At-Home Investigation

Comparing the size of fractions:

Today we are going to draw each of the fractions listed below. Draw the lines in with a pen, then take a photo of what you have made to send to your teacher.

- One half $\frac{1}{2}$
- One quarter, two quarters, three quarters $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$
- One eighth, two eighths, five eighths, seven eighths $\frac{1}{8}$ $\frac{2}{8}$ $\frac{5}{8}$ $\frac{7}{8}$
- One third, two thirds $\frac{1}{3}$ $\frac{2}{3}$
- One fifth, two fifths, three fifths, four fifths $\frac{1}{5}$ $\frac{2}{5}$ $\frac{3}{5}$ $\frac{4}{5}$
- One tenth, five tenths $\frac{1}{10}$ $\frac{5}{10}$

$\frac{1}{2}$	$\frac{1}{4}$	$\frac{2}{4}$	$\frac{3}{4}$
$\frac{1}{8}$	$\frac{2}{8}$	$\frac{5}{8}$	$\frac{7}{8}$
$\frac{1}{3}$	$\frac{2}{3}$	$\frac{1}{5}$	$\frac{2}{5}$
$\frac{3}{5}$	$\frac{4}{5}$	$\frac{1}{10}$	$\frac{5}{10}$

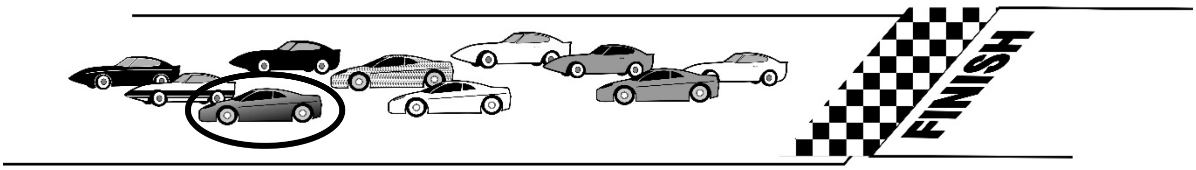
Ordering fractions:

Now that you have made each fraction, order the following fractions from smallest to largest. Explain how you did it. $\frac{3}{4}$ $\frac{4}{8}$ $\frac{2}{3}$ $\frac{3}{5}$ $\frac{5}{10}$ $\frac{5}{8}$

Fraction names are like racing

Fractions are named similarly to places in a race. Use this information to help you answer the questions below:

The cars below are having a race. Car number one crossed the finish line in first place. Car number two came in second place. What place did car number three come in?



This is the **same word** as that used for when one whole is broken into three fair parts. What would one of these parts be called?

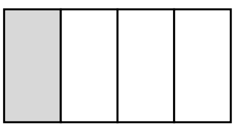
Divide the whole rectangle below into three fair parts. Write the name of each part on your picture.

What place would car number five come in?
This is the same word as that used for when one whole is broken into five fair parts.
What would one of these parts be called?

Divide the rectangle below into five fair parts. Write the name of each part on the picture

Fraction symbols

Use the picture below to work out what the one means and what the four means for the symbol of one quarter. Fill in the boxes.

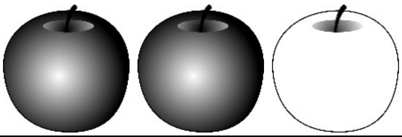
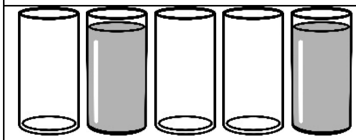


$$\frac{1}{4}$$

Numerator: The 1 means:

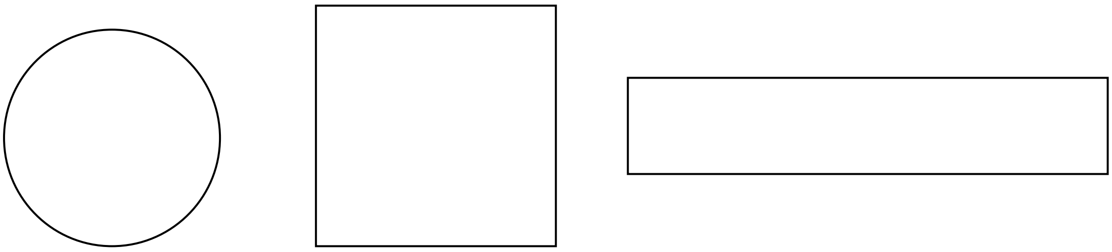
Denominator: The 4 means:

Putting it altogether: fill in the table

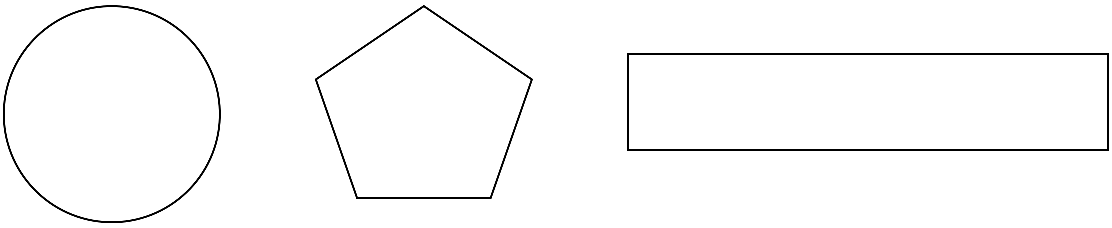
Picture	Words	Symbols
	*One third* of the apples are peeled	$\frac{1}{3}$
	Two thirds of the stickers are stars	
		

Draw the following fractions onto the shapes below:

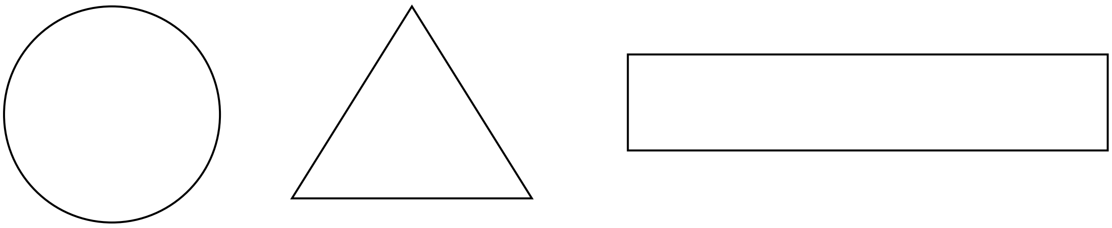
Draw halves:



Draw fifths:



Draw thirds:



Why are the fifths smaller than the thirds?

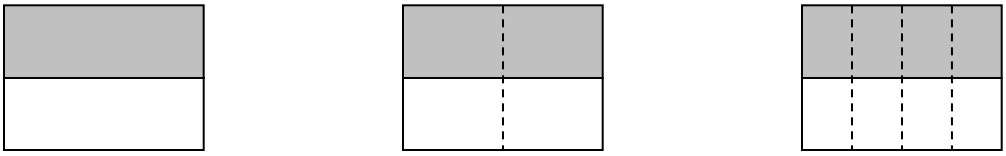
What do you think tenths might look like? Try drawing them here.

How are the tenths similar to and different from fifths?

Equivalent fractions

*Different common fractions can be used to represent the same amount. These are called **equivalent fractions**. Use the diagrams below to help you to identify the common fractions.*

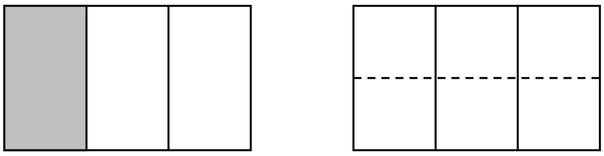
Example:



$^1/_2$ = $^2/_4$ = $^4/_8$

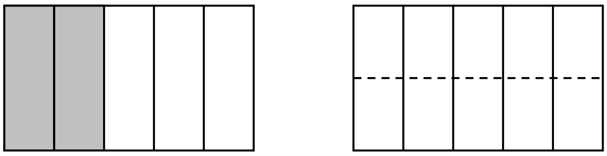
Colour the diagrams below and use them to help you answer the questions.

1. $^1/_3$ = how many sixths?



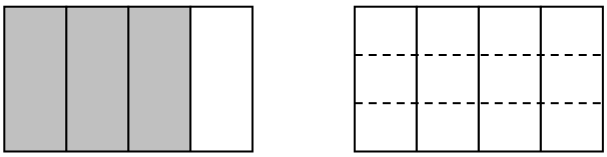
What is the pattern?

2. $^2/_5$ = how many tenths?



What is the pattern?

3. $^3/_4$ = how many twelfths?



What is the pattern?

Look at the numbers in each numerator and denominator in the set of equivalent fractions.
What patterns do you see between the numbers?

Extension question:
Is there a way that you could use your understanding of equivalent fractions to add different fractions together? Try drawing what it would look like to add $\frac{1}{2}$ to $\frac{1}{4}$

If you can, also try adding on $\frac{1}{8}$

Interleaved practice

Number:

1. Complete the pattern and then rewrite it using decimal numbers.

   $3\,{}^{7}/_{10}$, $3\,{}^{9}/_{10}$, ______ , $4\,{}^{3}/_{10}$, ______ , ______ , ______ , ______

   ______ , ______ , ______ , ______ , ______ , ______ , ______ , ______

2. Write 0.2 as a fraction and show what 0.2 of this line, rectangle and collection of coins represents.

   O O O O O

   O O O O O

3. Show the answer in two different ways

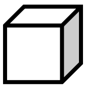
   $5\overline{)36}$

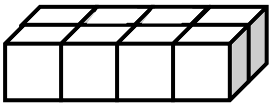
4. Make a prime factor tree for 36

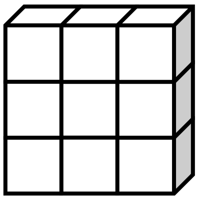
5. While I was shopping, I spent $14.70 on lunch, $23.95 on a t-shirt and had $6.35 left over. How much did I have to start with?

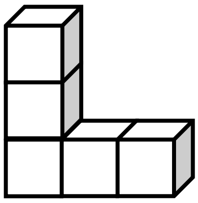
Measurement/Geometry:

6. Write the volume of these objects in cm^3

 = $1cm^3$







7. Draw 3 angles: one less than, one equal to and one greater than a right angle.

8. Show what time it will be on a clock 12 minutes after 13:40.

Chance/Data:

This spinner made with 4 colours doesn't have an equal chance of spinning each colour.

Use as many colours as you like to design a spinner that has an equal chance of spinning each colour.

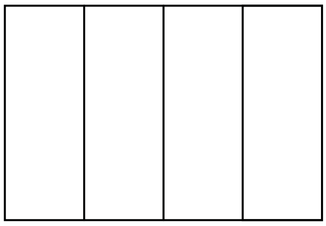
C9. Adding and subtracting fractions

TR p75

Today we will learn how to add and subtract fractions with pictures.

Example:

${}^{1}/_{4} + {}^{2}/_{4}$



Colour ${}^{1}/_{4}$ of the rectangle in blue:

Colour ${}^{2}/_{4}$ of the rectangle in red:

How many pieces do you have now altogether? _________

If you shade ${}^{1}/_{4}$ of this shape, how many pieces do you shade? __________

If you shade ${}^{2}/_{4}$ of this shape, how many pieces do you shade? __________

How many pieces would this make altogether? ______ What fraction is this? _______

What would you have done if it was ${}^{3}/_{4}$ - ¼? Can you think of how to do it using an eraser?

Try these: some are addition and some are subtraction

1. ${}^{3}/_{8} + {}^{1}/_{8} =$

2. ${}^{2}/_{5} - {}^{1}/_{5} =$

3. ${}^{2}/_{6} + {}^{3}/_{6} =$

4. ${}^{8}/_{10} - {}^{3}/_{10} =$