## Prímary Success Publications

## Math <br> 



## By Jean RoGerts

A complete math program with great lesson plans, lots of hands-on ideas and review features that ensure understanding.


## Math Success Grade One by Jean Roberts

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## Week 1 -

## The numbers 1, 2, 3, 4

## Day 1 - Counting objects, printing the number 1 correctly, the 1 set.

Oral Review - Count by 1's to 10. Count objects in the classroom. Are all the children using one-to-one correspondence? The children should be touching each object as they say the number.

Daily Problem - What a wonderful class! How many children are here?


Lesson - Today is an easy lesson! Find things that are one - one teacher, one nose, one mouth, one vase, etc. Show the children the 'one' set card. Teach them to say 'One' when they see the pattern card. Clap one, and tap one with a finger tip on the table-top.

Demonstrate the correct formation of the number 1 beginning at the top, of course. Have the children print the numeral on the chalkboard, on a chart using felt pens, use a finger to print numbers on the carpet, on a friend's back, in the air, etc. As the children make this line, ask each time.... "Where do we start?" and then say, "Yes! At the top!" The line is straight. Show how we print the one on lines - put the pencil point on the top line and draw a straight line down, stopping exactly at the bottom line.


Practice - 1.1 Discuss putting the name on the paper and read the 'I am $\qquad$ .' Talk about the children's personal numbers. You may want to have these on the desktop or help them print this number on the \# line. Show the word 'one'. Have the children put a ' 2 finger space' between each number one they print. Quality is better than quantity! Model the spacing. Watch the children as they make the number and correct any directional or formation errors. Colour or circle the sets of 1 .

Extra exercise: Draw pictures to complete the 'I see 1' page. (These extra pages can be saved to make a book of the numbers to 10 as the numbers are taught.)

Talk about - Closure- Where do we see the number 1? (Numbers on the calendar, on a clock, page in a book, 1st day of school, etc.) Briefly review the correct number formation for one.

Answer the daily problem now or at the end of the school day.


## Week 2

 The numbers 5 and 0 ,the number line, the $=$ sign

## Day 1 - Counting objects, printing the number 5 correctly, the 5 set.

Oral Review - Count by 1's to 20. Count objects in the classroom. Review the formation of the numbers 1, 2, 3 and 4 . Flash the set cards for 1, 2, 3 and 4 and the children say the number. Clap and tap the sets as they are flashed. Clap and tap as you say the numbers.

Daily Problem - How many people live at your house and are in your family? Make a graph to show the class answers. Ask questions using the words 'more' and 'less'.

Lesson - Can the children find things that are fives? Five fingers with the thumb, five toes, perhaps five children wearing a certain colour, five books in a pile, etc. (Set up a few sets of classroom objects in 5's before math time.) Walk around the classroom to find 5's. Show the children the five set card. Show how the 5 set is the same and different from the 4 card. Flash the 1, 2, 3, 4 and the 5 cards and have the children tell you the number - without counting the objects. Have them clap and tap the sets as you flash the cards. Sing, "I can sing a
 song!" Listen to the 5 beats. (This helps the children remember the sound of the 5 pattern.)

Give the children 5 counters. Make the 5 pattern - the 4 in a square and 1 in the centre.

Demonstrate the correct formation of the number 5. Do it with one line, beginning at the top, of course. Have the children print 5 on the chalkboard, on a chart using felt pens, use a finger to print numbers on the carpet, on a friend's back, in the air, etc.

Give out the sheet of number cards. The children can cut them apart. Display sets on the overhead projector and the children hold up the correct
 numeral.

Practice - 2.1 Have the children put a '2 finger space' between each number 5 they print. Quality is better than quantity! Watch the children as they make the number and correct any directional or formation errors. Print the number of the objects in the smaller box.

Draw pictures to complete the 'I see 5' page. (These extra pages can be saved to make a book of the numbers to 10 as the numbers are taught.)

Talk about /Closure - The number 5 is tricky to print. How can you remember the directions? Briefly review the correct number formation for 1, 2, 3, 4 and 5. Flash the set cards and have the children tell you the number. Clap and tap the sets. Say the numbers and have the children clap and tap the sets.

Answer the daily problem now or at the end of the school day.

## Day 2 - Counting objects, the zero concept, printing the number 0 correctly.

Oral Review - Count by 1's to 20. Count objects in the classroom. Review the formation of the numbers 1, 2, 3, 4 and 5. Flash the set cards for 1, 2, 3, 4 and 5 and the children say the number without counting. Say the numbers and clap and tap the sets.

Daily Problem - I have 5 cookies. Two are for $\qquad$ and two are for $\qquad$ ـ. How many will be left for me?

How do you know the answer? How did you find the answer?

Lesson - Introduce the zero. Ask the children a question such as, "How many elephants are in this bag?" They will likely say "None" or "There aren't any". Tell them the number is zero. Show the children a blank set card. Make a gesture for zero, the two hands outstretched and a shrug. Ask the children to clap zero, snap zero, and make zero with their counters - they can't, of course. Flash the 0, 1, 2, 3, 4 and the 5 cards and have the
 children tell you the number - without counting the objects. Have them clap and tap the sets as you flash the cards and say the numbers. Give the children 5 counters. Make the patterns of the numbers 0 to 5 as you show the number cards.

Demonstrate the correct formation of the zero. Do it with one line, beginning at the top and drawing to the left, counter-clockwise. Have the children print 0 on the chalkboard, on a chart using felt pens, use a finger to print numbers on the carpet, on a friend's back, in the air, etc. Show how the 0 is printed on lines, beginning on the top line and just touching the bottom one.

Give out the sheet of number cards. The children can cut them apart. Display sets on the overhead projector and the children hold up the correct numeral.

Make sure all your children are counting objects making the one-to-one correspondence. Watch every child count manipulatives and give daily help to children who are not doing this well.

Practice - 2.2 Have the children put a '2 finger space' between each 0 they print. Quality is better than quantity! Watch the children as they make the number and correct any directional or formation errors. Print the number of the objects in the smaller box.

Draw pictures to complete the 'I see 0' page. (These extra pages can be saved to make a book of the numbers to 10 as the numbers are taught.)

Talk about / Closure - Explain what the zero means.
Briefly review the correct number formation for $0,1,2,3,4$ and 5 . Flash the set cards and have the children tell you the number. Clap and tap the sets.

Answer the daily problem now or at the end of the school day.

## Day 3 - The number line to 5 , the largest number

Oral Review - Count by 1's to 20. Count objects in the classroom. Review the formation of the numbers $0,1,2,3,4$ and 5 . Flash the set cards for $0,1,2,3,4$ and 5 and the children say the number without counting. Clap the sets as they are flashed.

Daily Problem - Do an estimation jar with 12 to 15 objects. Use a clear plastic jar. Write down the estimates. Some children may have wild estimates - accept them all. Ask how the students decided on their answers.

Lesson - Introduce the number line 0 to 5 . Make a large number line for the classroom floor. You can use a plastic tablecloth or coloured tag - or a white dollar store shower curtain. Tape it solidly. Make each space at least 30 cm . square - it is better to make the squares a child's stepping distance from one to the next.

Show the children two numerals - 0 to 5 - in random order. Have one child go directly to the number line and stand on the largest number - also biggest, highest and most. Then do the same with three numbers. There is a page with small cards with three numbers. You can enlarge them on the photocopier for classroom use or print your own 3 number groups on the chalkboard.

Give each child a small number line to 5 . Flash three numbers and the children put a finger on the largest number. Check to see that all children are doing this correctly. Use both the vertical and horizontal ones.

Note: You can make number lines vertically or horizontally. In the early lessons it helps if the largest number is 'up' and smaller numbers are lower but the children should get used to seeing it both ways.

This program uses the number line in a slightly different way. When used for addition and subtraction, the child goes directly to the largest number shown in the question and then moves the second number of spaces one-by-one, either counting on or counting down.

Give the children 5 counters and have them practice making the sets.

Practice - 2.3 Which of the three numbers is the largest? Colour the square of the number line that shows the largest number.


Talk about /Closure - Are there different ways we can hop on the number line? Briefly review the correct number formation for $0,1,2,3,4$ and 5 . Flash the 3 number cards and have the children tell you the largest number. Flash the set cards and have the children tell you the number. Clap and tap the sets.

Answer the daily problem now or at the end of the school day.

## Day 4 - The number line to 5 , the 'biggest' number

Oral Review - Count by 1's to 20. Count objects in the classroom. Review the formation of the numbers $0,1,2,3,4$ and 5. Flash the set cards for $0,1,2,3,4$ and 5 and the children say the number without counting. Clap and tap the sets. Flash the 3 number cards and have the children tell you the largest number.


Daily Problem - $\qquad$ has one pencil, $\qquad$ has one pencil, and has two pencils. How many pencils do they have together?
Use the names of your students. How did you find the answer? Can you show the answer with blocks or real pencils? Act out the question.

## Lesson -

Spend a bit of time today practicing counting down from 10. Some children find this difficult!

Print the numbers 5, 4, 3, 2, 1, 0 . Walk from 5 down the numbers on the number line. Finger-walk down the small number lines saying the numerals.

Give the children 5 counters and have them practice making the sets in the set patterns. Make the sets to 5 by adding one counter at a time without moving the previous counters.

Use the large floor number line and have the children practice going to the largest number, when you show 2,3 or more numbers. For example, if you show 2 and 4 , the child goes directly to the 4 on the number line. If you show $3,0,2,5,3$, the child goes to the 5 . This helps to teach number recognition, too.

Clap the sets and have the children tell you the number.
Practice-2.4 Print the numbers 5431210
Which of the numbers is the largest? Colour the square of the number line that shows the largest of the numbers below.

Talk about / Closure - Where do we see the number 1? (Numbers on the calendar, on a clock, page in a book, 1st day of school, etc.)

Briefly review the correct number formation for 0, 1, 2, 3, 4 and 5. Flash the 3 number cards and have the children tell you the largest number. Flash the set cards and have the children tell you the number. Clap and tap the sets. Practice counting down from 10.

Answer the daily problem now or at the end of the school day.

## Day 5 - Review of skills



Daily Problem - Give the students some coloured foam shapes (these can be purchased at Michaels or other craft store). Have the children sort them, and then give the sorting rule. They might sort by colour or shape. Then have them make patterns: $a-b-a$ $-b, a a-b-a a-b, a a-b b-a a-b b$, etc.

## Lesson -

Practice counting down from 10.
Play 'Sparkle!' Put the children into a circle. The first child says 10 , the second says 9 , etc. After a child says 0 , the next child says 'sparkle!' and the next child is out. The next child says 10, and the game goes on. This is a good game because it is chance that puts a child out and there isn't the pressure. Help children that are slow answering.

Give the children 5 counters and have them practice making the sets. Make the sets to 5 by adding one counter at a time without moving the previous counters.

Use the large floor number line and have the children practice going to the largest number, when you show 2,3 or more numbers. For example, if you show 2 and 4 , the child goes directly to the 4 on the number line. If you show $3,0,2,5,3$, the child goes to the 5 .

Clap and tap the sets. See how many children have instant recognition of the set cards to 5.

## Review Exercise 2 -

Print the numbers 0 to 5, counting on and counting down. Check the number formation.

Draw the sets.
Count the objects.
Which of the numbers is the largest? Colour the square of the number line that shows the largest of the numbers below.

## Marks -

Print the numbers 0 to 5 and 5 to 0 . - 10 marks ( 1 mark for each printed number)

Draw the sets.

- 3 marks (1 mark each set)

Count the objects.

- 3 marks (1 mark each)

Which of the numbers is the largest?

- 4 marks (1 mark each)

Multiply the 20 marks by 5 for the percent.
Talk about - Discuss the way the children printed the numbers 0 to 5. Did they remember to begin at the top? How can they remember the direction that the numbers face?

Notes:



| 1 | 2 |
| :--- | :--- |
| 3 | 4 |
| 5 | 0 |



0


$\square$

| 0 | 1 |  | 2 |  |  |  | 1 | 2 | 3 | 4 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 5 |  | 1 |  | 4 | 2 |  | 0 |  |
| 0 | 1 |  | 2 |  |  | 0 | 1 | 2 | 3 | 4 | 5 |
|  |  |  | 1 |  |  |  | 5 | 4 |  | 3 |  |
| 0 | 1 |  | 3 |  |  | 0 | 1 | 2 | 3 | 4 | 5 |
|  |  |  | 1 |  |  |  | 5 | 52 |  | 4 |  |
| 0 | 1 |  | 2 |  |  | 0 | 12 |  | 3 | 45 |  |
|  |  |  | 5 |  |  |  | 3 |  | 0 | 2 |  |


| 0 | 3 | 5 | 5 | 3 | 4 | 4 | 1 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 3 | 4 | 5 | 0 | 2 | 4 | 5 | 0 | 3 |
| 4 | 2 | 5 | 2 | 5 | 4 | 3 | 0 | 2 |
| 5 | 1 | 2 | 0 | 1 | 5 | 4 | 0 | 3 |
| 3 | 5 | 4 | 2 | 1 | 0 | 5 | 4 | 3 |
| 0 | 2 | 3 | 5 | 2 | 3 | 4 | 3 | 2 |
| 3 | 1 | 4 | 4 | 1 | 5 | 1 | 4 | 3 |


| 0 | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- |




| Review Exercise 2 | am $\quad$ Score $\quad$ |
| :--- | :--- | :--- |


| Draw sots. | $\mathbf{3}$ | $\mathbf{5}$ | $\mathbf{4}$ |
| :--- | :--- | :--- | :--- |
|  |  |  |  |



| 0 | 1 | 2 | 3 | 4 | 5 |  | 0 | 1 | 2 | 3 | 4 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 3 | 0 | 1 | 2 | 3 | 5 | 4 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 0 | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | | 0 | 1 |
| :--- | :--- | $\mathbf{2}$


| 1 | 4 | 3 | 2 | 2 | 4 | 0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |



## Week 14

Subtraction to 5 , number line, place value to 70

## Day 1 - Addition to 5 using the number line

Oral Review - Count by 1's to 60, and discuss tens and ones. Count by 2's to 20 and 10 's to 50 . Flash the set cards. Clap and tap the sets. Review the addition and subtraction processes, and how to make 4 stories.

Daily Problem - What is a rectangle? How many rectangles can you find in the classroom? How is a rectangle different from a square?

Lesson - Put the question $1+4=$ $\qquad$ in front of the children. Ask them how we could use the number line to find the answer. Go directly to 4, and then jump one space, saying " 5 ", clapping as the number is said. What is the answer to the question? Do this again, tapping as the " 5 " is said. Do the same exercise with the question $3+2=$ $\qquad$ Go directly to 3 , and then jump two spaces, saying " 4,5 ", clapping as the numbers are said. What is the answer to the question? Tap as the " 4,5 " is said. Can they hear and feel the 2 spaces?

Show 3-1 = $\qquad$ What number will they go to directly? Will the number he more or less? (The 3 the largest number.) Now what will we do? (We stand on 3 and make one jump, counting down.)

Do 1-1 = , 2-1 = , 3-1 = , 4-1=, and 5-1=, using the number line. Clap once as you make the one jump.

Do the same exercise with the question 4-2 = $\qquad$ Ask them how we could use the number line to find the answer. Go directly to 4 , and then jump two spaces, counting down, saying " 3,2 ", clapping as the numbers are said. What is the answer to the question? Do this again, tapping as the " 3,2 " is said. Can they hear and feel the 2 claps? Do this with 2-2 = , 3-2 =, and 5-2 = .

Show the class subtraction questions that contain a 0 . If you show 4-0 $=$ $\qquad$ , they will go to the 4. How many moves will they make? None, of course. Have the children make a shrugging motion with their hands to show that they can't do anything.

Shorten the problem solving of subtraction questions. "Go to the largest number and count down as many steps as the smaller number."

Give the children the sheet of -1,-2, and - 0 questions and have them cut it apart, and a number line to 5 . Put the children in pairs and let them flash the questions for each other and clap or tap the jumps as they say the numbers. For example, for 5-2 = $\qquad$ the child begins on the 5 and then says "Four, three" clapping or tapping as these numbers are vocalized.

Practice - 14.1 The children can use the number line to answer the addition questions. Count down from 60, count by 2's and 10's, count on and count down.

Talk about / Closure - Some children think that subtraction is difficult! Do you? What questions did you see today that you already knew the answers?

Review the concept of 'counting on' and 'counting down' for addition and subtraction.
Answer the daily problem now or at the end of the school day.

## Day 2 - Subtracting to 5 using the number line

Oral Review - Count by 1's to 60, and discuss tens and ones. Count by 2's to 20 and 10's to 50. Flash the set cards for the numbers 0 to 10. Clap and tap the sets. Review the addition and subtraction processes, and how to make 4 stories. Review the procedure for addition to 5 using the number line. Review the circle, square, triangle and rectangle.

Daily Problem - $\qquad$ , $\qquad$ , $\qquad$
$\qquad$ and $\qquad$ (6 children's names) each had a dime. How much money did they have?

Lesson - Review yesterday's lesson, subtracting 1, 2 and 0 from the numbers to 5 .
Show the question 5-3 = $\qquad$ Ask them how we could use the number line to find the answer. Go directly to 5 , and then jump three spaces, counting down, saying " $4,3,2$ ", clapping as the numbers are said. What is the answer to the question? Do this again, tapping as the " $4,3,2$ " is said. Can they hear and feel the 3 claps? Do this with 4-3 = and 3-3=

Show the question 5-4 = $\qquad$ Ask them how we could use the number line to find the answer. Go directly to 5, and then jump four spaces, counting down, saying "4, 3, 2, 1", clapping as the numbers are said. What is the answer to the question? Do this again, tapping as the " $4,3,2,1$ " is said. Can they hear and feel the 4 claps? Do this with 4-4=

Show the question 5-5 = $\qquad$ . Ask them how we could use the number line to find the answer. Go directly to 5 , and then jump five spaces, counting down, saying " $4,3,2,1,0$ ", clapping as the numbers are said. What is the answer to the question? Do this again, tapping as the " $4,3,2,1,0$ " is said. Can they hear and feel the 5 claps and taps?

Shorten the problem solving of subtraction questions. "Go to the largest number and count down as many steps as the smaller number."

Give the children the sheet of subtraction questions and have them cut it apart, and a number line to 5 . Put the children in pairs and let them flash the questions for each other and clap or tap the jumps as they say the numbers. For example, for 5-3= $\qquad$ the child begins on the 5 and then says "Four, three, two" clapping or tapping as these numbers are vocalized.

Practice-14.2 The children can use the number line to answer the addition questions. Count down from 55, count by 2's and 10's, count on and count down.

Talk about / Closure - If your children are capable, talk about the other way of subtracting - finding the difference. Look at 5-4. Print the 4 stories. Can the children see that 4 and 1 make up the 5? There is 1 space between the 5 and the 4 . Children who really understand numbers will see this. For the others - wait until later in the year.

Review the concept of 'counting on' and 'counting down'.
Answer the daily problem now or at the end of the school day.

## Day 3 - Place value to 70

Oral Review - Count by 1's to 60, and discuss tens and ones. Count by 2's to 20. Flash the set cards for the numbers 0 to 10. Clap and tap the sets. Review the addition and subtraction processes, and how to make 4 stories. Review the procedure for doing + and - questions to 5 on the number line.

Daily Problem - Do an estimation jar with approximately 70 objects. Record the estimates.

Lesson - Give each child a baggie with 60 to 70 popsicle sticks. Have the sticks counted by putting them into 10's. Quickly check the answers. Put the sticks back into the baggies and trade bags and count them again. Count by 10's to 70.

Cut out the seven strips of numbers with the tabs and glue them together in the correct order. Count to 70 by walking the fingers on the number line, and count down from 70 to 0 . Count by 2 's by taking big finger steps to every second number. Count by 10's on the number line.

Give the children a number and have them go to the number on the number line. Tell them to count on (or count down) from this number.

Say a number and have the children put a small object on it. Discuss 2 more and 2 less. What is the number that is 2 more than this number? 2 less? Have the children suggest numbers to try. Show these numbers with popsicle sticks and that we are adding two sticks or taking two away.

Practice 'counting on' and 'counting down' orally. Say a number and a child counts back from that number. The child should not repeat the number you say. Put the children in pairs and have them practice counting on and counting down, using the numbers to 70; one child giving the other a number to begin.

Practice - 14.3 Print the numbers to 70. Count down from 70, count by 2's and 10's. Do the addition and subtraction questions without manipulatives.

Talk about / Closure - Have your children explain a large number - 67, for example. What does it mean? How can we show it?

Count to 70 . Review addition and subtraction to 5 on the number line.
Answer the daily problem now or at the end of the school day.

## Day 4 - Addition to 5

Oral Review - Count by 1's to 50, and discuss tens and ones. Count by 2's to 20 and 10's to 50. Flash the set cards for the numbers 0 to 10. Clap and tap the sets. Review the addition and subtraction processes, and how to make 4 stories. Review the procedure for doing + and - questions on the number line.

Daily Problem - How many children can tell you their address, phone number and birthday?

Lesson - Review the first two day's lessons, subtracting 0, 1, 2, 3, 4 and 5 from the numbers to 5, counting down. Review adding the numbers to 5, counting on. Clap and tap the jumps on the line. How do the children know they have made 3 jumps as they count on or count down? 4 jumps? We can hear and feel the number patterns.

Use the addition and subtraction flash card pages - put the children in pairs and have them flash the cards to each other. They can just say the answer, or use the number line if they don't remember the answer or can do it mentally.

These should be easy after all the work on them - try to get the students to just know the answers by memory whenever possible.

Practice - 14.4 The children can use the number line to answer the addition questions. Count down from 70, count by 2's and 10's, count on and count down.

Talk about / Closure - There may be some hesitation with the subtraction questions from 5 . Have the children give you ways they can be remembered.

Count to 60. Review addition and subtraction on the number line.
Answer the daily problem now or at the end of the school day.


## Day 5- Review of skills

Daily Problem - What is the favourite pizza of the children in the class? How will we find out? Have the children describe the process and group the favourites to discover the answer.

## Lesson -

Give the children 10 counters and have them practice making the sets. Make the sets to 10 by adding one counter at a time without moving the previous counters.

Use the number line and have the children practice going to the largest number, when you show 2, 3 or more numbers. For example, if you show 37 and 29, the child goes directly to the 37 on the number line. If you show $13,10,22,5,23$, the child goes to the 23. Count on or count back from the largest number.

Review the plus, minus and equal signs, and the addition and subtraction processes. Review 4 stories. Review the partners for 6, 7, 8, 9 and 10.

Review place value to 70. Count by 2's to 20 and 10's to 70.
Review the addition and subtraction concepts using the number line. Review the questions to 5.

Practice counting forwards and backwards from 60 to 70. Play 'Sparkle', counting down from 70 . The first child says 70 , the second says 69 , etc. After a child says 60 , the next child says 'sparkle!' and the next child is out. The next child says 70, and the game goes on.

## Review Exercise 14 -

Count on and down from 64
Counting on and counting down
Four stories
Answer the addition and subtraction without using manipulatives.

## Marks -

Count from 64
Counting on and down
Four stories
Answer the equations.

- 10 marks (1 mark for each number)
- 6 marks (1 mark for each box)
- 8 marks
- 24 marks (1 mark each)

2 free marks
Multiply the 50 marks by 2 for the percent.

Talk about - Are all the numbers on the test page printed correctly? Have the children tell you ways to remember the direction the numbers are written.

Notes:


| $5-0=$ | $4-0=3-0=$ |
| :--- | :--- |
| $2-0=$ | $1-0=0-0=$ |
| $5-1=$ | $4-1=3-1=$ |
| $2-1=$ | $1-1=$ |
| $4-2=$ | $3-2=2-2=$ |
|  |  |



4-1=___ 5-0=__
5-2 = _ -
4-2 =
2-2 =__
3-1=__
5-1=
2-0 =__
4-0 = _ _
3-2 =__
2-2 =
2-1=__
60
24
D 20


| $5-0=4-0=3-0=$ |  |  |
| :--- | :--- | :--- |
| $2-0=1-0=$ | $0-0=$ |  |
| $5-1=$ | $4-1=$ | $3-1=$ |
| $2-1=$ | $1-1=$ | $5-2=$ |
| $4-2=3-2=$ | $2-2=$ |  |
| $5-3=$ | $4-3=$ | $3-3=$ |
| $5-4=4-4=$ | $5-5=$ |  |



$$
\begin{aligned}
& \text { 3-3 =__ } \quad 5-\mathbf{0}=\ldots \\
& \text { 5-2 =__ } \\
& \text { 4-3 = }
\end{aligned}
$$

| $\mathbf{0}$ | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{6}$ | $\mathbf{7}$ | $\mathbf{8}$ | $\mathbf{9}$ | ghe |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| $\mathbf{D}$ | $\mathbf{1}$ | $\mathbf{p}$ | $\mathbf{B}$ | $\mathbf{y}$ | $\mathbf{5}$ | $\mathbf{5}$ | $\mathbf{7}$ | $\mathbf{B}$ | $\mathbf{y}$ | ghe |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{2 0}$ | $\mathbf{2 1}$ | $\mathbf{2}$ | $\mathbf{2 3}$ | $\mathbf{2 4}$ | $\mathbf{2 5}$ | $\mathbf{2 6}$ | $\mathbf{2 7}$ | $\mathbf{2 8}$ | $\mathbf{2 9}$ | ghe |


| $\mathbf{3 0}$ | $\mathbf{3 1}$ | $\mathbf{3 2}$ | $\mathbf{3 3}$ | $\mathbf{3 4}$ | $\mathbf{3 5}$ | $\mathbf{3 6}$ | $\mathbf{3 7}$ | $\mathbf{3 8}$ | $\mathbf{3 9}$ | ghe |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | gle |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | ${ }_{\text {gle }}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 60 | 61 | 6 | 6 | 64 | 65 | 66 | 6 | 68 | 69 | 70 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| I am | \# |
| :--- | :--- |

Count to 70

| O |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
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3-2 = - -
$2+2$ =_ _
$3+2=$
4-3=__
5-2 =__
4-4=__
$1+4=\ldots$
$3+1=$ _ _
$5+0=$
4-2 =__
5-3 =
5-4 =

6
24
D 20



| 0 | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- |


| $2+3=$ | $4-1=$ | $3-0=$ |
| :--- | :--- | :--- |
| $5-3=$ | $0+5=$ | $1+2=$ |
| $5-3=$ | $3-2=$ | $5-2=$ |
| $4+1=$ | $5-5=$ | $1+4=$ |
| $3-3=$ | $\mathbf{2 + 1 =}$ | $2+2=$ |
| $4+0=$ | $0+2=$ | $5-4=$ |
| $4-4=$ | $5-1=$ | $1+3=$ |
| $3+1=$ |  |  |



## Week 22

Addition to 10, counting by 5's

## Day 1-Addition methods

Oral Review - Count by 2's to 20 and 10's to 100. Flash the set cards for the numbers 0 to 10 and the children say the number without counting. Clap and tap the sets as they are flashed again. Review the addition and subtraction processes and the different methods. Discuss measuring using centimetres and show how big one cm. is using the fingers.

Daily Problem - Show the students a small book (or other flat object) and a block. Estimate how many blocks it would take to cover the book. Print the estimates.

Lesson - Discuss the partners for 10. Put the partners up in order: $10+0,9+1,8+$ $2,7+3,6+4,5+5,4+6,3+7,2+8,1+9$ and $0+10$. Ask the children how they would solve these questions - (adding with $0,+1$ is counting on 1 number, etc. We can use counters, we can use a number line, we can 'see' the patterns, we can clap or tap counting on from the largest number, etc.)

Explain to the children that it doesn't matter what way the question is done as long as the answer is reached. Each student can do the questions in the way they find the easiest.

Give each child 10 manipulatives and a number line. Form each of the partners of 10 , using the manipulatives. Do addition questions to 10 using the number line beginning with the largest number and counting on. Ask the children to visualize the number patterns. Use auditory techniques (counting on by clapping from the largest number), and kinesthetic (tapping on).

Make 4 stories for $7,3,10 ; 6,4,10 ; 8,2,10$.
There is another way to answer addition questions! We can memorize the answers, or know the answers without working them out. Can the children memorize any of the combinations for 10 ? Why is memorizing answers a good thing?

Cut out two or three sheets with numbers 0 to 10 . Give each child a number. At a signal, each child finds a partner for 10 . Each pair tells the group the partners for 10, and then the numbers are traded and the exercise is repeated.

Practice - 22.1 Let the children decide what method they wish to use to do the addition questions, including manipulatives and the number line. Make notes of what they choose.

Talk about / Closure - Have the students tell you the methods they used to find answers. Practice the partners of 10 . Review addition methods without manipulatives or the number line.

Answer the daily problem now or at the end of the school day.

## Day 2-Addition to 10

Oral Review - Count by 2's to 20 and 10's to 100. Flash the set cards for the numbers 0 to 10 and the children say the number without counting. Clap and tap the sets as they are flashed again. Review the addition and subtraction processes and the different methods. Discuss measuring using centimetres and show how big one cm. is using the fingers.

Daily Problem - This week we are working with 10. How many addition equations can you make that equal $10 ?(1+4+2+3=10$, etc. $)$

## Lesson -

Discuss the partners for 10 . Put the partners up in order: $10+0,9+1,8+2,7+3,6+$ $4,5+5,4+6,3+7,2+8,1+9$ and $0+10$. Ask the children how they would solve these questions - (adding with $0,+1$ is counting on 1 number, etc. We can use counters, we can use a number line, we can 'see' the patterns, we can clap or tap counting on from the largest number, etc.)

Give each child 10 manipulatives and a number line. Form each of the partners of 10 , using the manipulatives.

SOMETHING NEW! Give each student a set of 5 blocks or tokens, each with a number - 5, 6, 7, 8 and 9. Talk about saving time when we make patterns with the manipulatives. When we use the number line, remember that we don't count out the largest number - we know what it is and we go directly to it. When you make patterns with counters - is there any point to counting out this largest number when we add? We know it! Give the question 7 +3 = . Instead of counting out the 7 , put the token or block with the 7 on it down, and then three counters. Stand on the 7 without saying it (just as you would on the number line), and count on...... 8, 9, 10. Do this with the other partners for 10.

Note: This is part of 'conservation of number' - that numbers are the same no matter how they are shown.

Do addition questions to 10 using the number line beginning with the largest number and counting on. Ask the children to visualize the number patterns. Use auditory techniques (counting on by clapping from the largest number), and kinesthetic (tapping on).

Make 4 stories for the combinations of 10 .
Cut out the flashcards. Put the children in pairs and have them sort the cards as to answers. They can flash the cards to each other and discuss how they are finding the answers.

Practice - 22.2 Let the children decide what method they wish to use to do the addition questions, including manipulatives and the number line.

Talk about / Closure - Have the children tell you how to use the numbered blocks. Review addition methods without manipulatives or the number line.

Answer the daily problem now or at the end of the school day.

## Day 3-counting by 5's

Oral Review - Count by 2 's to 20 and 10's to 100. Flash the set cards for the numbers 0 to 10 and the children say the number without counting. Clap and tap the sets as they are flashed again. Review the addition and subtraction processes and the different methods. Discuss measuring using centimetres and show how big one cm. is using the fingers. Review the combinations of 10. Talk about using the numbered blocks when making the patterns.

Daily Problem - Two children needed to share an apple, an orange, a pizza and a chocolate bar. They must share fairly so that the pieces are equal. How will they be cut? Each child will get one of the two pieces. What will each piece be called? (Introduce $\frac{1}{2}$. Say 'one half' and explain it as 'one of the two pieces'.) What would be the best way to cut each item so the halves are the same?

Lesson - Give each child (or group of children) a number of nickels. A nickel is worth 5 cents. How will we count the nickels?

Give out the 'numbers to 100' chart. Count by 5's on the chart, with the children touching the numbers as they count. Count by 5 's, colouring the squares ( $0,5,10,15$, etc.). Put the children in pairs, counting by 5's using the chart and then without the chart.

Now count the nickels by 5 's. Put a nickel on the 5, the 10, 15, 20, etc., to show the counting. How much money does each child have? Trade desks and count another set.

Hands come with 5 fingers. How many fingers are there at your table? What is an easy way to find out? Let each child in the group decide whether to show both hands or not - one hand could be hidden. How many fingers are now to be seen?

Practice - 22.3 Count by 5's to 100. Add, using whatever method they wish. Encourage addition without manipulatives.

Talk about / Closure - Have the students explain how the 5's look when coloured on the number chart. What numbers have been coloured?

Review partners of 10. Count by 5's to 100.
Answer the daily problem now or at the end of the school day.


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## Day 4 - Addition to 10

Oral Review - Count by 1's, 2's, 5's and 10's to 100. Flash the set cards for the numbers 0 to 10 and the children say the number without counting. Clap and tap the sets as they are flashed again. Review the addition and subtraction processes. Discuss measuring using centimetres.

Daily Problem - $\qquad$ had 4 dimes, $\qquad$ had 6 nickels, and $\qquad$ had 9 pennies. Who had the most money? How much money do they have together? How will you find out?

Lesson - Discuss the partners for 10. Put the partners up in order: $10+0,9+1,8+$ $2,7+3,6+4,5+5,4+6,3+7,2+8,1+9$ and $0+10$. Ask the children how they would solve these questions - (adding with $0,+1$ is counting on 1 number, etc. We can use counters, we can use a number line, we can 'see' the patterns, we can clap or tap counting on from the largest number, etc.)

Give each child 10 manipulatives and a number line. Form each of the partners of 10 , using the manipulatives. Do addition questions to 10 using the number line beginning with the largest number and counting on. Ask the children to visualize the number patterns. Use auditory techniques (counting on by clapping from the largest number), and kinesthetic (tapping on).

As on Day 2, give each student a set of 5 blocks or tokens, each with a number - 5, 6, 7,8 and 9 . Talk about saving time when we make patterns with the manipulatives. When we use the number line, remember that we don't count out the largest number - we know what it is and we go directly to it. When you make patterns with counters - is there any point to counting out this largest number when we add? We know it! Give the question $7+3=$. Instead of counting out the 7 , put the token or block with the 7 on it down, and then three counters. Stand on the 7 without saying it (just as you would on the number line), and count on...... 8, 9, 10. Do this with the other partners for 10.

Make 4 stories for the combinations of 10.
Use the flashcards. Put the children in pairs and have them sort the cards as to answers. They can flash the cards to each other and discuss how they are finding the answers. Have the children sort the cards to show the questions that are easy to do and more difficult. Why do you find some questions easy? What is the easiest method of doing these questions?

Practice - 22.4 Remove the manipulatives and the number lines. How many children can do the questions using the other methods? (If some children need these, allow the use after giving time to try the other methods.)

Talk about / Closure - Have the students explain the use of the numbered blocks. Review addition methods and the partners for 10.
Answer the daily problem now or at the end of the school day.

## Day 5-Review of skills

Daily Problem - Show the children a cube. Have them describe the cube - how many faces, that each face is a square. Understand that a cube can be any size. Are there any more cubes in the classroom? Can they think of things that are cubes?

## Speed Sheet - Lesson 22

Most children should be able to do the subtraction questions to 6 without manipulatives. Explain to the students that we want to learn to give the math answers quickly, and this is to find out how many questions they can do in a short time. As the previous sheets have been addition, explain that these are subtraction and simple questions.

Explain the procedure first and model what the children are to do.
Hand the papers out face down and have the children print their names on the back. They are not to turn the papers over until you say "GO!" After you give this signal, they turn the papers over and begin to work. They must work across each row from left to right. You will give the children 2 minutes exactly. Then you say "STOP!" and they are to circle the last question they have answered. Then give the class enough time for most children to complete the sheet.

When you mark the speed sheet, count the correct answers up to and including the circled answer, divide by 2 to get a \# correct per minute score. Put this in the box at the top of the page.

Put the \# per minute score in your record book.

## Review Exercise 22 -

Count by 10's, 5's and 2's.
Four stories
Answer the addition and subtraction.
Measure the rectangles using a ruler.

## Marks -

Count by 10's, 5's and 2's. - 12 marks (3 marks for each number)
Four stories
Answer the equations.
Measure the rectangles

- 8 marks (1 mark for each equation)
- 21 marks (1 mark each)
- 8 marks (4 marks each)

1 free mark
Multiply the 50 marks by 2 for the percent.
Talk about - Did you do well on the speed sheet? Do you think these questions are easy? How do you feel about these sheets? Do you get nervous?

Notes:


|  |  |  |
| :---: | :---: | :---: |
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|  |  |  |



Print the partners for $\mathbf{D}$
$5+_{\text {_- }} \quad 2+_{---} \quad \mathbf{D}+_{---} \quad 4+_{---}$

$$
\begin{array}{lll}
9+_{-}- & 6+_{---} & 7+_{---} \\
0+_{---} & 3+_{---} & 1+_{---}
\end{array}
$$

| $7+3=$ | $5+4=$ | $2+8=$ |
| :--- | :--- | :--- |
| $2+6=$ | $3+7=$ | $3+5=$ |
| $8+1=$ | $6+2=$ | $9+1=$ |
| $\mathbf{D}+\mathbf{0}=$ | $6+4=$ | $1+7=$ |
| $3+4=$ | $7+2=$ | $4+6=$ |
| $5+5=$ | $0+\mathbf{D}=$ | $8+2=$ |

$\begin{array}{r}3 \\ +7 \\ \hline\end{array}$
$\begin{array}{r}5 \\ +5 \\ \hline\end{array}$
$\begin{array}{r}1 \\ +\mathbf{8} \\ \hline\end{array}$
$\begin{array}{r}5 \\ +3 \\ \hline\end{array}$

| 8 |
| :--- |
| 0 |

$\begin{array}{r}6 \\ +3 \\ \hline\end{array}$ $\square$
2
$+8$
$\begin{array}{r}0 \\ +9 \\ \hline\end{array}$

## $+$ <br> 


$+5$

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



Print the partners for $\mathbf{D}$
$5+_{\text {_- }} \quad 2+_{---} \quad \mathbf{D}+_{---} \quad 4+_{-}$


| $3+7=$ | $2+4=$ | $2+8=$ |
| :--- | :--- | :--- |
| $1+6=$ | $2+7=$ | $4+4=$ |
| $8+1=$ | $6+4=$ | $9+1=$ |
| $\mathbf{D}+\mathbf{0}=$ | $1+4=$ | $7+2=$ |
| $5+4=$ | $2+2=$ | $6+3=$ |
| $3+5=$ | $0+\mathbf{D}=$ | $8+2=$ |

$\begin{array}{r}3 \\ +4 \\ \hline\end{array}$

$\begin{array}{r}1 \\ +8 \\ \hline\end{array}$
$\begin{array}{r}7 \\ +3 \\ \hline\end{array}$
$\begin{array}{r}9 \\ 0 \\ \hline\end{array}$

$\begin{array}{r}4 \\ +6 \\ \hline\end{array}$ $\square$
0
$+8$

3
$+6$
$+5$

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D | II | D | B | 7 | 5 | 5 | 7 | B | P |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
| 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 |
| 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 |
| 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 |
| 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 |
| 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 |
| 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 |
| D0 | ${ }^{31}$ |  |  |  |  |  |  |  |  |



Count by Es to DO
0
$\ldots \quad 30$
$\qquad$


Print the partners for $\mathbf{D}$
6 + _ _ $\mathbf{~ + ~} \quad$ _
0 +__
5 +_ _ $^{\text {_ }}$


| $3+7=$ | $0+1=$ | $2+8=$ |
| :--- | :--- | :--- |
| $1+6=$ | $2+7=$ | $4+4=$ |
| $8+1=$ | $6+4=$ | $9+1=$ |

$\begin{array}{r}8 \\ +2 \\ \hline\end{array}$
$\begin{array}{r}4 \\ +5 \\ \hline\end{array}$
$\begin{array}{r}1 \\ +8 \\ \hline\end{array}$

$+3$
9
$+0$
$\begin{array}{r}4 \\ +6 \\ \hline\end{array}$
$\begin{array}{r}\mathbf{D} \\ +\mathbf{0} \\ \hline\end{array}$

$+5$


Count by Es to DO
0

-     -         - 50
$\qquad$

Print the partners for $\mathbf{D}$


| $3+6=$ | $0+\mathbf{D}=$ | $3+7=$ |
| :--- | :--- | :--- |
| $9+1=$ | $8+2=$ | $1+8=$ |
| $2+7=$ | $5+4=$ | $6+4=$ |


| 7 | 8 | 2 | 7 | 5 |
| ---: | ---: | ---: | ---: | ---: |
| +3 | +1 | +8 | +2 | +5 |
|  |  |  |  |  |
| 4 | 0 | 1 | 4 | 6 |
| +5 | +0 | +9 | +6 | +3 |



$$
\begin{array}{r}
6 \\
-\quad 1 \\
\hline
\end{array}
$$

$$
\begin{array}{r}
3 \\
-\quad 2 \\
\hline
\end{array}
$$


$\begin{array}{r}5 \\ -\quad 4 \\ \hline\end{array}$
$\begin{array}{r}5 \\ -\quad 1 \\ \hline\end{array}$
$\begin{array}{r}6 \\ -\quad 2 \\ \hline\end{array}$
$\begin{array}{r}2 \\ -\quad 2 \\ -\quad 5 \\ \hline\end{array}$

$\begin{array}{r}1 \\ -\quad 1 \\ \hline\end{array}$


| Review Exercise $2 \boldsymbol{2}$ | am $\quad$ \# |
| :--- | :--- | :--- |

D, 20, $\qquad$
$\qquad$
5, D, $\qquad$
2, 4, $\qquad$
$\qquad$
$\qquad$


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

Use your ruler to measure.
$\square$
$\qquad$ cm.

