## Math Success - Grade 3

## Scope and Content

## Number Concepts:

Place value to 1000, describing and explaining
Be able to show concrete numbers to 1000
Compare and order numbers to 1000
Skip count by $2 s, 5 s, 10 s, 25 s$ and 100 s
Round numbers to nearest 10 and 100
Estimate amounts to 1000
Read and write number words to 1000
Place value to 100,000
Read and write numbers to 100,000
Ordinal numbers to 100
Skip count by $3 s, 4 s, 6 s$, and $9 s$
Even and odd numbers


Fractions - halves, thirds, fourths, fifths and eighths
Represent fractions using concrete materials

## Number Operations

Model basic operations using concrete materials
Recall addition and subtraction facts to 18
Missing addends
Addition with and without re-grouping to 1000
Subtraction with and without re-grouping to 1000
Understand the concepts of multiplication and division
Learn the multiplication facts to $9 \times 9$ - explore patterns
Understand the relationship between the processes - inverse operations
Use estimation strategies
Use correct language to describe operations
Solve problems and explain and justify the method chosen for solving
Use a calculator to solve problems that are more difficult
Add and subtract money

## Patterns:

Identify, create and describe patterns
Explain pattern rules
Predict and continue patterns
Understand the patterns in numbers (e.g. multiplication)

## Measurement:

Understand the units: centimetre, metre, millimetre, litre, millilitre, gram, kilogram, degree $C$
Estimate the capacity of containers, linear measure and weight
Select the appropriate unit
Measure and record
Tell time and record in 12 hour notation
Estimate and measure time in seconds, minutes, hours, days, weeks, months, years
Digital and analog clocks
Read a thermometer
Understand denomination of coins and bills to $\$ 100$ and read and write amounts
Perimeter and area, estimate and measure

## Shapes and Space - 2D and 3D

Name, compare, contrast and classify two dimensional shapes and three dimensional objects
Describe these by the faces, vertices, edges, sides and angles
Describe and name prisms by the shape of the base

## Statistics (Data Management)

Collect and record data
Sort objects and data
Do surveys and use appropriate graphs and charts to show results
Use bar graphs and pie charts to show appropriate data
Interpreting data


## Lesson Content

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| 5 | The basics of multiplication, count by 4s, addition to 18 , reading and writing numbers to 200 | 73 |
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| 28 | Review of addition and subtraction procedures, symmetry | 385 |
| 29 | Review of multiplication and division procedures, measurement | 399 |
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## Weekly Vocabulary

1. add, adding, addition
2. subtract, subtracting, subtraction
3. addend, missing addend
4. sum
5. metre, centimetre, millimetre
6. words that indicate addition and subtraction in problems
7. ordinal numbers
8. place value words - ones (units), tens, hundreds, thousands
9. denominator
10. inverse operations
11. concrete and abstract
12. units of time
13. re-group
14. perimeter
15. odd and even
16. numerator
17. rounding numbers
18. two-dimensional shapes or figures:
19. quadrilaterals
20. area
21. angle, acute, obtuse, right angle
22. parallel, parallelogram
23. cube, cone, sphere, cylinder, rectangular prism, and triangular prism. Describe them by using the words: angle, edge, vertices (corners, points), face.
24. tally marks
25. factors, product
26. divisor, dividend, quotient
27. points, lines, perpendicular lines, intersecting lines
28. symmetry
29. prime number


## Problem Solving Clue Words

Note: You might make a chart of these words to help with the daily problem.
Clue words help you to know whether you add, subtract, multiply or divide. Look in the problem for these words. Be a detective!

| Adding Words: | Subtracting Words |
| :---: | :---: |
| sum | subtract |
| total | difference |
| plus | take away |
| in all | less than |
| both | remain |
| together | are left |
| all together | fewer |
| increased by | how many more |
| perimeter |  |
| total |  |

Dividing Words
divided by
half (or other fraction)
shared equally
cut up
separated
parts

## Day 1 - Addition to 18

Oral Review - Count by $3 s$ to 30 and $4 s$ to 40 . Make several multiplication groupings. Write several numbers between 100 and 400. Review the 10 concept for subtraction and other strategies. Tell time and write it in digital form. Fractions - e.g. $-3 / 4$ is 3 of the 4 pieces.


Vocabulary Words - Place value words. Generally early primary teachers use the word 'ones' for the first column - if that is what your students use, teach the word 'units'. A 'unit' is one of whatever we are counting. Then teach tens, hundreds and thousands showing the positions. Learn to spell the words.

Daily Problem - Make an decreasing number pattern with one rule. Subtract the same number each time. Pick a starting number between 40 and 60 and begin a pattern. Make a rule for your pattern. "My pattern begins at $\qquad$ and subtracts $\qquad$ each time. "... for example.

Lesson - Review addition to 18. Elicit all the strategies the students have learned. Each student should use the strategies that suits his/her learning style.

How can we add and find answers quickly? Of course, memorization is best!
Rule 1 - Always begin adding with the largest number. That cuts the number of problems in half! Rule 2-When adding 9, remember the ten frame and take one from the second frame to fill the first and make a 10. The answer will be one less than the smaller addend, plus 10.
Rule 3 - When adding 8, remember the ten frame and take two from the second frame. The answer will be two less than the smaller addend, plus 10.

Can you add with 7 this way?
Rule 4 - Memorize the doubles.
Rule 5 - Use the doubles to add the doubles plus one.
Ask the students for the methods they use to add. Students may use more than one method differing methods on different questions. Go through the addition questions to 18 , and discuss the strategies that fit certain questions.

Practice - 8.1 Do the drill sheet of addition to 18. Have them go through the sheet quickly first and answer all the questions that have been memorized. When they are finished, try to think of strategies to answer the questions left. Write out the difficult questions on the back of the page.

Discussion / Closure - Answer the daily problem now or at the end of the school day. Review the strategies for addition.

## Week 8 - Day 2-Place value - units, tens and hundreds, addition of 2 digit numbers without re-grouping

Oral Review - Discuss the 10 strategies when adding and subtracting. Review the doubles to 18. Count by $3 s$ to 30 and $4 s$ to 40 . Make several multiplication groupings. Discuss writing numbers between 100 and 400. Tell time and write it in digital form. Fractions - e.g. $-2 / 3$ is 2 of the 3 pieces.

Vocabulary Words - Place value words. Generally early primary teachers use the word 'ones' for the first column - if that is what your students use, teach the word 'units'. A 'unit' is one of whatever we are counting. Then teach tens, hundreds and thousands showing the positions. Learn to spell the words.

Daily Problem - Make an estimation jar with approximately 400 objects. Talk about making sensible estimates. Everyone hands in an estimate, and then the objects are counted, in tens and hundred groups, of course. Who has the closest estimate?

Lesson - Put the students into pairs or groups of 3 in labelled stations. Give them several hundred sticks to count and elastics to bind them. Each group counts the sticks and writes the station number and the total. They then undo the 10's and 100's and move to another station. After several stations, compare the totals for the various stations.

Discuss addition of larger numbers. Last year the students added 2 digit numbers without and with re-grouping. Write the question 34 on the chalkboard.
$+22$

Discuss what the numbers really mean.... 34 is really $30+4$ and 22 is really $20+2$.
Have the students tell you what they should do to add. Some will forget that they always should begin with the units. Discuss why this is important. (There may be 10 or more units, and then regrouping must take place. Don't do re-grouping questions today......)

Throughout the lesson, frequently stop and ask, "Where do we begin to add? Which column do we add first?"

Give out the place value charts. The groups of 3 go to a new station. Count and bind the sticks at that station. Now use the sticks to do several addition questions without re-grouping: 42+54= $26+15=$ etc. The students make the numbers with the sticks on the place value chart. Now do some with no grouping in the units column, but with an answer over 100. 64+82= 56+71= etc. Show the problems on the place value charts with the sticks.

Practice - 8.2 Answer the addition and multiplication questions. Divide the shapes and shade in to show the fraction. Make sure the 'pieces' are the same size.

Discussion / Closure - Answer the daily problem now or at the end of the school day. Discuss place value and the concepts of addition with re-grouping. Where do we begin to add? Why?

## Week 8 - Day 3 - Fractions

Oral Review - Discuss the 10 strategies when adding and subtracting. Review the doubles to 18 . Count by $3 s$ to 30 and $4 s$ to 40 . Make several multiplication groupings. Discuss writing numbers between 100 and 400. Tell time and write it in digital form.

Vocabulary Words - Teach the word 'units'. A 'unit' is one of whatever we are counting. Then teach tens, hundreds and thousands showing the positions. Learn to spell the words.

Daily Problem - Josh's bedtime is 8:30. Last night his family went to visit friends and they were late getting home. Josh was one hour and 20 minutes late going to bed. When did he go to bed?

Lesson - Review and discuss how fractions are written and what the numbers mean. For example, $3 / 4$ means we are talking about 3 of the 4 pieces.

Again, give away pieces of imaginary food that is rectangular or circular, but this time give the students a choice. Ask, 'Would you rather have $1 / 4$ of a chocolate bar or $1 / 8$ ? Draw both to see which is more. Do these: $1 / 4$ or $1 / 3$ ? $3 / 5$ or $1 / 3$ ? $3 / 10$ or $3 / 5$ ? Do lots of examples, drawing each to prove the answer. Have the students tell you why one fraction is larger than another.

Now give each student 8 counters. Have them show $1 / 2$ with the counters. (2 groups of 4 ) Can they show $1 / 4$ of the counters? How many groups will they make? How many counters are there in $1 / 4$ ? Show $3 / 4,1 / 8,3 / 8,7 / 8$, etc. The concept is the same as solid shapes, but seems more confusing! Have students who have a problem with this put the counters in one group touching one another, and then pretend to take a knife and cut through the counters to make the groups.

What number in the fraction tells you how many groups you must make?
Put 2 counters aside and do the same with 6 . Which is more - $1 / 2$ or $1 / 3$ ? Have the students explain the concept.

Do this with 12 counters if time permits.
Practice - 8.3 Draw shapes and shade in the fraction parts. Put in the 'less than' and 'more than' signs in the boxes. Tell time, and put the hands on the clocks. Practice multiplication concepts.

Discussion / Closure - Answer the daily problem now or at the end of the school day. Briefly review the fraction concepts and repeat $3 / 5$ is ' 3 of the 5 pieces'.

## Week 8 - Day 4 - numbers to 500 ,

multiplication $\times 2$ and $\times 3$

Oral Review - Discuss the 10 strategies when adding and subtracting. Review the doubles to 18 . Count by $3 s$ to 30 and $4 s$ to 40 . Tell time and write it in digital form. Fractions - e.g. $-4 / 5$ is 4 of the 5 pieces.

Vocabulary Words - Teach the word 'units'. A 'unit' is one of whatever we are counting. Then teach tens, hundreds and thousands showing the positions. Learn to spell the words.

Daily Problem - Megan, Katie and Nina were planning the class Halloween party. Each girl baked cookies. Megan baked 24 chocolate chip cookies, Katie baked 32 peanut butter cookies and Nina baked 40 sugar cookies. How many cookies were there in all? How many more did Nina bake than Megan? Make up more questions about the cookies!

Lesson - Count from 400 to 500. Read and write some of the trickier numbers.
Count by 2 to 20 and 3 to 30.
Print the 'times tables' for 2 and 3.

| $0 \times 2=0$ | $0 \times 3=0$ |
| :--- | :--- |
| $1 \times 2=2$ | $1 \times 3=3$ |
| $2 \times 2=4$ | $2 \times 3=6$ |
| $3 \times 2=6$ etc. | $3 \times 3=9$ etc. |

End each with the $10 \ldots 10 \times 2$ and the $10 \times 3$. Discuss the word 'table' ('data arranged in an organized and usually rectangular form' - or a list in order).
We learn skip counting to help us with multiplication. Discuss inverse operations: $2 \times 3$ and $3 \times 2$ have different groupings ( $23 s$ and $32 s$ ) but take the same number of counters to form and you get the same answer.

Talk about the questions that are easy to remember. All the $\times 2$ should be easy, especially if turned to put the ' 2 ' first..... $2 \times 6$ or $26 s$ is easier than $62 s$, for example. Some of the $\times 3$ questions should be easy, and some are difficult. In Grade 3 we try to memorize the times tables, so which questions must the students simply remember and memorize? How will the skip counting help?

Give out the sheet with the $\times 2$ and $\times 3$ small flashcards. The students cut them apart and go in pairs and quiz one another. You can leave the tables on the chalkboard for the students who have difficulty.

Practice - 8.4 - Print the numbers 400 to 500. Do the multiplication questions.
Discussion / Closure - Answer the daily problem now or at the end of the school day. Go quickly through the 2 and 3 times tables. Read and write some numbers between 400 and 500.

## Week 8 -Day 5-Addition to 18, place value and addition of 2 digit numbers (no re-grouping), fractions, numbers to 500 , multiplication $\times 2$ and $\times 3$

Oral Review - Discuss the 10 strategies when adding and subtracting. Review the doubles to 18 . Count by $3 s$ to 30 and $4 s$ to 40 . Make several multiplication groupings. Discuss writing numbers between 100 and 500. Tell time and write it in digital form. Fractions - e.g. $4 / 5$ is 4 of the 5 pieces.

Vocabulary Words - Teach the word 'units'. A 'unit' is one of whatever we are counting. Then teach tens, hundreds and thousands showing the positions. Learn to spell the words.

Daily Problem - Your teacher brought in a big rectangular cake for the class party. She cut through the cake 4 times each way. How many pieces were there? She gave out the same number of pieces to each student. How many pieces did each student receive? Is there any cake left over? Can you make up more problems?

Speed Sheet \#8 - Do Speed Sheet 8. Give the students two minutes (as described in the introduction). Then they circle the last question finished and then complete the sheet. score as described in the introduction.

Review \#8-Give the students time for most to complete the sheet. Mark and score.

- 4 points for counting - 2 points for each row.
- 12 points for the 2 digit addition -1 mark each.
- 6 points for the fractions -1 for each drawing, 1 for each sign
- 16 points for the multiplication
- 12 points - 4 points for each clock.

Total $=50$ points $\times 2$ for percent score

Discussion / Closure - Are the students doing the addition speed sheet quickly? Why is it necessary to add quickly? Talk about ways they can improve their speed.

Was any part of the test sheet difficult? Which parts are easy?

Notes:
8.1 Addition to 18

Name $\qquad$

| 2 | 3 | 9 | 8 | 6 | 9 | 9 | 5 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| +8 | $\underline{+7}$ | $\underline{+3}$ | $\underline{+8}$ | $\underline{+9}$ | $\underline{+6}$ | $\underline{+8}$ | $\underline{+8}$ |
|  |  |  |  |  |  |  |  |
| 3 | 5 | 8 | 8 | 7 | 8 | 6 | 6 |
| +6 | +9 | +9 | +7 | +9 | +4 | $\underline{+4}$ | $\underline{+5}$ |


| 9 | 5 | 4 | 6 | 4 | 8 | 2 | 5 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| +4 | $\underline{+6}$ | $\underline{+7}$ | $\underline{8}$ | $\underline{+5}$ | $\underline{+2}$ | $\underline{+8}$ | $\underline{+8}$ |
|  |  |  |  |  |  |  |  |
| 8 | 9 | 9 | 7 | 4 | 5 | 9 | 3 |
| +2 | +5 | +2 | +8 | +8 | $+\underline{7}$ | $+\underline{9}$ | $\underline{+9}$ |

$$
\begin{aligned}
& 8+6= \\
& 6+3= \\
& 5+3= \\
& 3+8= \\
& 4+9= \\
& 6+8= \\
& 7+2= \\
& 7+6= \\
& 8+5= \\
& 2+6= \\
& 4+9= \\
& 6+4= \\
& 5+4= \\
& 7+5= \\
& 8+7= \\
& 6+7=
\end{aligned}
$$


8.2 Addition

| 24 | 16 | 87 | 54 | 75 | 82 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| +51 | +63 | $\underline{+41}$ | $\underline{+14}$ | $\underline{+13}$ | +47 |


| 56 | 60 |
| ---: | ---: |
| +32 | +69 |


| 52 | 88 | 53 |
| ---: | ---: | ---: |
| +55 | +70 | +41 |


| 96 | 45 | 8 | 63 | 98 | 43 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| +23 | +34 | +91 | +5 | +41 | +25 |


| $9 \times 1=$ | $3 \times 4=$ | $4 \times 3=$ |
| :--- | :--- | :--- |
| $8 \times 3=$ | $5 \times 0=$ | $9 \times 2=$ |
| $0 \times 14=$ | $6 \times 3=$ | $4 \times 2=$ |
| $7 \times 2=$ | $3 \times 2=$ | $0 \times 7=$ |
| $4 \times 5=$ | $7 \times 3=$ | $9 \times 3=$ |

Show the fraction:

$\frac{3}{8}$


### 8.3 Fractions

Name $\qquad$
My Number is \# $\qquad$

Draw to show the fractions and put the < and > signs between.


Print the hands on the clocks.


8:35


11:09


4:25
$5 \times 2=\quad 5 \times 3=$
$8 \times 2=$
$9 \times 2=$
$8 \times 3=$
$5 \times 0=$
$4 \times 2=$
$0 \times 8=$
$6 \times 3=$
$2 \times 5=$
$3 \times 1=$
$6 \times 2=$
$5 \times 2=$
$3 \times 3=$

| $8 \times 2=$ | $5 \times 3=$ | $4 \times 2=$ |
| :--- | :--- | :--- |
| $6 \times 3=$ | $0 \times 2=$ | $1 \times 3=$ |
| $10 \times 2=$ | $9 \times 2=$ | $7 \times 2=$ |
| $10 \times 3=$ | $7 \times 3=$ | $9 \times 3=$ |
| $3 \times 3=$ | $0 \times 3=$ | $5 \times 2=$ |
| $2 \times 3=$ | $8 \times 3=$ | $2 \times 2=$ |
| $6 \times 2=$ | $3 \times 2=$ | $4 \times 3=$ |

8.4 Counting, fractions

Name
My Number is \# $\qquad$

Count from 400 to 500.

| 400 |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
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|  |  |  |  |  |  |  |  |  |  |
| 500 |  |  |  |  |  |  |  |  |  |

$5 \times 2=$
$4 \times 3=$
$9 \times 3=$
$7 \times 2=$
$6 \times 3=$
$2 \times 2=$
$8 \times 2=$
$2 \times 3=$
$3 \times 3=$
$3 \times 2=$
$7 \times 3=$
$0 \times 2=$
$9 \times 2=$
$10 \times 3=$
$1 \times 5=$
$4 \times 2=$
$0 \times 3=$
$5 \times 3=$
$6 \times 2=$
$10 \times 2=$
$13 \times 0=$

Speed Sheet \#8
Name
My Number is \# $\qquad$

| 3 | 5 | 8 |
| ---: | ---: | ---: |
| +6 | +9 | +7 |

$\begin{array}{r}8 \\ +7 \\ \hline\end{array}$
$\begin{array}{r}6 \\ +4 \\ \hline\end{array}$
$\begin{array}{r}6 \\ +5 \\ \hline\end{array}$
$\begin{array}{r}8 \\ +9 \\ \hline\end{array}$
9

| 8 | 7 |
| ---: | ---: |
| +4 | +9 |

$+9$

| 2 | 3 | 8 | 9 | 5 | 9 | 9 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| +8 | +7 | +8 | +8 | +8 | +3 | +6 |


$7+2=$
$3+8=$
$6+3=$ $\qquad$
$8+5=$
$8+7=$ $\qquad$
$6+4=$ $\qquad$

$7+6=$
$4+9=$
$5+3=$ $\qquad$
$2+6=$ $\qquad$
$6+7=$ $\qquad$
$5+4=$ $\qquad$

## Review \#8

Name $\qquad$
My Number is \# $\qquad$
Count by $3 s$ and $4 s$ :
3 , $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$
4, $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$
94


97
74

85 82
$+12$
$+67$

85
$+42$
$\begin{array}{r}66 \\ +72 \\ \hline\end{array}$
68
$+71$
90

38
$+71$
57
$+61$

Draw and shade the fractions and put the > or < sign between.

|  | $\frac{2}{5} \square \frac{3}{5}$ |  | $\frac{1}{4} \square \frac{1}{8}$ |
| :---: | :---: | :---: | :---: |
| $4 \times 3=$ | $6 \times 3=$ | $5 \times 0=$ | $7 \times 2=$ |
| $5 \times 3=$ | $9 \times 2=$ | $9 \times 2=$ | $9 \times 3=$ |
| $4 \times 2=$ | $8 \times 3=$ | $6 \times 2=$ | $7 \times 3=$ |
| $8 \times 2=$ | $6 \times 1=$ | $3 \times 3=$ | $5 \times 2=$ |
| Put the hands on the clocks. |  |  |  |
|  | 124 Score |  | Percent |

## Week 24 - Adding columns, multiplication and division,

 money to $\$ 100$, addition and subtraction
## Day 1 - Adding columns

Oral Review - Review 3 digit addition and subtraction with re-grouping. Discuss place value to 100,000. Estimate litres, millilitres, grams, kilograms and the units of measurement. Review the strategies to multiply and divide. Talk about the words 'area' and 'perimeter'. Review rounding to the nearest 10 and 100.


Vocabulary Words - tally marks: printing tally marks is a way to collect data. They are usually printed in groups of 5: I II III IIII XHY Each mark represents one item being collected.

Daily Problem - Mom was making a patio in the garden. The stones she used were 30 cm . square. She put 6 stones in a row and made 8 rows. How many stones did she use? Can you find out how big the patio was when she was finished?

Lesson - Print a column of 2 digit numbers on the chalkboard. Have
35 the ones column add to over 20. This may be the first experience of 47 addition with re-grouping and having 2 or more tens.

There are several skills in adding a column. First, we could simple add29 downwards.... $5+7+9+3$, saying $5,12,21,24$, but that can be difficult. Discuss this with the students. Can they think of an easier way?

If they can find a 10 , that will make it easier. With this question, they could add $9+5$, and then the $(7+3) 10$. They could say $14+10=24$. They could also add $5+7=12$ and $9+3=12 \ldots .12+12=24$.

Then the 4 goes in the 'ones' column and there are 2 tens to take to the tens column.
Try a number of different questions, discussing what would be the easiest way to add. Earlier this year we talked about adding in 15s: $9+6$ and $7+8$ Two 15 s make 30 . This can help to add a long difficult question.

Then add a series of 3 digit numbers, discussing the easiest way to add, and the meaning of what is happening.

Have the students make up questions for each other and solve them.
If time permits, check some answers with a calculator.
Practice-24.1-Do the column addition
Discussion / Closure - Answer the daily problem now or at the end of the school day. Talk about tricks that can help when adding columns of numbers.

## Week 24 - Day 2 - Multiplication and division

Oral Review - Review 3 digit addition and subtraction with re-grouping. Discuss place value to 100,000. Estimate litres, millilitres, grams, kilograms and the units of measurement. Review the strategies to multiply and divide. Talk about the words 'area' and 'perimeter'. Review rounding to the nearest 10 and 100.

Vocabulary Words - tally marks: printing tally marks is a way to collect data. They are usually printed in groups of 5: I II III IIII HIT Each mark represents one item being collected.

Daily Problem - Did you know there are other ways to write numbers? Have you heard about Roman Numerals? This is a very old way of showing numbers. There are symbols for 1 (I), 5 (V), 10 (X), 50 (L), 100 (C). We can only have 3 of one symbol, so what happens when you come to 4? Learn how to count this way. Where do we see these numbers?

Lesson - Discuss the 'tricks' - multiplying by 0 and 1 , counting by 3,4 and 6 , multiplying by 9 , the $\times 5$, the doubles and the reverse of each. Discuss the ways to remember the answers. What questions are really difficult to remember? Can you think of any 'trick' to remember these answers? Do you remember the trick to do $7 \times 8$ ? Discuss the principles of division. Discuss the sign $\div$, and then review the other way of writing division questions.


Write a few division questions and discuss where the answer goes (over the 5 in the 45 - the ones column). Read the question as "How many 5s in 45?"

Write out any questions that are difficult and write the 4 operations of multiplication and division (inverse operations) for each.

Call out large numbers that are answers to multiplication partners and have the students print the questions. For example, call out ' 35 ', and the students print $5 \times 7$ and $7 \times 5$. If you call out a number such as 24 , there are several sets of questions that can be written.

Have the students use the multiplication flash cards and test one another.
Practice - 24.2-Do the multiplication and division questions. When doing the 'long division' format, make sure the answers are in the correct column. Answer the easiest questions first. Write the more difficult ones on the back of the sheet to study later.

Discussion / Closure - Answer the daily problem now or at the end of the school day. Review multiplication and division.

## Week 24 - Day 3 - Money to $\$ 100$

Oral Review - Review 3 digit addition and subtraction with re-grouping. Discuss place value to 100,000 . Estimate litres, millilitres, grams, kilograms and the units of measurement. Review the strategies to multiply and divide. Talk about the words 'area' and 'perimeter'. Review rounding to the nearest 10 and 100.

Vocabulary Words - tally marks: printing tally marks is a way to collect data. They are usually printed in groups of 5: I II III IIII HH Each mark represents one item being collected.

Daily Problem - People who work in stores must know how to give change back to customers. For example, if you were buying a toy that cost $\$ 3.85$ and handed the clerk a five dollar bill, how much money should you get back? Can you make up more questions?

Lesson - Review the coins, the coin names and the value.
We used to have a $\$ 1.00$ and a $\$ 2.00$ bill, but now we have the loonie and toonie replacing them. What are the values of the paper money you have seen? $\$ 5$ (blue), $\$ 10$ (purple), $\$ 20$ (green), \$50 (pink) and \$100 (brown).

If you had $\$ 65.00$, how could it look? It could be $50+10+5$, or $20+20+20+5$, and other ways, too. Do a number of these questions.

We count the bills the same way we count coins - the largest first and then in decreasing denomination. Draw some 'money' on the board:

| $\$ 20$ | $\$ 50$ |
| :--- | :--- |

and count it, from largest denomination to smallest. Add $\$ 1$ and $\$ 2$ coins to this, too.
Finally, talk about adding bills plus the smaller coins, and writing the totals. Use monopoly money, if you wish, plus the coins used before.

Pretend to be buying higher priced things and having the students count out the money needed to purchase it. Are there different ways to come to the same amount? Share these.

Practice - 24.3-Add the amounts of money putting a total. Then read the problems and draw the change.

Discussion / Closure Answer the daily problem now or at the end of the school day. Briefly review counting money.

## Week 24 - Day 4 - Addition and subtraction review

Oral Review - Review 3 digit addition and subtraction with re-grouping. Discuss place value to 100,000 . Estimate litres, millilitres, grams, kilograms and the units of measurement. Review the strategies to multiply and divide. Talk about the words 'area' and 'perimeter'. Review rounding to the nearest 10 and 100.

Vocabulary Words - tally marks: printing tally marks is a way to collect data. They are usually printed in groups of 5: I II III IIII HH Each mark represents one item being collected.

Daily Problem - You go to the books store and choose a book for $\$ 4.60$, another for $\$ 10.25$ and another for $\$ 12.80$. How much will the three books cost? You have a $\$ 50$ bill. How much change will you get?

Lesson - Review 3 digit addition and subtraction procedures.
Put the students in pairs and do one question in addition and then one in subtraction. The students take turns doing the questions, discussing the procedures as they work, telling what they are doing and why they are doing it. The other student checks the question on a calculator, or by doing the inverse operation.

Practice - 24.4 - Do the addition and subtraction page.

Discussion / Closure - Answer the daily problem now or at the end of the school day. Review the addition and subtraction procedures.

# Week 24 - Day 5 - adding columns, multiplication and division, money to $\$ 100$, addition and subtraction 

Oral Review - Review 3 digit addition and subtraction with re-grouping. Discuss place value to 100,000 . Estimate litres, millilitres, grams, kilograms and the units of measurement. Review the strategies to multiply and divide. Talk about the words 'area' and 'perimeter'. Review rounding to the nearest 10 and 100.

Vocabulary Words - tally marks: printing tally marks is a way to collect data. They are usually printed in groups of 5: I II III IIII لHI Each mark represents one item being collected.

Daily Problem - Megan went to the store to buy groceries for Mom. Mom gave her a $\$ 20$ bill to pay for the groceries. She bought milk for $\$ 2.15$, bread for $\$ 1.95$, cookies for $\$ 3.60$ and meat for $\$ 9.25$. How much did the groceries cost? Will she get some change back? How could the change look?

Speed Sheet \#24-Do Speed Sheet 24. Give the students two minutes (as described in the introduction). Then they circle the last question finished and then complete the sheet. Score as described in the introduction. (Put the results on the multiplication graph.)

Review \#24-Give the students time for most to complete the sheet. Mark and score.

- 12 points for subtraction - 2 points each.
- 12 points for addition - 2 points each.
- 10 points for the division - $1 / 2$ point each
- 12 points for rounding-1 point for each answer
- 4 points for the area and perimeter - 2 marks each.

$$
\text { Total }=50 \text { points } \quad x 2 \text { for percent score }
$$

Discussion / Closure - Would you like to know more about Roman Numerals? Do some tricky numbers!

Notes:
24.1 Column addition

Name $\qquad$

| 74 | 46 | 67 | 56 | 49 | 65 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 25 | 43 | 78 | 63 | 56 | 35 |
| 35 | 54 | 76 | 75 | 44 | 79 |
| 19 | 57 | 39 | 67 | 36 | 35 |
| $+\underline{76}$ | $+\underline{35}$ | $+\underline{25}$ | $+\underline{24}$ | $+\underline{71}$ | $+\underline{67}$ |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 465 | 252 | 709 | 276 | 848 | $\mathbf{7 3 0}$ |
| 374 | 655 | 291 | 48 | 827 | 986 |
| 231 | 148 | 412 | 999 | $\underline{+684}$ | $\underline{+547}$ |
| +808 | $\underline{+999}$ | $\underline{+838}$ | $\underline{+62}$ |  |  |


| $6 \times 6=$ | $3 \times 9=$ | $9 \times 4=$ | $7 \times 3=$ |
| :--- | :--- | :--- | :--- |
| $5 \times 9=$ | $8 \times 9=$ | $7 \times 7=$ | $7 \times 4=$ |
| $2 \times 9=$ | $5 \times 6=$ | $1 \times 9=$ | $7 \times 6=$ |
| $7 \times 5=$ | $9 \times 6=$ | $8 \times 7=$ | $8 \times 4=$ |
| $9 \times 5=$ | $4 \times 9=$ | $9 \times 5=$ | $6 \times 7=$ |
| $0 \times 9=$ | $9 \times 9=$ | $4 \times 7=$ | $9 \times 7=$ |
| $7 \times 9=$ | $5 \times 7=$ | $6 \times 9=$ | $8 \times 6=$ |

Draw a parallelogram with 2 acute angles.
Draw a line and another line perpendicular to it.
24.2 Multiplication and division

Name $\qquad$

| $5 \times 8=$ | $9 \times 4=$ | $6 \times 7=$ | $3 \times 6=$ |
| :--- | :--- | :--- | :--- |
| $6 \times 3=$ | $5 \times 4=$ | $5 \times 6=$ | $8 \times 9=$ |
| $4 \times 5=$ | $6 \times 9=$ | $3 \times 4=$ | $7 \times 5=$ |
| $5 \times 3=$ | $9 \times 5=$ | $4 \times 8=$ | $9 \times 6=$ |
| $9 \times 8=$ | $7 \times 6=$ | $3 \times 5=$ | $8 \times 8=$ |
| $7 \times 7=$ | $9 \times 3=$ | $9 \times 9=$ | $7 \times 4=$ |
| $4 \times 6=$ | $8 \times 4=$ | $5 \times 7=$ | $3 \times 7=$ |
| $8 \times 3=$ | $7 \times 8=$ | $9 \times 2=$ | $4 \times 9=$ |
| $7 \times 9=$ | $6 \times 5=$ | $3 \times 8=$ | $7 \times 3=$ |
| $6 \times 4=$ | $4 \times 3=$ | $8 \times 5=$ | $8 \times 7=$ |
| $4 \times 7=$ | $9 \times 7=$ | $5 \times 9=$ | $5 \times 5=$ |
| $3 \times 9=$ | $6 \times 6=$ | $8 \times 6=$ | $6 \times 8=$ |

$6 \longdiv { 4 8 }$
$5 \longdiv { 4 0 }$
$8 \longdiv { 7 2 }$
$8 \longdiv { 6 4 }$
$9 \longdiv { 8 1 }$
$30 \div 5=$
$18 \div 6=$
$81 \div 9=$
$20 \div 4=$
$16 \div 2=$
$12 \div 6=$
$8 \div 2=$
$42 \div 7=$
$45 \div 5=$
$49 \div 7=$
$16 \div 8=$
$25 \div 5=$
$48 \div 8=$
$9 \div 3=$
$12 \div 3=$
$10 \div 2=$
$24 \div 6=$
$16 \div 4=$
$24 \div 3=$
$12 \div 2=$
$25 \div 5=$
$4 \div 2=$
$24 \div 8=$
$24 \div 3=$
$18 \div 3=$
$60 \div 10=$
$16 \div 4=$
$36 \div 6=$

### 24.3 Money

Name $\qquad$

How much money?


You have a toonie. You buy an ice cream cone for $\$ 1.60$. Draw the change.

You buy a book for $\$ 3.25$. Draw the money you need to pay.

You buy groceries for \$12. 49. Draw the money you need.

You have $\$ 50$. You buy clothes for $\$ 32.20$. Draw the money you have left.
24.4 Addition and subtraction

Name $\qquad$ \#

| 774 | 689 | 545 | 468 | 192 | 115 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| +206 | +356 | +357 | $\underline{+673}$ | +439 | +435 |



| 960 | 586 | 754 | 662 | 664 | 783 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| -473 | $\underline{-169}$ | $\underline{-597}$ | $\underline{-138}$ | $\underline{-327}$ | $\underline{-209}$ |


| 302 | 763 | 430 | 284 | 504 | 535 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $\underline{-137}$ | $\underline{-458}$ | $\underline{-259}$ | $\underline{-147}$ | $\underline{-175}$ | $\underline{-267}$ |
|  |  |  |  |  |  |
| 741 | 902 | 768 | 430 | 357 | 867 |
| $\underline{-633}$ | $\underline{-448}$ | $\underline{-584}$ | $\underline{-255}$ | $\underline{-179}$ | $\underline{-348}$ |

$\qquad$
$\qquad$


Review \#24

| 366 | 844 | 650 | 644 | $\$ 8.83$ | $\$ 4.61$ |
| ---: | ---: | ---: | ---: | ---: | ---: |
| -149 | -557 | -267 | -367 | $\underline{-\$ 4.79}$ | $-\$ 4.36$ |

Name $\qquad$
My Number is \# $\qquad$
\$4.61
-\$4.36

687
344
$+355$

645
883
$+357$

774
475
$+203$
$\$ 4.68$
\$2.67
+\$6.72

| $24 \div 6=$ | $28 \div 7=$ | $32 \div 4=$ | $81 \div 9=$ |
| :--- | :--- | :--- | :--- |
| $45 \div 5=$ | $12 \div 3=$ | $30 \div 5=$ | $36 \div 6=$ |
| $24 \div 8=$ | $30 \div 6=$ | $18 \div 6=$ | $28 \div 4=$ |
| $16 \div 4=$ | $16 \div 2=$ | $42 \div 7=$ | $10 \div 2=$ |
| $20 \div 4=$ | $48 \div 8=$ | $12 \div 2=$ | $27 \div 3=$ |

Round to the nearest hundred to give an estimate, add or subtract, then find the difference.
$481+134=$ $+$ $\qquad$ $=$ $\qquad$ Real answer $\qquad$ difference $\qquad$
$725+388=\ldots+\ldots=$ $\qquad$
$\qquad$
$\qquad$
$249-108=$ $\qquad$ - __ = $\qquad$
$\qquad$
$\qquad$
$697-587=$ $\qquad$ $=$ $\qquad$
$\qquad$
$\qquad$


Write equations to show the perimeter and the area.
The perimeter: $\qquad$ $=$ $\qquad$
The area: $\qquad$ $=$ $\qquad$

| Score | Percent |
| :--- | :--- |

