning Reminders

Identify equivalent fractions.



## Practice Sheet Mild

### Fractions practice

Draw a circle round all the fractions which are equivalent to  $\frac{1}{2}$ .

Draw a square round all the fractions which are equivalent to  $\frac{1}{4}$ .

$$\frac{2}{4}$$

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

$$\frac{6}{12}$$

$$\frac{5}{20}$$

$$\frac{20}{40}$$

$$\frac{2}{8}$$

$$\frac{4}{10}$$

$$\frac{3}{12}$$

$$\frac{2}{6}$$

$$\frac{8}{12}$$

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

$$\frac{3}{6}$$

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

$$\frac{10}{40}$$

$$\frac{9}{18}$$

$$\frac{8}{16}$$

$$\frac{10}{20}$$

$$\frac{5}{10}$$

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

$$\frac{4}{16}$$

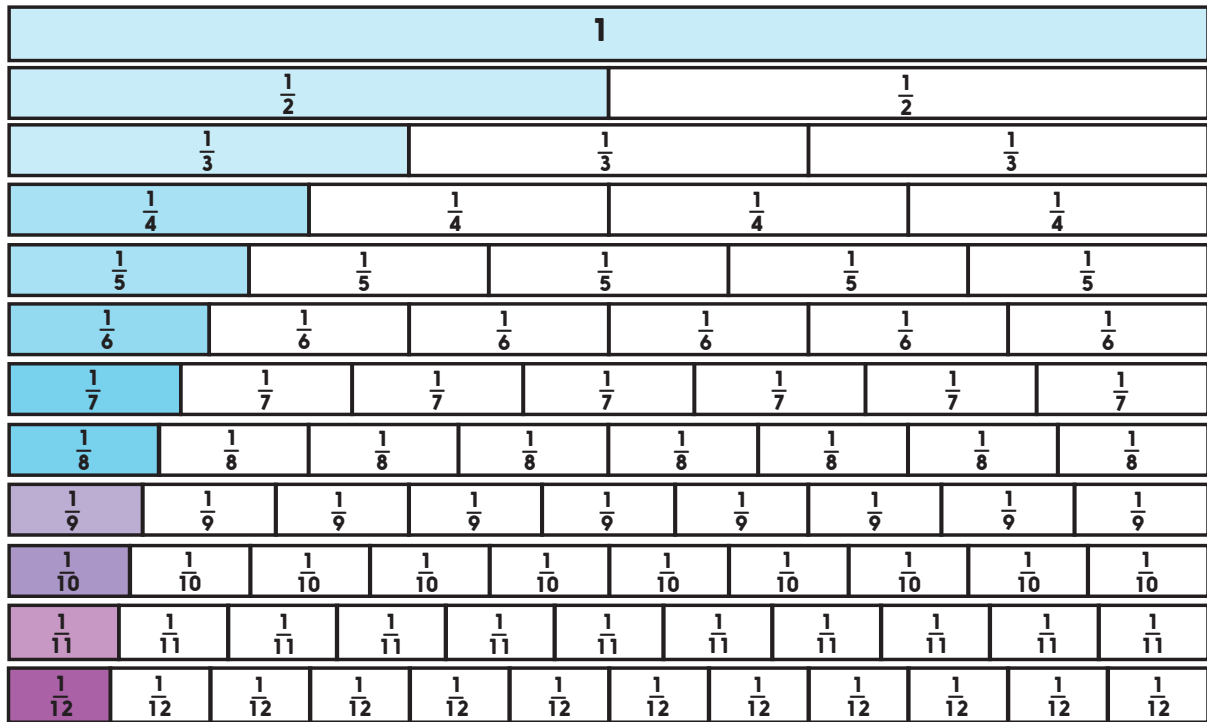
#### Challenge

Write at least two more fractions equivalent to  $\frac{1}{2}$  and two more equivalent to  $\frac{1}{4}$ .

## Practice Sheet Hot

### Fractions practice

Use the fraction wall to help you to write pairs of equivalent fractions.



$$\frac{2}{8} \equiv \frac{1}{\square}$$

$$\frac{6}{8} \equiv \frac{\square}{4}$$

$$\frac{3}{9} \equiv \frac{1}{\square}$$

$$\frac{6}{9} \equiv \frac{\square}{3}$$

$$\frac{2}{12} \equiv \frac{1}{\square}$$

$$\frac{3}{12} \equiv \frac{1}{\square}$$

$$\frac{4}{12} \equiv \frac{1}{\square}$$

$$\frac{6}{12} \equiv \frac{1}{\square}$$

$$\frac{4}{12} \equiv \frac{\square}{6}$$

$$\frac{10}{12} \equiv \frac{\square}{6}$$

$$\frac{8}{12} \equiv \frac{\square}{3}$$

$$\frac{9}{12} \equiv \frac{\square}{4}$$

#### Challenge

How many more rows would we need to draw on the fraction wall to complete this pair of equivalent fractions:  $\frac{5}{7} \equiv \frac{10}{\square}$ ?

## Practice Sheet Answers

### Fractions practice (Mild)

$\frac{2}{4}$        $\frac{3}{4}$        $\frac{6}{12}$        $\frac{5}{20}$   
 $\frac{20}{40}$        $\frac{2}{8}$        $\frac{4}{10}$        $\frac{3}{12}$   
 $\frac{2}{6}$        $\frac{8}{12}$        $\frac{2}{5}$        $\frac{3}{6}$   
 $\frac{4}{8}$        $\frac{10}{40}$        $\frac{9}{18}$   
 $\frac{8}{16}$        $\frac{10}{20}$        $\frac{2}{3}$   
 $\frac{5}{10}$        $\frac{4}{16}$

#### Challenge

Other fractions equivalent to  $\frac{1}{2}$  are  $\frac{6}{12}$ ,  $\frac{7}{14}$ ,  $\frac{8}{16}$ ,  $\frac{11}{22}$ , etc.

Other fractions equivalent to  $\frac{1}{4}$  are  $\frac{6}{24}$ ,  $\frac{7}{28}$ ,  $\frac{8}{32}$ ,  $\frac{9}{36}$ , etc.

### Fractions practice (Hot)

$$\begin{array}{cccc} \frac{2}{8} \equiv \frac{1}{4} & \frac{6}{8} \equiv \frac{3}{4} & \frac{3}{9} \equiv \frac{1}{3} & \frac{6}{9} \equiv \frac{2}{3} \\ \frac{2}{12} \equiv \frac{1}{6} & \frac{3}{12} \equiv \frac{1}{4} & \frac{4}{12} \equiv \frac{1}{3} & \frac{6}{12} \equiv \frac{1}{2} \\ \frac{4}{12} \equiv \frac{2}{6} & \frac{10}{12} \equiv \frac{5}{6} & \frac{8}{12} \equiv \frac{2}{3} & \frac{9}{12} \equiv \frac{3}{4} \end{array}$$

#### Challenge

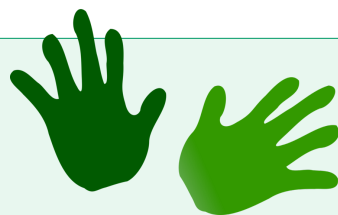
We would need two more rows:  
 $\frac{1}{13}$ s and  $\frac{1}{14}$ s to give  $\frac{5}{7} \equiv \frac{10}{14}$

## A Bit Stuck? The Half family

### Work in pairs

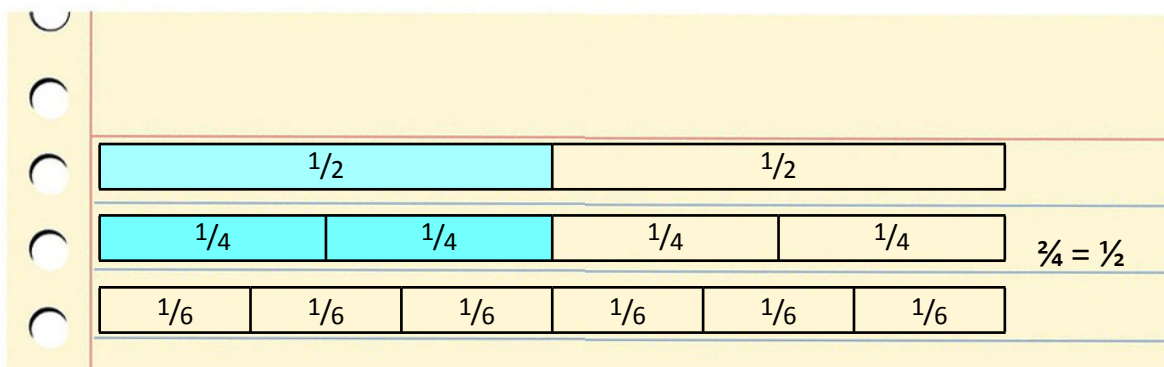
#### Things you will need:

- A pencil
- A fraction wall
- Coloured pencil
- Scissors
- Glue sticks



#### What to do:

- Colour in  $\frac{1}{2}$  of the strip divided into halves.
- Cut the fraction wall into strips.
- Lay each strip one at a time next to the strip of halves until you find a number of fractions which are the same size as  $\frac{1}{2}$ . Colour in half of this strip.
- Repeat for each strip until you have found all the fractions which are equivalent (same size) to  $\frac{1}{2}$ .
- Stick these fractions under one another.
- Write the pairs of equivalent fractions.



#### **S-t-r-e-t-c-h:**

Cut another fraction wall into strips. Colour in one quarter of the strips of quarters. Look for fractions equivalent to  $\frac{1}{4}$ , stick under strips of quarters and write the pairs of equivalent fractions.

#### Learning outcomes:

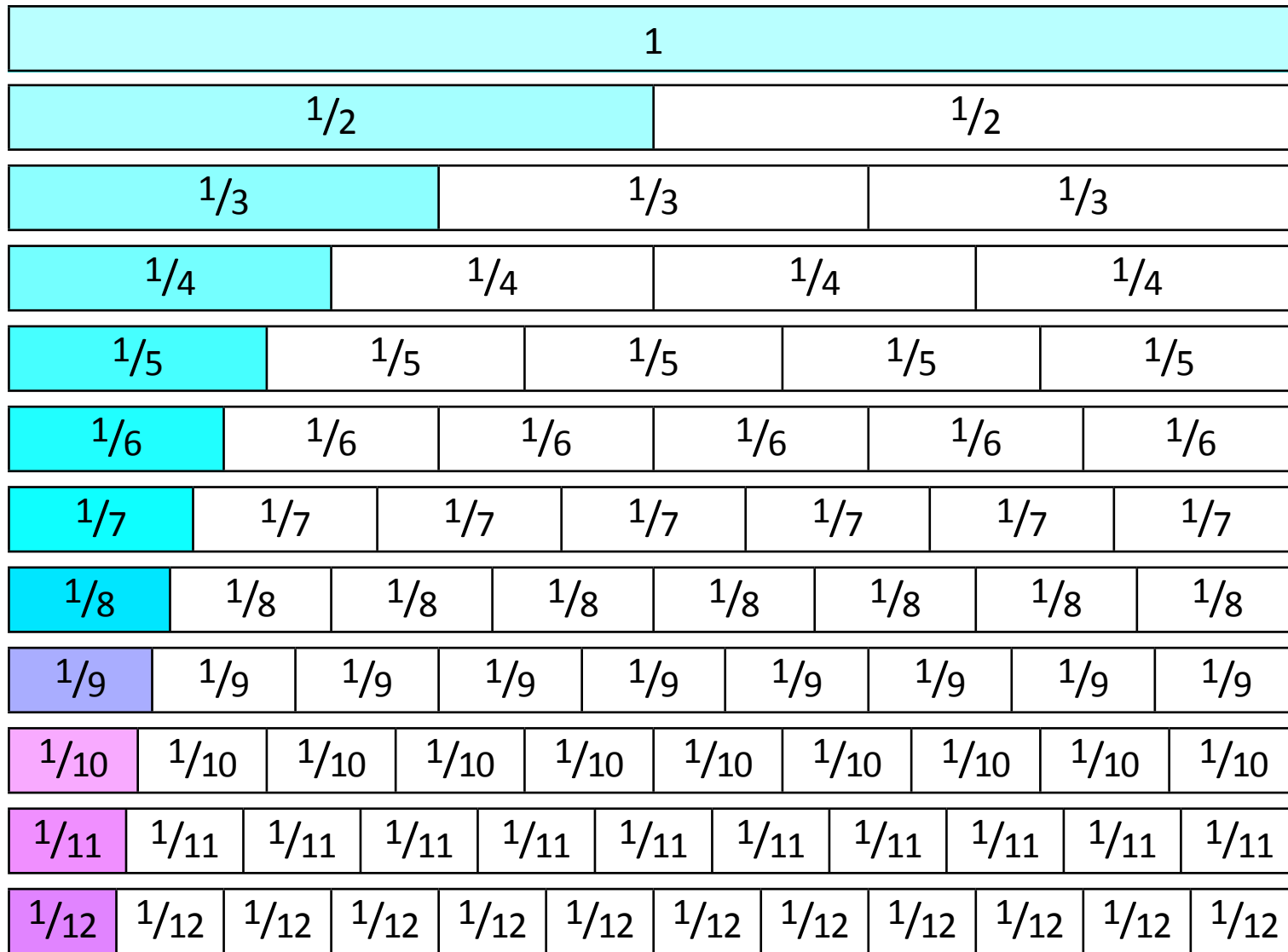
- I can find fractions which are equivalent to  $\frac{1}{2}$ .
- I am beginning to find fractions which are equivalent to  $\frac{1}{4}$ .



**A Bit Stuck?**  
**The Half family**

1											
$\frac{1}{2}$						$\frac{1}{2}$					
$\frac{1}{3}$				$\frac{1}{3}$				$\frac{1}{3}$			
$\frac{1}{4}$			$\frac{1}{4}$			$\frac{1}{4}$			$\frac{1}{4}$		
$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$	
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$
$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$
$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$

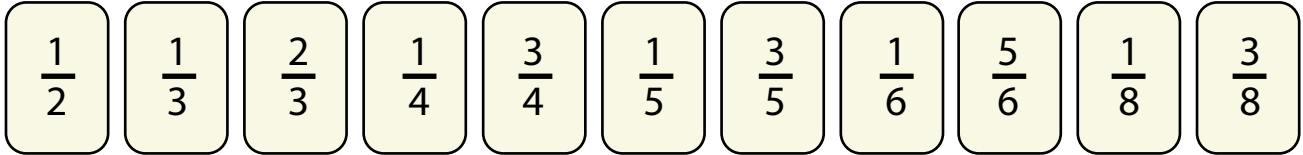
# A Bit Stuck? The Half family



## Investigation

### Best score for me!

1. Use this line of fraction cards.



2. Choose a fraction, e.g.  $\frac{3}{4}$
3. Look at the first square below.
4. Identify two numbers, which, one over the other, make an equivalent fraction to the one chosen, e.g.  $\frac{9}{12}$
5. Write the equivalent fraction below the appropriate fraction card.
6. Cross out these two numbers on the first square.
7. Choose another fraction, and repeat, e.g. choose  $\frac{1}{5}$ , write  $\frac{4}{20}$  and cross out 4 and 20.
7. Keep going like this. *You cannot use a crossed-out number on your square for a second time!*
8. For how many fraction cards did you manage to write equivalent fractions underneath? A good score is anything over 6, but you are chasing 9 or 10!

What sort of fractions is it best to choose first? Why?

Why is it not sensible to choose  $\frac{1}{2}$  first?

Which numbers on the square are never used?

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36