Helpful Hints for Parents

K-5th Grade Math

Kindergarten Focus

- Numbers and what numbers represent
- Understand addition as putting together and subtraction as taking away from
- Adding and subtracting small numbers quickly and accurately
- Identify and work with shapes

Examples of Kindergarten Word Problems - reinforce with other word problems that follow this structure. Have your child use objects to show what is happening in the word problem.

- **Addition Questions for your child: What do you know? (3 red apples, 3 green apples) What are the two small parts? (3 red and 3 green) What do you need to find out? (how many apples on table)**
- **Subtraction Questions for your child: What do you know? (there are 10 apples; one is given away) What do you need to find out? (how many apples are left?)**

+ Addition	Three red apples and three green apples are on the table. How many apples are on the table?
− Subtraction	Mom has ten apples. She gives one to Mary Ann. How many apples are left?

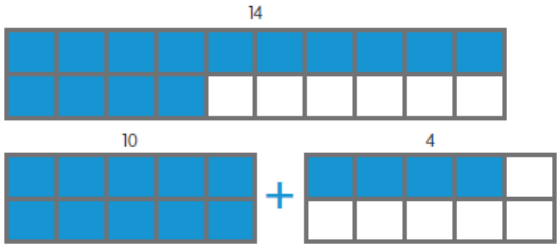
Examples of pictures and models: build or sketch to help your child understand and solve addition and subtraction problems.

3 red apples 3 green apples

kids sketch to represent 2 colors of apples
3 red apples (○) and 3 green ones (△)

Examples of a ten frame to help find "partners" that make ten for any number. For example, this ten frame shows that if you have 8 you need 2 more to make 10. Ask: How many do you see? (8) How do you know there are 8? (5 on top row, 3 on bottom or 10 boxes and 2 are empty, and so on) How many more do we need to have 10? (may need to count to prove)

Think about 10 as a unit and break down all the teen numbers to a ten and some leftover ones. Show 14 as 10 and 4 extra ones. Name 14 as 1 ten 4 extra ones is 14 (fourteen). When writing 14, say "1 ten" as the 1 is written and "4 extra ones: as the 4 is written.



Kindergarten Helps

- **Encourage your child to "*stick with it*" whenever a problem seems difficult. This will help your child see that *everyone* can learn math.**

- **Use everyday objects to allow your child to count and group a collection of objects.** *(number of plates needed for dinner, number cookies that are on a plate and how many if you eat one)*

- **Encourage your child to construct numbers in multiple way.** *For example: What are some ways that you can make 6? (3 and 3, 2 and 4, 5 and 1, 7 take away 1, etc.)* **Have your child explain his/her thinking.**

- **Have your child create story problems to represent addition and subtraction of small numbers.** *For example: "Sue had eight balloons. Then she gave 3 away, so she only had five left.*

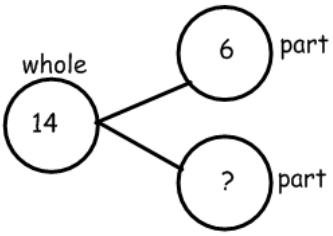
- **Praise your child when he/she makes an effort and share in the excitement when he/she understand something for the first time.**

1st Grade Focus

- Add numbers together that total up to 10 or less and subtract from numbers up through 10 quickly and accurately.
- Solve word problems that involve adding or subtracting numbers up through 20.
- Understanding the different digits mean in 2-digit numbers (place value)

Examples of 1st Grade Word Problems - reinforce with other word problems that follow this structure. Have your child use objects to show what is happening in the word problem.

- **Addition Questions for your child: What do you know? (6 bunnies, some more came, 14 total) What is one part? (6 bunnies) What is the other part? (unknown) What is the whole or total? (14) Use number bonds to help you.**

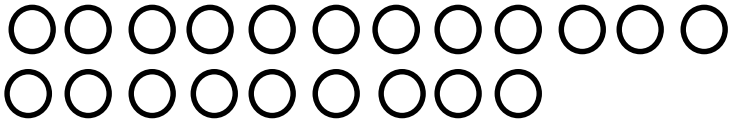


+ Addition	6 bunnies sat on the grass. Some more bunnies hopped over. Then there were 14 bunnies. How many bunnies hopped over?
− Subtraction	14 bunnies were sitting on the grass. Some bunnies hopped away. Then there were 5 bunnies. How many bunnies hopped away?
Comparison	Lucy has 12 apples. Julie has 9 apples. How many more apples does Lucy have than Julie?

- **Subtraction Questions for your child: How many total bunnies are there? : What do you know? What do you need to find out?**
- **Comparison – at this stage, it is best to work it out with objects or sketch it. Match them one to one to see how many more Lucy has than Julie.**

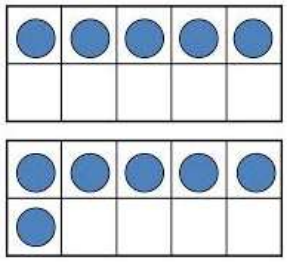
12 apples Lucy

9 apples Julie

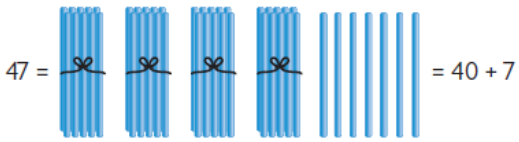


Use a ten frame or number bond to practice adding and subtracting facts.

5 and 6: Instead of counting each one, work on 5 and 5 more is 10 and 1 more is 11 so 5 + 6 = 11



Use models to show that 47 is the same as 47 ones, or 4 tens and 7 ones and understand the size of the units.



Use understanding of place value to add one- and two-digit numbers.

47 + **2** = 49

47 + **20** = 67

1st Grade Helps

- **Encourage your child to "*stick with it*" whenever a problem seems difficult. This will help your child see that *everyone* can learn math.**

- **Look for everyday opportunities to have your child see mathematics. For example:** If you open a carton of eggs and take out 4, ask *"How many are left in the carton?"* or *"How many napkins are needed for everyone coming to the dinner table?"*

- **Play math games in the car and at home. For example:** *"I'm thinking of a number. When I add five to it, I get 11. What is the number?"*

- **Encourage your child to read and write numbers in different ways.** For example: *"What are some ways that you can make the number 15?" (15 can be 10 and 5, 7 and 8, 200 – 5, 5 + 5 + 5, etc.)*

- **Have your child create story problems to represent addition, subtraction and comparison.** For example: "*I have seven pennies, My brother has five pennies. How many pennies does he need to have the same number as I have? (He needs 2 more pennies)*

- **Praise your child when he/she makes an effort and share in the excitement when he/she understand something for the first time.**

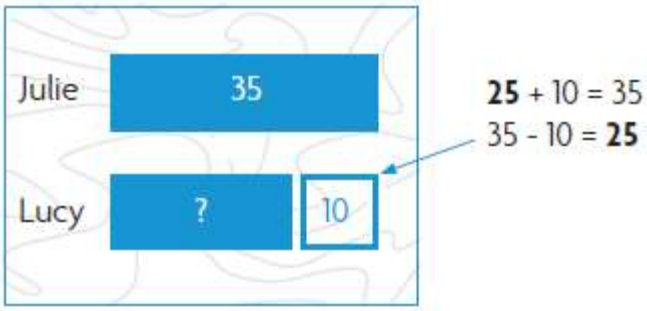
2nd Grade Focus

- Add numbers together that total up to 20 or less and subtract from numbers up through 20.
- Solve 1- and 2-step word problems by adding or subtracting numbers up through 100. (including length, money, information in graphs)
- Understand what the different digits mean in 3-digit numbers.
- Add and subtract 3-digit numbers.
- Understand the meaning of multiplication.

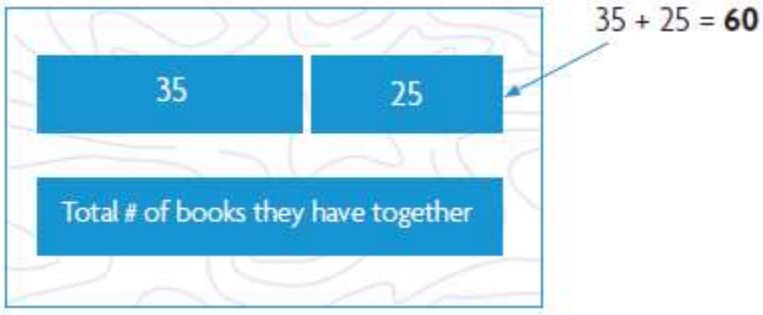
Example of 2nd Grade 1-and 2-step Word Problems:

Julie has 35 books. Julie has 10 more books than Lucy. How many books does Lucy have? How many books do they have tougher?

Step 1: if Lucy has 10 less books than Julie, students first need to figure out what 10 less than 35 is.
35 books – 10 books = 25 books



Step 2: Students then have to add the number of books Julie has to the number of books Lucy has.
35 books + 25 books = 60 books

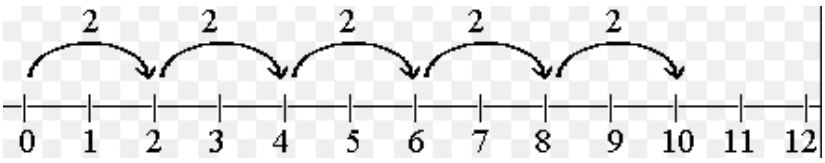


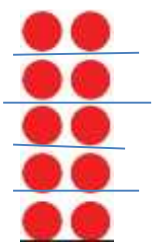
Develop and understand place value in 2nd Grade.

250 = 2 hundreds and 5 tens, 25 tens or 250 ones.

Apply understanding that 5 tens and 5 tens = 10 tens, or 1 hundred, that can then be added to the hundreds place.

Understand the concept of multiplication





2 + 2 + 2 + 2 + 2 = 10

2nd Grade Helps

- **Encourage your child to "*stick with it*" whenever a problem seems difficult. This will help your child see that *<u>everyone</u>* can learn math.**

- **Play math games with your child.** For example: *"I'm thinking of a number. It has 5 tens, 3 hundreds, and 4 ones. What is the number?" (354)*

  OR

  Use a deck of cards. Deal two cards. Ask: What is the sum of the two numbers?

  OR

  Identify a target number (less than 20). Ask: Either add or subtract to get the target number. (target 8: I can add 3 and 5 or I can take 2 away from 10)

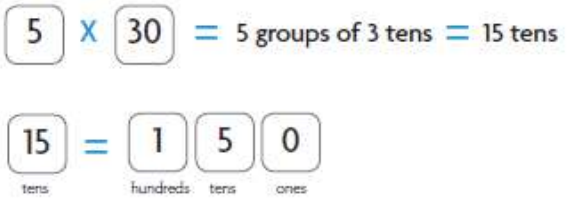
- **Have your child explain the relationship between different numbers without counting.** For example: *147 is 47 more than 100 and three less than 150. Ask: How is 174 grouped now? (1 hundred, 7 tens, 4 ones or 100 and 70 and 4) How could you regroup 174 so that it still has the same value? (17 tens, 4 ones or 1 hundred 6 tens 14 ones or 16 tens and 14 ones, etc.) Have your child explain how their regrouping is still the same value.*

- **Praise your child when he/she makes an effort and share in the excitement when he/she understand something for the first time.**

3rd Grade Focus

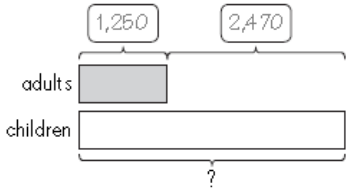
- Explain what it means to multiply and divide and extend this understanding to the concept of area and measurement..
- Multiply all 1-digit numbers mentally and quickly.
- For whole numbers, solve 1- and 2-step word problems with addition, subtraction, multiplication and division
- Understand and identify fractions as numbers on a number line, compare them and name fractions that are equal to whole numbers (such as $\frac{3}{3} = 1$, they are the same number)

Understand and demonstrate that 15 tens = 5 tens and 10 tens (or 1 hundred).



Use bar models to help unlock word problems.

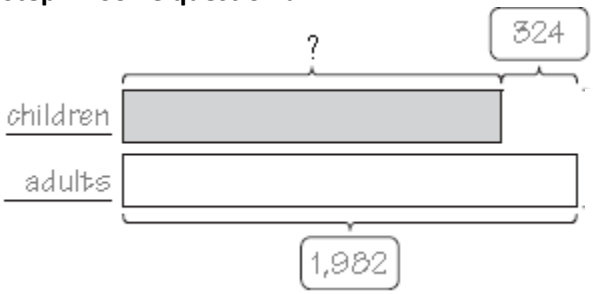
Example: There are 1,250 adults at the zoo. There are 2,470 more children than adults in the zoo. How many children are at the zoo?



1,250 + 2,470 = 3,720
3,720 children are at the zoo.

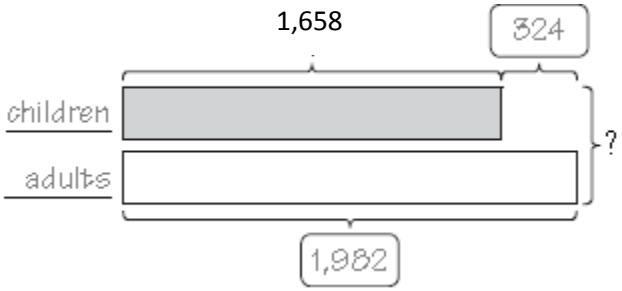
Example: There are 1,982 adults at a concert. There are 324 more adults than children at the concert.
a. How many children are at the concert? b. How many people are at the concert?

Step 1: Solve question a.



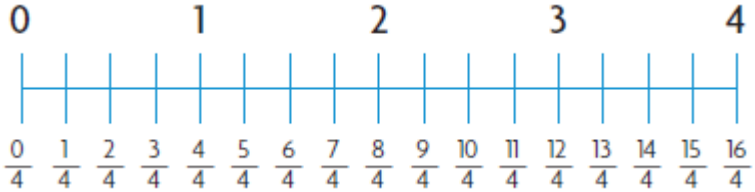
Question a:
1,982 – 324 = 1,658
1,658 children are at the concert.

Step 2: Solve question b:



Question b:
1,658 + 1,982 = 3,640
3,640 people are at the concert.

Use number lines to help students think of a fraction as a number.



3rd Grade Helps

- **Encourage your child to "*stick with it*" whenever a problem seems difficult. This will help your child see that *everyone* can learn math.**

- **Play math games with your child.** For example: *"I'm thinking of two numbers whose product is between 20 and 30. How many pairs can you think of that would answer this problem?"* Have your child explain the solutions. How does he/she know that all the number pairs have been identified?

- **Encourage your child to write or describe numbers in different ways.** For example: *"What are some different ways to make 1450?* (1450 = 1 thousand, 4 hundreds, 5 tens, 0 ones, or 1000 + 450, or 14 hundreds and 50 ones, or 13 hundreds + 15 tens, etc.) Have your child explain how those different ways represent the same value.

- **Use everyday objects to allow your child to explore the concept of fractions** For example: *Use measuring cups for your child to demonstrate – "How many $\frac{1}{3}$s are in a whole?" (3 one-thirds are in 1 whole). "How many $\frac{1}{4}$ cups do you need to make $1\frac{1}{4}$ cups?" (5 one-fourths equal $1\frac{1}{4}$) "How many times do you have to refill a $\frac{1}{2}$ cup measure to make 1 $\frac{1}{2}$cups?" (3 half cups = 1 and one-half cups)*

- **Praise your child when he/she makes an effort and share in the excitement when he/she understand something for the first time.**

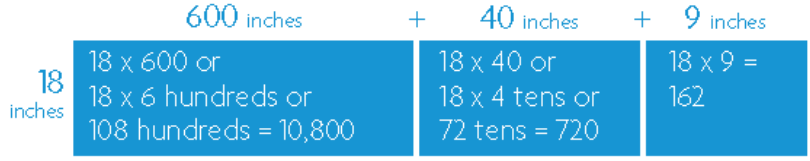
4th Grade Focus

- Add and subtract whole numbers up to 1 million quickly and accurately
- Multiply and divide multi-digit numbers
- Compare fractions, create and fractions from smaller fractions and make equal fractions
- Add/subtract fractions with like denominators using models
- Decimals – converting from tenths and hundredths fractions, on a number line, comparing
- Solve multi-step word problems using all operations, covering measurement, data

Use concept of area and place value strategies to multiply multi-digit numbers and deepen understanding.

Find the area of this rectangle.

Break into 3 parts. The length of each part can then be multiplied by the width of 18.



18(900 + 40 + 9) = 18 x 600 + 18 x 40 + 18 x 9

Learn that 649 x 18 is also equal to (649 x 10) + (649 x 8)

```
 3 7
 649
x 18
5192    (649 x 8)
6490    (649 x 10)
11,682
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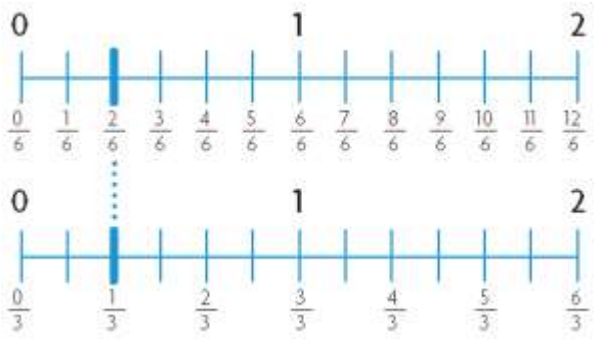
Use number lines to break fractions into smaller fractions. (example – show that $\frac{2}{6} = \frac{1}{3}$)



Understanding and creating equal fractions will prepare students for the next step: adding and subtracting fractions.

4th Grade Helps

- **Encourage your child to "*stick with it*" whenever a problem seems difficult. This will help your child see that *everyone* can learn math.**
- **Continue to work with place value understanding by asking:** *Your number is 176,000. How is it grouped now? (1 hundred thousand, 7 ten thousands, 6 one thousands, 0 hundreds, 0 tens, 0 ones) How could you regroup this number so that it still has the same value? (some possible answers: 17 ten thousands, 5 one thousands, 10 hundreds, 0 tens, 0 ones OR 1 hundred thousand, 6 ten thousands, 15 one thousands, 9 hundreds, 10 tens and 0 ones, etc.)* Have your child explain how those different ways represent the same value.
- **Use everyday objects to allow your child to explore the concept of frations.** For example: *"Use measuring cups to see how many times you have to refill a* $\frac{1}{4}$ *cup to equal a* $\frac{1}{2}$ *cup or how many* $\frac{1}{3}$*s are in two cups."* Have students: "*Describe two fractions that are equal using a measuring cup. (filling a* $\frac{1}{4}$ *measuring cup twice is the same as filling one* $\frac{1}{2}$ *measuring cup)*
- **Have your child write or describe fractions in different ways.** For example: *"What are some different ways to make* $\frac{3}{4}$*?* (*Answers could include* $\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$ *OR 3 x* $\frac{1}{4}$) Have your child explain how those different ways represent the same value.
- **Ask your child to create and describe equal fractions.** For example: *Take a sheet of paper, fold the paper in half, and then unfold. Shade* $\frac{1}{2}$*. Take the same sheet of paper and fold the paper in a half again. Unfold the paper and have students discuss the number of parts that are now shaded.* Encourage your child to talk about ways to show that $\frac{1}{2} = \frac{2}{4}$. Continue this process creating other equal fractions.
- **Praise your child when he/she makes an effort and share in the excitement when he/she understand something for the first time.**

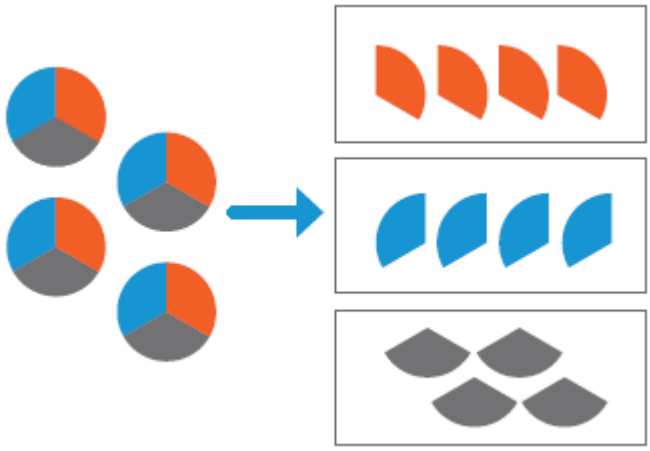
5th Grade Focus

- Multiply multi-digit whole numbers quickly and accurately
- Divide whole numbers with up to four digits by up to 2-digit numbers.
- Place value with decimals to the thousandths place
- +, - x , ÷ with decimals to the hundredths place.
- Model computation of adding, subtracting fraction with unlike denominators, multiplying fractions by whole numbers and other fractions, dividing fractions by whole numbers and whole numbers by fractions using models.

Use place value understanding to figure out that the location of the digits within the number is used to compare and order numbers for whole numbers and decimals.

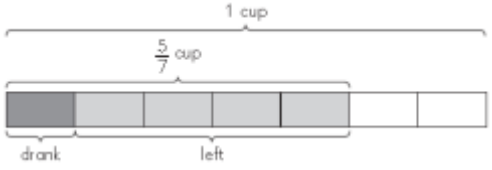
Students recognize that a 5 in the thousandths place is only one tenth the value of a 5 in the hundredths place. This foundation is used in whole numbers to understand and use exponents.

Use pictures and models to see that 4÷ 3 is the same as dividing 4 objects equally among 3 shares, or having 4 thirds ($\frac{4}{3}$).



Use model drawing to solve problems.

Sarah poured $\frac{5}{7}$ cup of milk into a glass. She drank $\frac{1}{5}$ of it. How much milk did she drink?



From the model,

7 units → _____ cup

1 unit → _____ cup

She drank _____ cup of milk.

How much milk was left?

4 units → _____ cup

_____ cup of milk was left.

5th Grade Helps

- **Encourage your child to "*stick with it*" whenever a problem seems difficult. This will help your child see that *everyone* can learn math.**

- **Continue to work with place value understanding by asking:** *Your number is 1.57. How is it grouped now? (1 whole, 5 tenths, 7 hundredths) How could you regroup this number so that it still has the same value? (some possible answers: 15 tenths, 7 hundredths OR 1 whole, 4 tenths, 17 hundredths, etc.)* Have your child explain how those different ways represent the same value.

- **Use everyday objects to allow your child to explore the concept of fractions.** For example: *Divide a candy bar (or healthy snack) between three people. Ask: "How much does each person receive? (each person would receive $\frac{1}{3}$) Suppose there are 3 candy bars to share between two friends?* Have your child describe and model or sketch the amount that each person will receive. Have him/her explain their thinking.

- **Have your child explain how to write fractions in different ways.** For example: *"What are some different ways to write $\frac{4}{3}$?* (possible answers: $4 \div 3$; $1\frac{1}{3}$; $\frac{2}{3}+\frac{2}{3}$; $2 \times \frac{2}{3}$; $\frac{8}{6}$; $4 \times \frac{1}{3}$). Have your child show/explain how the different ways represent the same value.

- **Ask your child to give you a fraction equal to a decimal.** For example: *"What are two fractions that can be used to represent 0.6?* Answers could include $\frac{6}{10}$; $\frac{60}{100}$; $\frac{12}{20}$; $\frac{3}{5}$. Have your child show/explain how the different ways represent the same value.

- **Praise your child when he/she makes an effort and share in the excitement when he/she understand something for the first time.**