Tips for Helping at Home

- Questions to ask:

  What is it that you don't understand (have the student be specific)?

  What about putting things in order?

  Could you try it with simpler numbers?

  Can you guess and check?

  Does this make sense?

  What can you do to explain your answer to show others what you are thinking?

  Does your answer seem reasonable?

- Your student will be figuring out ways to make $1.00 and will be asking to count the change in your pocket or purse.

- In class, students will be making a set of **Addition cards**. You will probably recognize these as addition facts, although we call them combinations. Your child will be sorting these cards into "the ones I know" and " the ones I am working on." Speed is not the goal: the goal is for each child to develop effective strategies for combining numbers. Sometimes for homework, the children will choose a few combinations that they are working on and think about strategies that will help them remember them. For example, one strategy a child might use is this:

What 's 6 + 7? Well, I know 6 + 6 is 12, and 6 + 7 is one more than that so it's 13.

You can help with these combinations by listening you your child's strategies or sharing ones that you use.

7 + 6 =

6 + 7 =

Clue: _____

Website

http://cms.everett.k12.wa.us/math/Third Grade

Mathematical Emphasis

Investigation 1—What's a Hundred

- Counting and grouping quantities to make 100
- Becoming familiar with the number patterns on the 100 chart

Investigation 2—Doubles and Halves

- Constructing symmetrical patterns
- Learning the addition combinations 1+1 to 10+10
- Developing and using addition strategies, including the use of known addition combinations to help learn others
- Exploring what happens when 10 or 20 is added or subtracted
- Exploring what numbers can be divided in half evenly
- Reviewing coin values and finding the values of collections of coins

Investigation 3—Data and Handfuls

- Sorting and classifying information
- Collecting, recording and representing data
- Describing data presented in tallies and graphs
- Developing strategies to combine and compare quantities

Investigation 4 - Exploring Odds and Evens

- Exploring the characteristics of odd and even numbers and examining how they behave when they are combined
- Using evidence gathered from examples to make conjectures about the ways numbers behave
- Continuing to develop familiarity with addition combinations
- Working with wholes and halves
- Exploring mathematical tools such as the calculator

Investigations in Number, Data, and Space

Grade 3

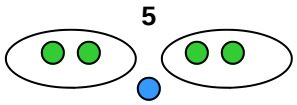
Mathematical Thinking at Grade 3

Introduction

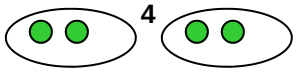
Everett Public Schools

Vocabulary

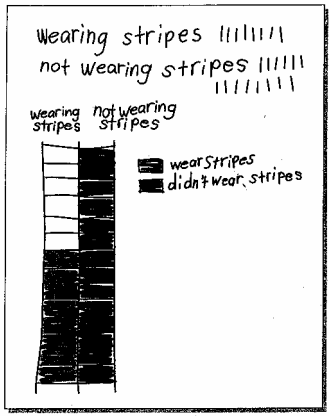
Odd - a number that is not divisible by 2



Even - a number that is divisible by 2

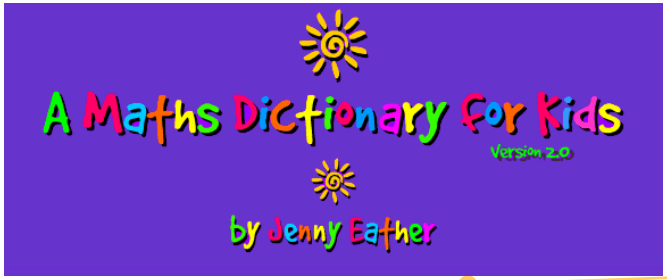


Representation - organizing information in a way that others may understand. This could be in the form of a picture, graph, chart, or model.



Glossary

http://www.amathsdictionaryforkids.com/



Two Powerful Addition Strategies

Most of us who are teaching today learned to add starting with the ones, then the tens, then the hundreds, and so on, moving from right to left and "carrying" from one column to another. This algorithm is certainly efficient once it is mastered. However, there are many other ways of adding that are just as efficient, closer to how we naturally think about quantities, connect better with good estimation strategies, and generally result in fewer errors.

When students rely on memorized rules and procedures that they do not understand, they usually do not estimate or double-check. They can easily make mistakes that make no sense. We want students to think about quantities they are using and what results to expect. We want them to use their knowledge of the number system. We want them to break apart and recombine numbers in ways that make computation more straightforward and, therefore less prone to error. Writing problems horizontally rather than vertically is one way to help students focus on the whole quantities.

Left to Right Addition: Biggest Quantities First

When adding 27+27, a student might say "20 and 20 is 40, then 7 + 7 is 14, so 40 plus 10 more is 50 and 4 more makes 54." This strategy is both efficient and accurate. One advantage of this approach is that when students work with the largest quantities first, its easier to maintain a good sense of what the final sum should be. Another advantage is that students tend to continue seeing two 27's as whole quantities, rather than breaking them up into their separate digits and losing track of the whole.

Rounding to Nearby Landmarks

To add 27 and 27, some students might think of the problem as 30 + 30, then subtract 3 and 3 to give them the final result. Of course, there are other useful landmarks, too. Another student might think of tis problem as 25+25+2+2.

Having more than one strategy is a necessary part of doing computation, and that using what you know about the numbers to simplify the problem leads to procedures that make sense.

Russell, S. Investigations in Number, Data, and Space: Mathematical Thinking at Grade 3. Dale Seymour Publications, 1998.

Game

Plus - Minus - Stay the Same

Materials: 100 chart for each player, Deck of numeral cards (0 - 9 plus 4 wild cards), counters to mark on the chart.

Players: 2

How to Play:

1. Decide who will go first. The first player chooses two Numeral Cards from the deck to get a base number. The first card is the tens digit, the second is the ones digit. A Wild Card can be used as any numeral.
2. Decide whether you want to **add** 10 to this number, **subtract** 10 from this number, or **stay** with this number. Cover the resulting number on your 100 chart.
3. The other player now chooses two Numeral Cards from the deck, determines the number, and decides whether to **add** 10 to that number, **subtract** 10 from that number, or **stay** with that number.
4. Put the cards you use in a discard pile. (if you run out of cards, mix these up and use them again.)
5. The goal is to cover five numbers on your 100 chart in a row - across, up and down, or diagonally - before your partner does. The game continues until one player has five in a row.