Year 5-Year 6

Summer Transition Activity Booklet

Mathematics

Our Lady of Peace

Catholic Primary School

Name:

JK 6/18

Contents

- Instructions
- Timetable
- Week 1
- Week 2
- Week 3
- Week 4
- Week 5
- Week 6

Instructions

The aim of this activity booklet is to develop key areas of Mathematics (particularly mental arithmetic to support knowledge and confidence in preparation for Year 6. Each week there will be the following:

1/ A mental warm up – This will be timed (you have 10 minutes) – You are given a start number and you may complete any question you like in any order. How many can you do? The aim is to increase your speed and accuracy over the weeks ahead.

2/ Did you know? – This section looks at some of the vocabulary and knowledge you will need to complete the weekly focus.

3/ Misconceptions – This section contains questions to explore some of the big misconceptions in this topic. Can you avoid some of the big errors made?

4/ Try this! – This contains 5 questions for you to try in your focus for the week and explain how you did them.

5/ What did you learn? – Write down what you remembered and helpful tips to remember important information you will need in Year 6.

6/ I'm still not sure about…. – In this section, note anything you are still not sure in this topic. This can be reviewed in your first week back in Year 6.

Remember to bring your completed pack with you on your first day in Year 6!

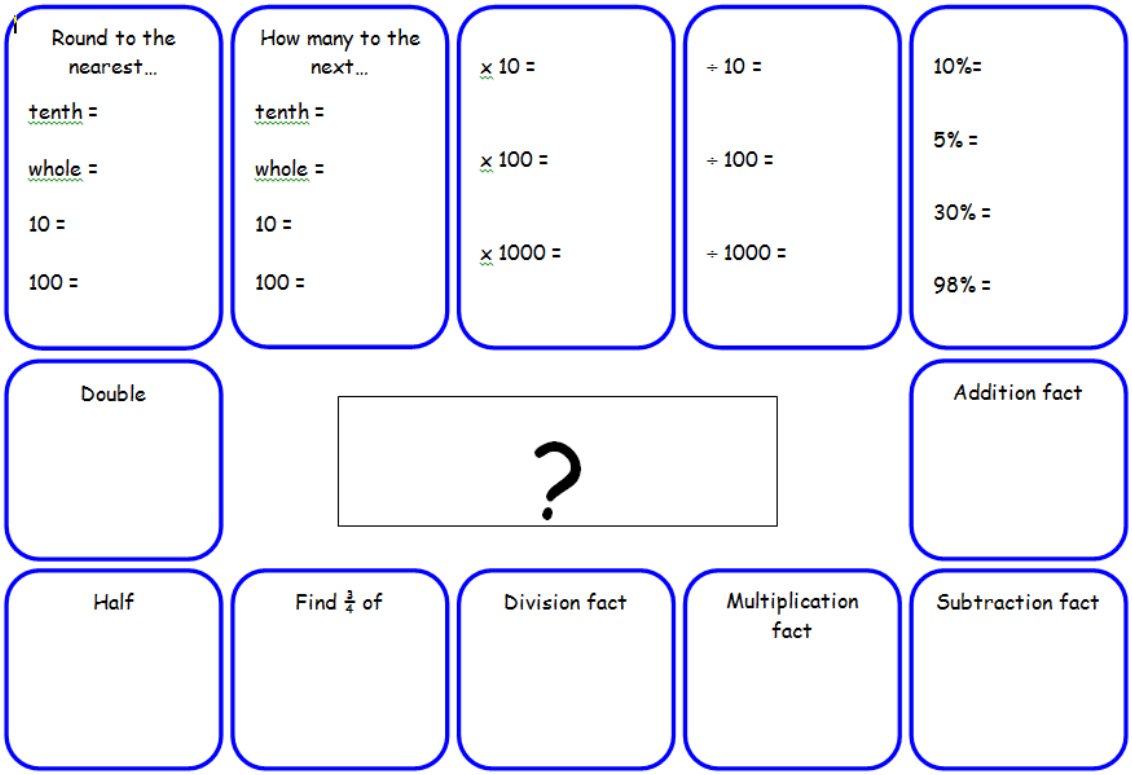
Timetable

Week	Mathematics Focus
1	Multiplication and Division
2	Squares, Factors, Primes and Cubed Numbers
3	Ordering and Comparing Fractions
4	Adding and Subtracting Fractions
5	Fractions, Decimals & Percentages
6	Calculating with Decimals

Week 1 – Multiplication and Division

1/ Mental warm up: Your number is 145

Round to the nearest 10	**Add 1000**
Add 50 000	**Multiply by 7**
Multiply by 100	**Find 10%**
Triple the amount	**Find 15%**
Check – Is it Prime? How do you know?	**List three of the factors of the number**
Expand the number to demonstrate all its place value	**Find ¼ of the number**
Take the digit at the end and add it to the front – how much more/less is the number from the original now?	**Share between 4 people**
The number is 25%. What is the whole?	**The number is 15%. What is the whole?**



How many of all of these questions can you do 10 minutes? Set the timer.

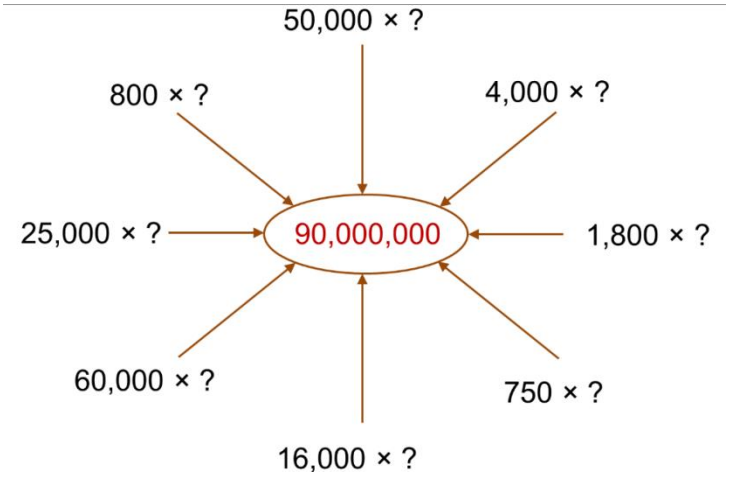
2/Did you know?

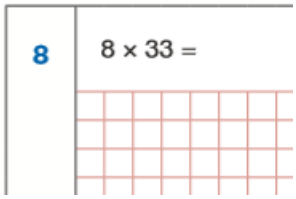
http://www.bbc.co.uk/bitesize/ks2/maths/number/multiplication_division/read/1/

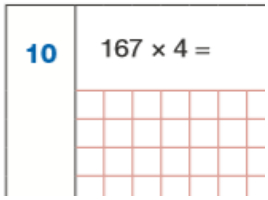
3/ Misconceptions

- If I know that 3 x 4 = 12, what other facts do I know / can I derive?
- The product is 40. What could the two numbers be? Convince me.
- The quotient is 5. What could the two numbers be? Convince me.
- Use the digits 4, 5 and 7 to generate U.t x U calculations (each digit can only be used once for each calculation). What combination gives the largest / smallest product? Convince me. How many different integer / whole number answers are possible? Convince me that you have found them all.
- What clues do you look for when deciding if you can do a multiplication mentally? E.g. 5.8 x 40
- Give an example of how you could use partitioning to multiply a decimal by a two-digit whole number, e.g. 5.3 x 23.

4/ Try this!

- 

- 

- 

- 2102 ÷ 5 =
- 5847 ÷ 6 =

5/ What did you learn?

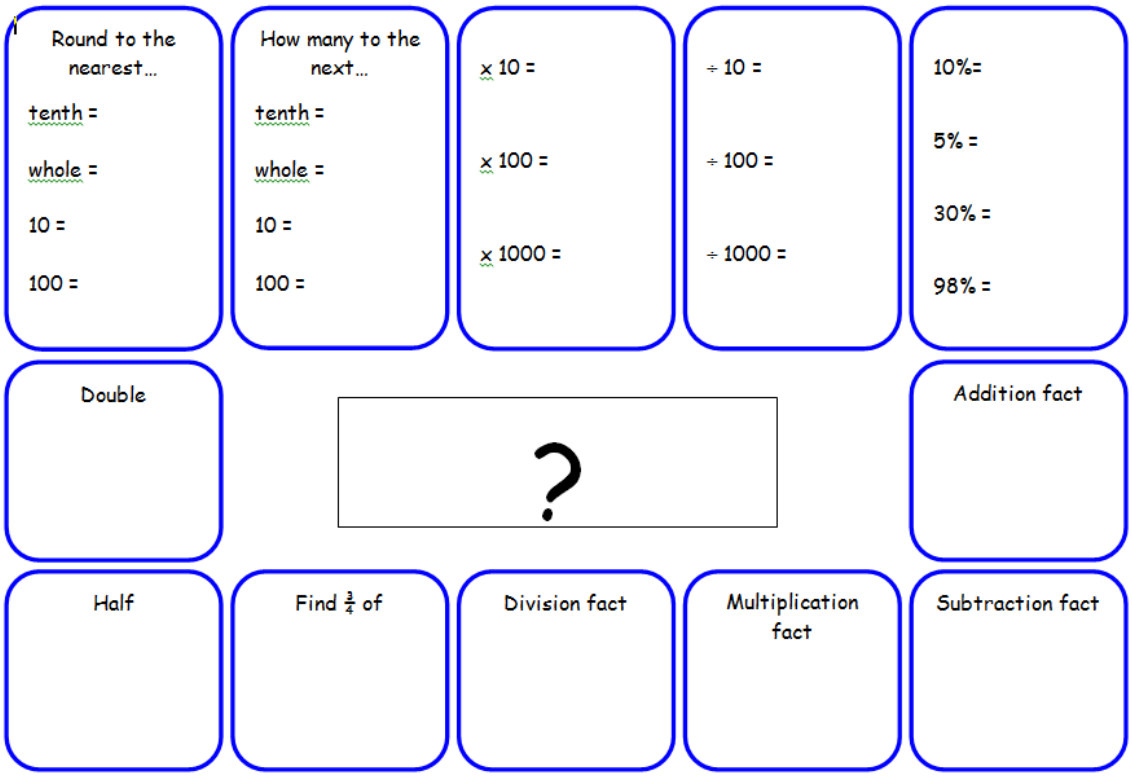
What did you learn?	Top Tips

6/ I'm still not sure about…..

Week 2 - Squares, Factors, Primes and Cubed Numbers

1/ Mental warm up: Your number is 1004

Round to the nearest 10	**Add 1000**
Add 50 000	**Multiply by 7**
Multiply by 100	**Find 10%**
Triple the amount	**Find 15%**
Check – Is it Prime? How do you know?	**List three of the factors of the number**
Expand the number to demonstrate all its place value	**Find ¼ of the number**
Take the digit at the end and add it to the front – how much more/less is the number from the original now?	**Share between 4 people**
The number is 25%. What is the whole?	**The number is 15%. What is the whole?**



How many of all of these questions can you do 10 minutes? Set the timer.

2/Did you know?

Vocabulary:

- Factor pairs
- Composite numbers
- Prime number
- Prime factors
- Square numbers
- Cubed numbers
- Common factors
- Common multiples

http://www.bbc.co.uk/bitesize/ks2/maths/number/factors_multiples/read/1/

Prime Numbers Song -
https://www.youtube.com/watch?v=cRz4hW9SPPc

Cube Numbers -
https://www.youtube.com/watch?v=GbtrTiYCNDw

3/ Misconceptions

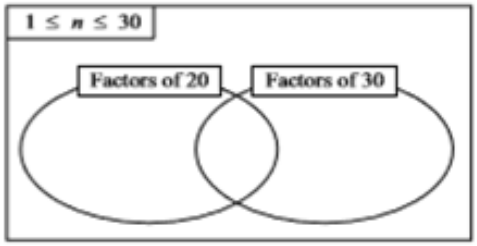
- Jack said,
  'All prime numbers are odd.'
  True or False? Explain your answer

- What is the relationship between cube numbers and volume and square numbers and area?

- Composite Numbers are Prime Numbers – True or False? Explain your answer.

4/ Try this!

- a) Write the whole numbers from 1 to 30 in the Venn diagram.

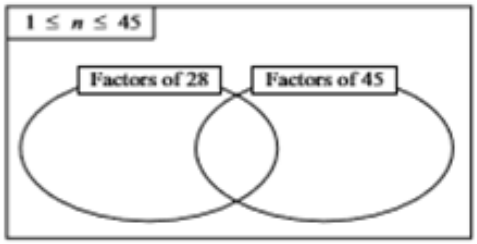


List the **common factors** of 20 and 30.

.....

What is the **greatest** common factor?

b) Write the whole numbers from 1 to 45 in the Venn diagram.

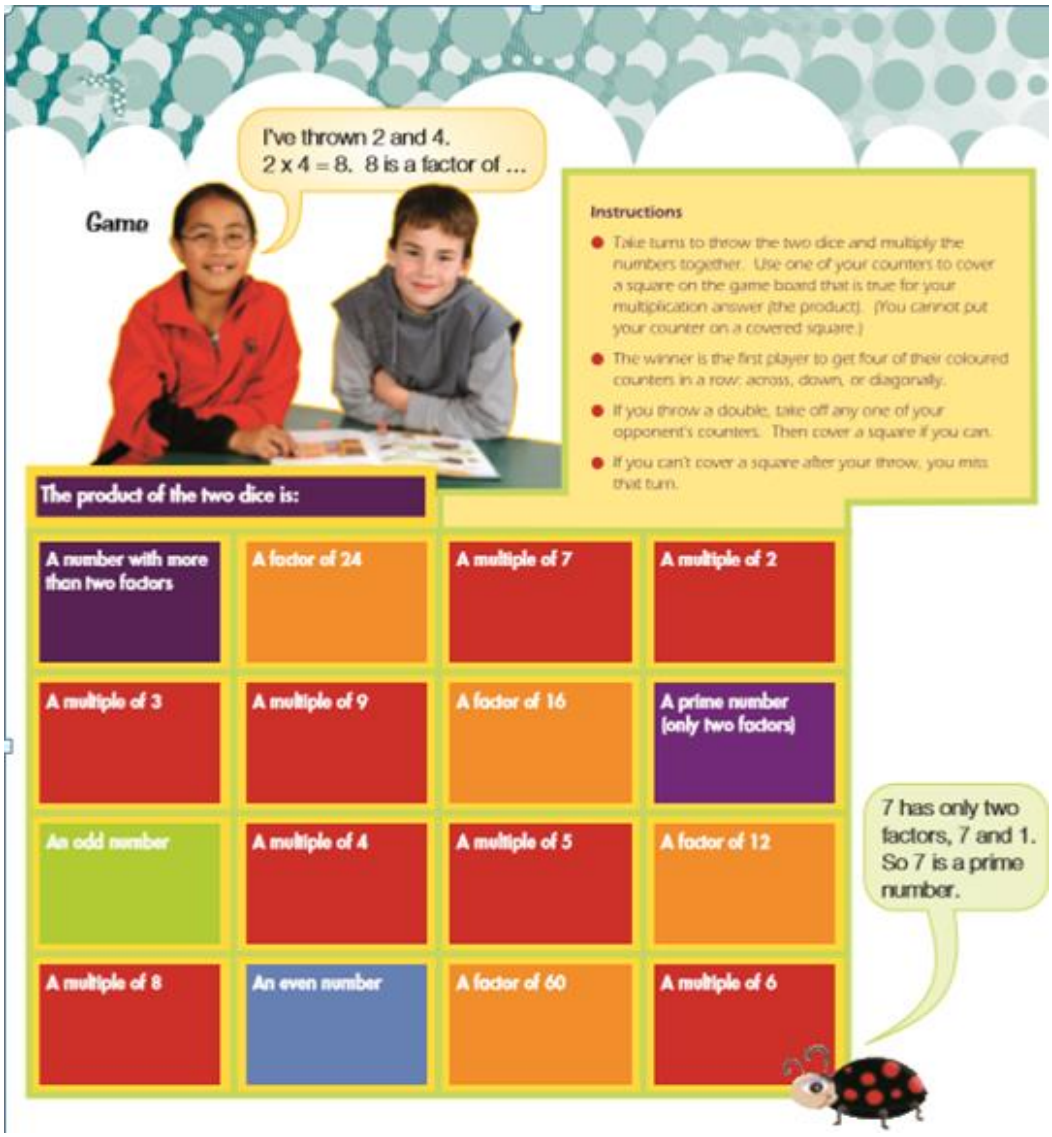


List the **common factors** of 28 and 45.

.....

What is the **greatest** common factor?

- Explain why 99 is not a prime number.
- List all the prime factors of 40.
-



- List all the cubed numbers between 130 and 500.

5/ What did you learn?

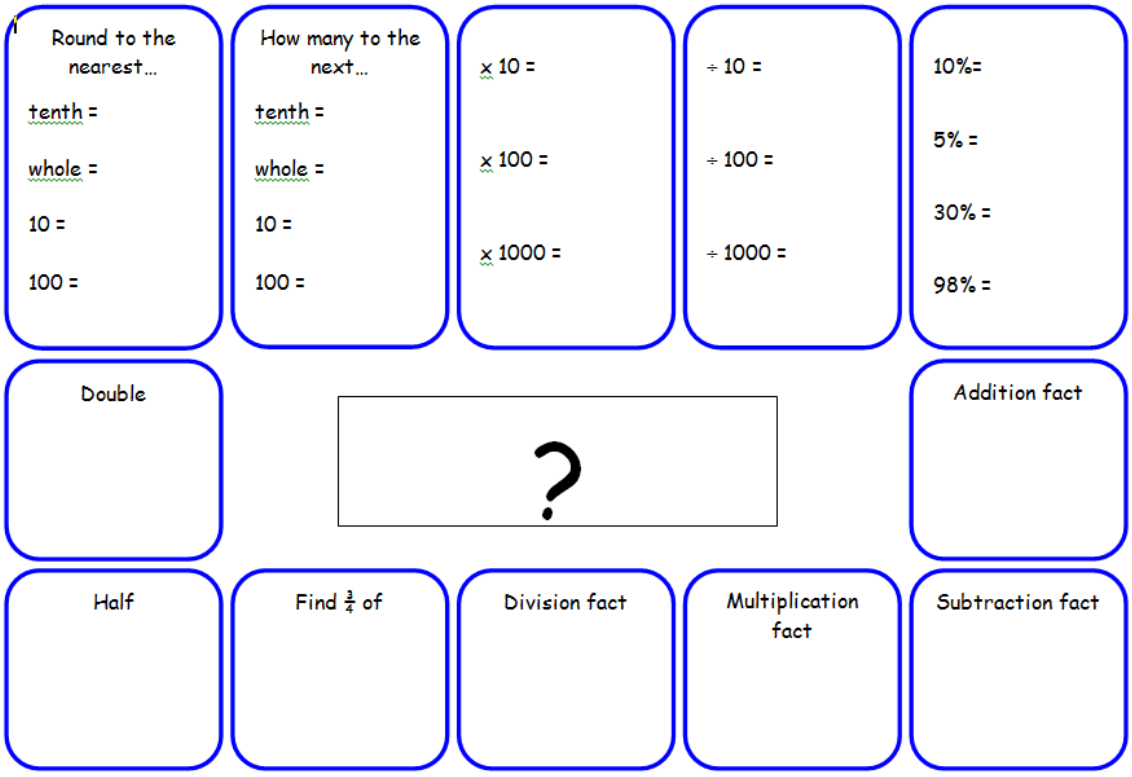
What did you learn?	Top Tips

6/ I'm still not sure about…..

Week 3 - Ordering and Comparing Fractions

1/ Mental warm up: Your number is 10 025

Round to the nearest 10	**Add 1000**
Add 50 000	**Multiply by 7**
Multiply by 100	**Find 10%**
Triple the amount	**Find 15%**
Check – Is it Prime? How do you know?	**List three of the factors of the number**
Expand the number to demonstrate all its place value	**Find ¼ of the number**
Take the digit at the end and add it to the front – how much more/less is the number from the original now?	**Share between 4 people**
The number is 25%. What is the whole?	**The number is 15%. What is the whole?**



How many of all of these questions can you do 10 minutes? Set the timer.

2/Did you know?

Vocabulary:

Proper fractions
Improper fractions,
mixed numbers
Percentage
Half
Quarter
Fifth
Two fifths
Four fifths
Ratio
Proportion
Simplify

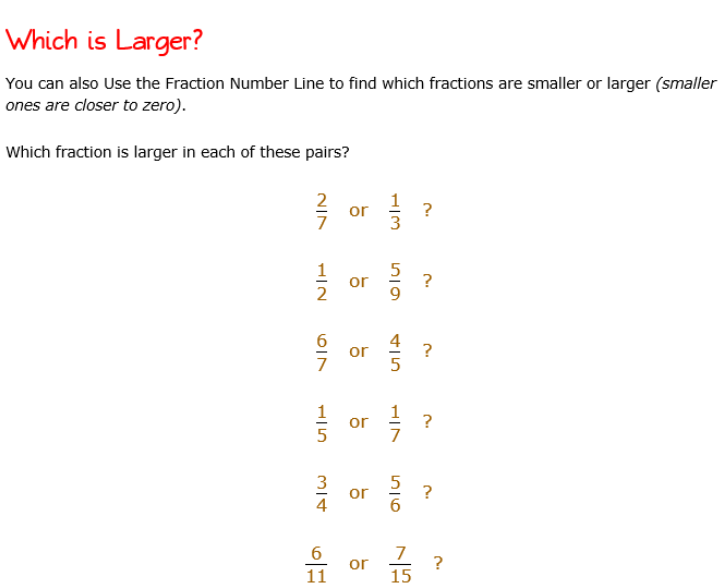
http://www.bbc.co.uk/bitesize/ks2/maths/number/fractions_basic/read/1/

http://www.bbc.co.uk/bitesize/ks2/maths/number/ordering_comparing_fractions/read/1/

3/ Misconceptions

- Jack said,
  'The larger the denominator, the larger the fraction.' Why is Jack incorrect? Explain your answer.
- What is the same/different: $\frac{1}{2}$ and $\frac{5}{10}$
- Convince me that
  - a half is bigger than a quarter
  - a half is the same as two quarters
- Give me two equivalent fractions. How do you know they are equivalent?

4/ Try this!

- 

- Look at the fractions in the table to the right.

  Pick 4 and order them in ascending order.

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

- Look at the fractions table above. Pick two fractions that are closest to one whole. Explain your answer.
- Think of a fraction that is more than 3/5 but less than 9/10. Explain your answer.
- Order 9/12, ¼, ½ and 2/3 in descending order.

5/ What did you learn?

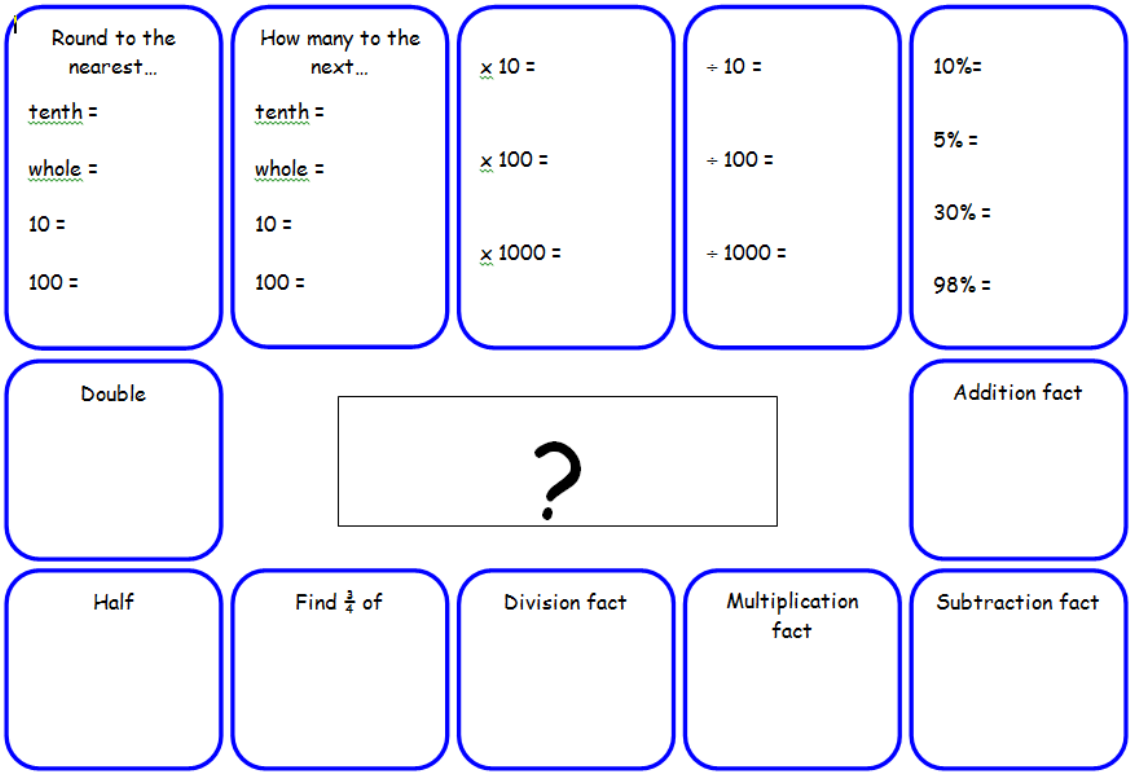
What did you learn?	Top Tips

6/ I'm still not sure about…..

Week 4 - Adding and Subtracting Fractions

1/ Mental warm up: Your number is 892

Round to the nearest 10	**Add 1000**
Add 50 000	**Multiply by 7**
Multiply by 100	**Find 10%**
Triple the amount	**Find 15%**
Check – Is it Prime? How do you know?	**List three of the factors of the number**
Expand the number to demonstrate all its place value	**Find ¼ of the number**
Take the digit at the end and add it to the front – how much more/less is the number from the original now?	**Share between 4 people**
The number is 25%. What is the whole?	**The number is 15%. What is the whole?**



How many of all of these questions can you do 10 minutes? Set the timer.

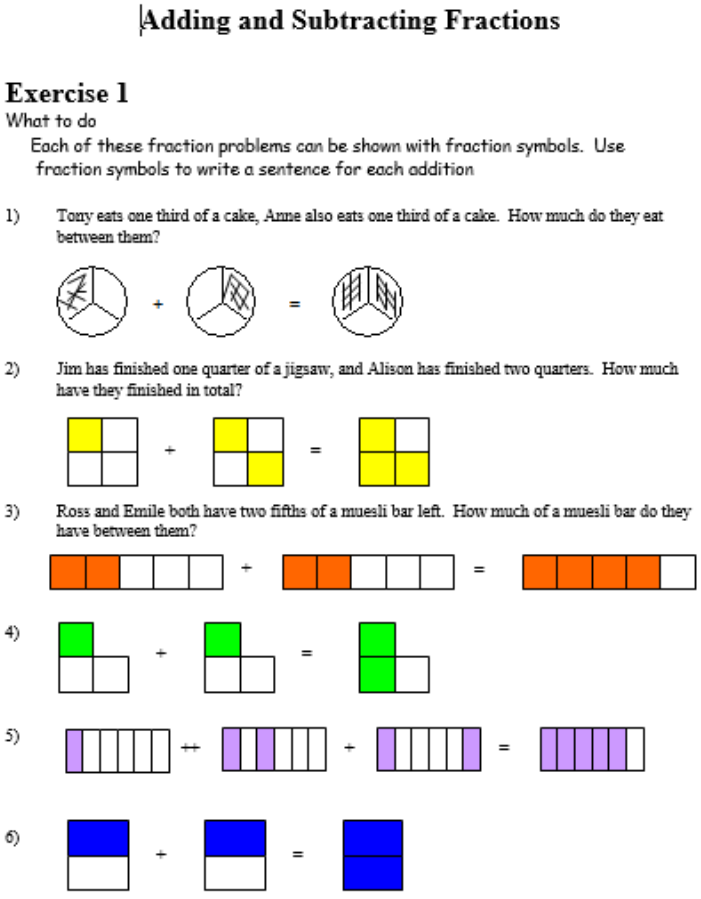
2/Did you know?

http://www.bbc.co.uk/guides/z9n4k7h

3/ Misconceptions

- Why are equivalent fractions important when adding or subtracting fractions?
- What strategies do you use to find a common denominator when adding or subtracting fractions?
- Is there only one possible common denominator?
- What happens if you use a different common denominator?

4/ Try this!

- 

Adding and Subtracting Fractions

Exercise 1

What to do

Each of these fraction problems can be shown with fraction symbols. Use fraction symbols to write a sentence for each addition

1) Tony eats one third of a cake, Anne also eats one third of a cake. How much do they eat between them?

2) Jim has finished one quarter of a jigsaw, and Alison has finished two quarters. How much have they finished in total?

3) Ross and Emile both have two fifths of a muesli bar left. How much of a muesli bar do they have between them?

4)

5)

6)

- 1/5 + ¼ =
- ¾ - 2/8 =
- 1/10 + ¾ =
- 7/8 – 1/3 =

- **5/ What did you learn?**

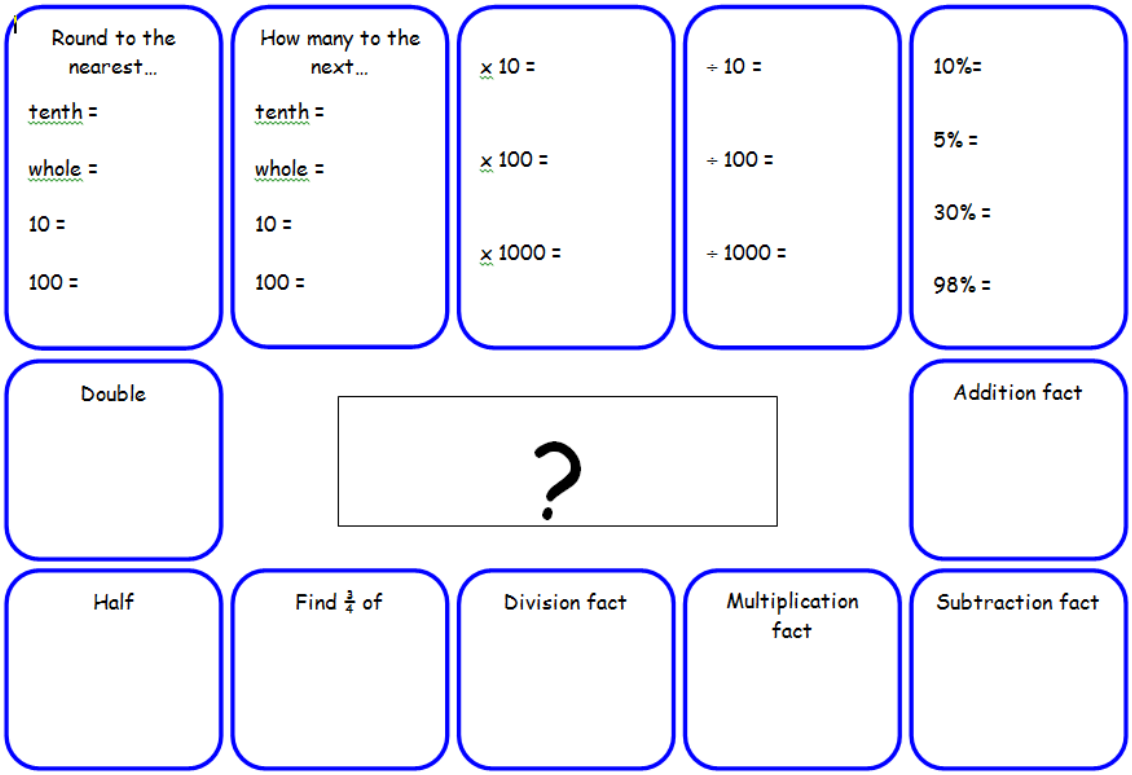
What did you learn?	Top Tips

6/ I'm still not sure about…..

Week 5 – Fractions, Decimals & Percentages

1/ Mental warm up: Your number is 96

Round to the nearest 10	**Add 1000**
Add 50 000	**Multiply by 7**
Multiply by 100	**Find 10%**
Triple the amount	**Find 15%**
Check – Is it Prime? How do you know?	**List three of the factors of the number**
Expand the number to demonstrate all its place value	**Find ¼ of the number**
Take the digit at the end and add it to the front – how much more/less is the number from the original now?	**Share between 4 people**
The number is 25%. What is the whole?	**The number is 15%. What is the whole?**



How many of all of these questions can you do 10 minutes? Set the timer.

2/Did you know?

Vocabulary

Percentage

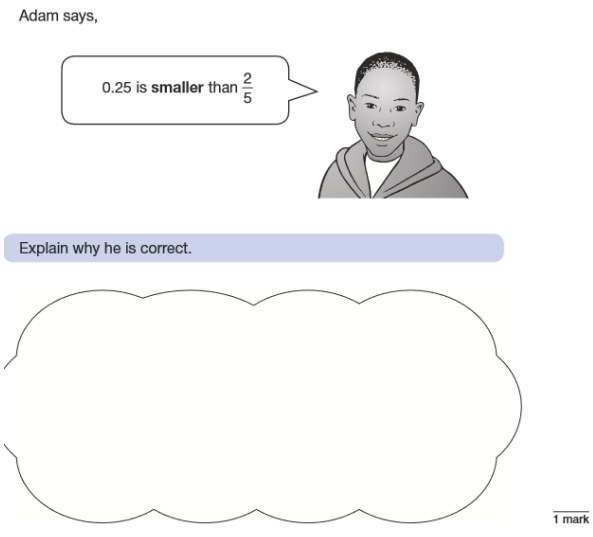
http://www.bbc.co.uk/bitesize/ks2/maths/number/fractions_to_decimals/read/1/

http://www.bbc.co.uk/bitesize/ks2/maths/number/percentages/read/1/

3/ Misconceptions

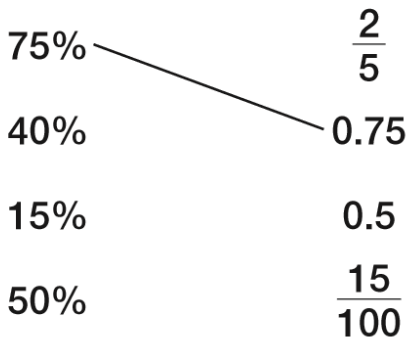
- 0.25 is the same as 25/100? True or False? Explain your answer.
- Percentage means 'out of 100'. True or False? Explain your answer.
- Fractions, decimals and percentages are described as equivalents. Why? Explain your answer.

4/ Try this!

- 

- Match each percentage to the correct equivalent.

  The first one has been done for you.



2 marks

-

0.25	0.50	0.75	0.333	0.666
0.20	0.40	0.60	0.80	0.1
0.2	0.3	0.4	0.5	0.6
0.7	0.8	0.9	0.5	

Give the percentage and fraction equivalents of the decimals above.

- What is 15% of 870

- How can finding 35% of 100 help you find 35% of 400? Explain your answer.

- **5/ What did you learn?**

What did you learn?	Top Tips

6/ I'm still not sure about…..

Week 6 – Calculating with Decimals

1/ Mental warm up: Your number is 104

Round to the nearest 10	**Add 1000**
Add 50 000	**Multiply by 7**
Multiply by 100	**Find 10%**
Triple the amount	**Find 15%**
Check – Is it Prime? How do you know?	**List three of the factors of the number**
Expand the number to demonstrate all its place value	**Find ¼ of the number**
Take the digit at the end and add it to the front – how much more/less is the number from the original now?	**Share between 4 people**
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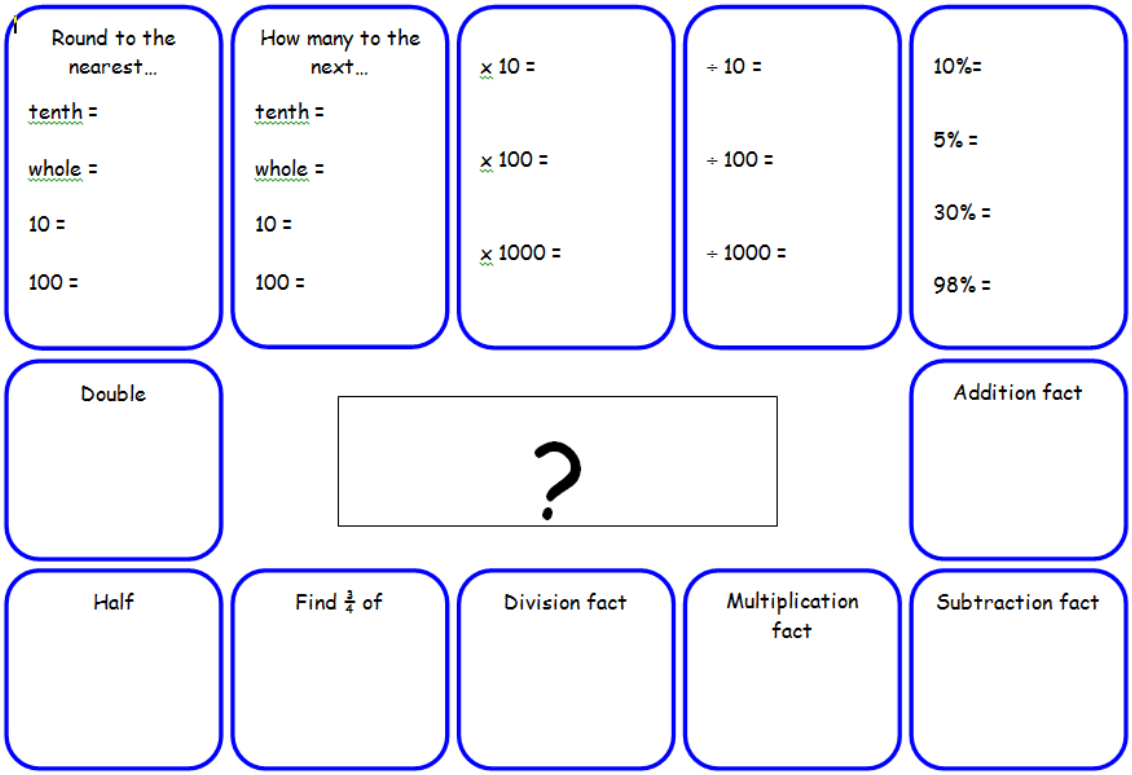

How many of all of these questions can you do 10 minutes? Set the timer.

2/Did you know?

Vocabulary

Decimal

Tenth

Hundredth

Thousandth

Decimal Place

http://www.bbc.co.uk/bitesize/ks2/maths/number/decimals/read/1/

3/ Misconceptions

- When adding the decimals 1.54 and 0.3 together. I know the tenths will be the only part of the calculation to change? How? Explain your answer.
- 0.045 is smaller than 0.45. Explain how you know.
- 4.5 x 3. If you imagine the calculation is 45 x3, what must you make sure you do after you get the answer? Why?

4/ Try this!

- Choose digits to go in the empty boxes to make these number sentences true.

  14 781 – 6 ☐ 53 = 8528

  23·12 + 22·☐ = 45·23

  Two numbers have a difference of 2·38. The smaller number is 3·12.
  What is the bigger number?

  Two numbers have a difference of 2·3. They are both less than 10.
  What could the numbers be?

- The children at Farmfield School are collecting money for charity.

  Their target is to collect £360

  So far they have collected £57.73

  How much **more** money do they need to reach their target?

  £ ☐

  1 mark

- 14.3 x 6 =
- 14.001 + 67.3 =
- 1.92 – 0.98 =

- **5/ What did you learn?**

What did you learn?	Top Tips

6/ I'm still not sure about…..