

---

---

# Helping with Math Homework

## Grades 1 & 2

— Presented by Jamie Gifkins, 1st Grade —  
and Nickeisha Moore, 2nd Grade

---

---

# Agenda

- Introductions
- The Math Culture at PS 261
- Major Math Work of 1st and 2nd Grade
- Models and Terms used in 1st & 2nd Grade
- What's the Purpose of 1st & 2nd grade Math Homework?
- What Parents Need to Know to Help with Math Homework
- Doing the Homework!
- Fluency Expectations and Supporting Fluency at Home
- Helpful Tools
- Final Thoughts about Homework

# Our Beliefs about Teaching Math at PS 261

- Classrooms must be safe, supportive, equitable math communities
- Mistakes offer valuable opportunities for learning
- Deep conceptual understanding and sense-making come first; fluency follows understanding
- Teaching should support multiple pathways for solving problems, student choice of methods and tools, and student ownership of math learning

# The Math Culture at PS 261

- Classrooms should be places where communication and discussion are important parts of math learning
- Teachers flexibly facilitate math learning and encourage students to see math - not the teacher - as the authority
- Classrooms should be sites for investigation, exploration, creativity, and positive feelings about mathematics

# Our Curriculum and Teaching Methods

- Engage NY/Eureka, supplemented with teacher-created lessons and investigations
- Methods:
  - Hands-on experiences, inquiry, meaningful tasks
  - Math discussion/debate - justifying ideas
  - Valuing kids' ideas and building off them
- Experiences move from concrete to pictorial to abstract

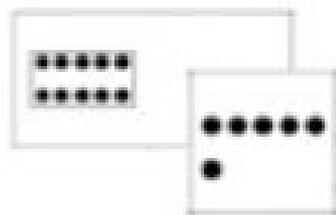
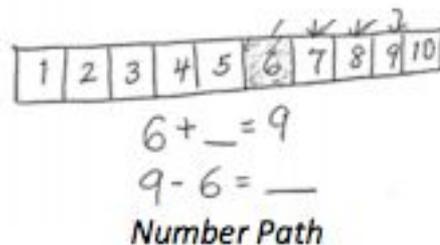
# What is the Major Math Work of 1st Grade?

- Represent and solve problems involving addition and subtraction (missing total, missing part, take away a part, find the difference).
- Understand the relationship between addition and subtraction.
- Add and subtract within 100.
- Work with addition and subtraction equations.
- Extend the counting sequence.
- Understand place value.
- Use place value understanding and properties of operations to add and subtract.

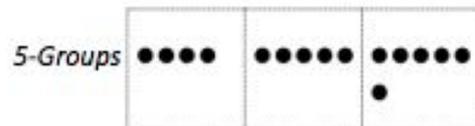
# What is the Major Math Work of 2nd Grade?

- Represent and solve problems involving addition and subtraction.
- Add and subtract within 1000.
- Work with equal groups of objects to gain foundations for multiplication.
- Understand place value.
- Use place value understanding and properties of operations to add and subtract.
- Measure and estimate lengths in standard units.
- Relate addition and subtraction to length.

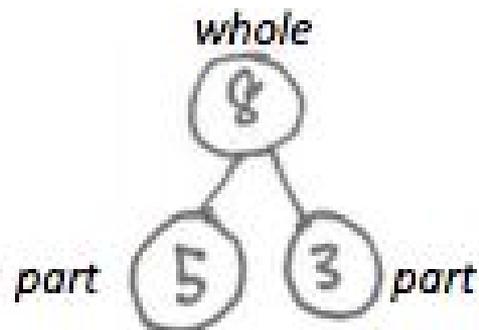
# 1st & 2nd Grade Terms and Models



Hide Zero Cards

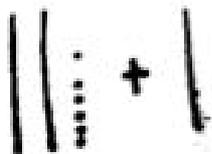


5-Group Cards

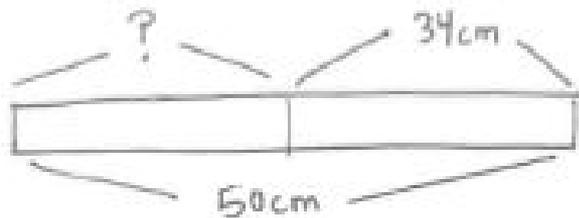


Number Bond

# 1st & 2nd Grade Terms and Models



Quick Ten

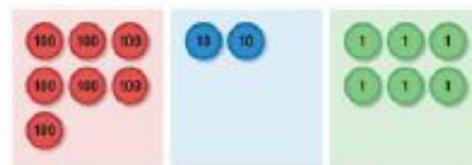


$$34 + \underline{\quad} = 50$$

Tape Diagram

hundreds	tens	ones

Hundreds Place Value Chart



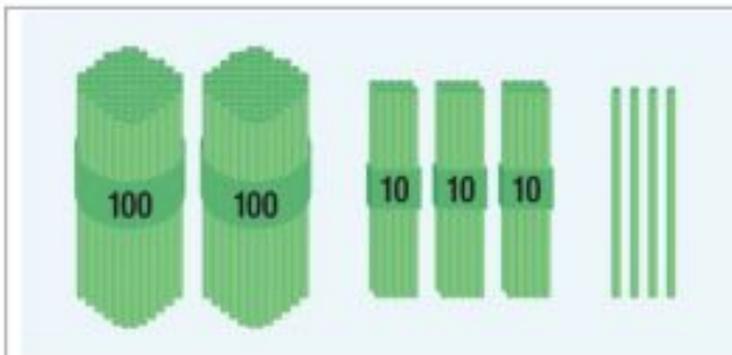
Place Value Disks

--	--	--

Unlabeled Hundreds Place Value Chart

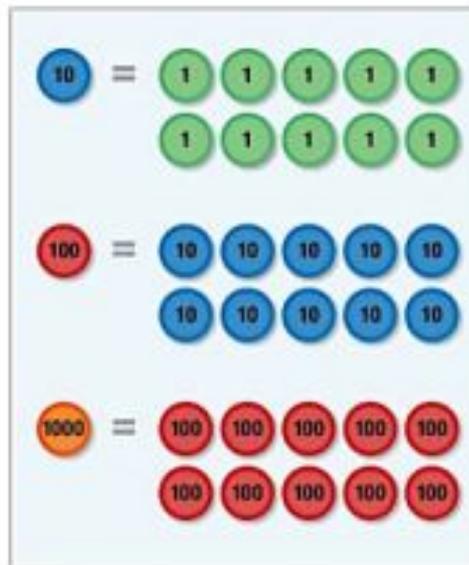
# 2nd Grade Terms & Models

“Bundles” of ten and one hundred



Proportional Model for Place Value

Place Value Disks



Non-Proportional Model for Place Value

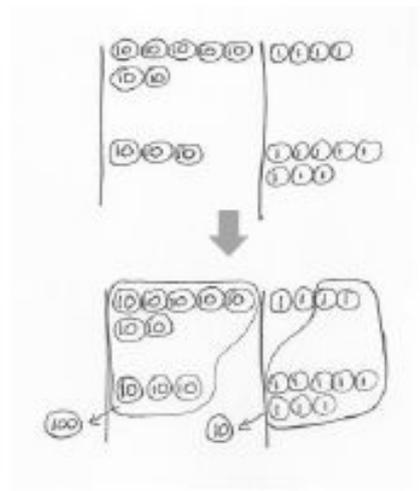
# 2nd Grade Terms & Models

*Concrete*

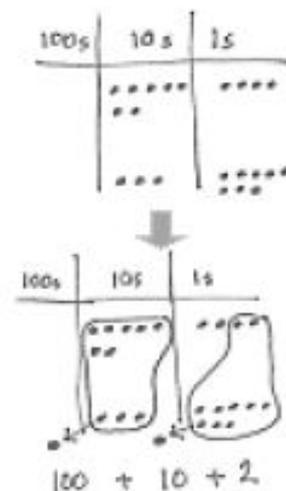


Place value disks

*Pictorial*



Place value chart with  
labeled disks



Chip model

*Abstract*

$$\begin{array}{r} 74 \\ + 38 \\ \hline \end{array}$$

↓

$$\begin{array}{r} 74 \\ + 38 \\ \hline 112 \end{array}$$

New groups below

# What's the purpose of 1st & 2nd grade math homework?

- Offers extra practice for concepts we're working on extensively in school
- Gives parents a window into the work their kids are doing in school

# 1st Grade Homework: What Parents Need to Know

- Big 1st grade idea: Numbers have parts.
- Number Bond as a model for total, part, part.
  - Parents can ask, “How many do you see? What parts do you see inside of that? Can you see it a different way?”
- Counting All vs. Counting On
  - Hold it in your head and count for counting on
  - When kids are counting all, you can prompt them towards counting on by asking, “Do you need to count them all again? Can you count on from \_\_\_?”
- Equals means “is the same as.”
- The importance of 5
- The Say Ten way

# 1st Grade Homework: What Parents Need to Know

- 5 group drawings
  - Help kids move from pictorial to symbolic.
  - Kids will begin to count on from 5, thinking about 5 in the symbolic representation but seeing pictures of the other part.
- Representing solutions to story problems with math drawings
  - Math drawings are not just a number sentence.
  - Math drawings shouldn't have tons of detail.
- Common confusions:
  - How to complete the number bond (total, part, part)
  - The number bond needs to match the picture or the story (ex. The picture shows  $9+1$  but kids do 5, 5 and 10 in the number bond)

# 2nd Grade Homework: What Parents Need to Know

- Big 2nd grade idea: Our number system is a base-10 system. Everything you know about 10 helps you with bigger numbers!
- Making a ten/Taking from a ten
- Number Bond as a model for total, part, part.
  - Using the number bond to think about making a ten/taking from a ten
- Moving from counting on to applying knowledge of the parts inside of numbers
  - When kids are counting on, you can prompt them towards thinking about known combinations and relationships with 10 (ex.  $9 + 5 = 10 + 4$ )
- Extending the commutative property to bigger numbers.

# When doing Homework at Home

- Students should try solving the problems using the models and ways of thinking we have just shared with you.
- If you are noticing confusion, PLEASE reach out to your child's teacher.

# Fluency Expectations

By the **end of 1st grade**, students are aiming to:

- Know the combinations of 5 and 10 fluently.

By the **end of 2nd grade**, students are aiming to:

- Use combinations of 10 strategically to help calculate with larger numbers.
- Be fluent with addition and subtraction facts within 20.
- Add and subtract fluently (meaning, mentally is OK!) for problems within 100.

# Beyond Homework: Supporting Fluency at Home

## Kindergarten

- Practice counting objects (1:1) at home.
- Practice oral counting with special attention to crossing tens.

## 1st Grade

- Practice combinations of 10. Ask, What goes with \_\_\_ to make 10?

## 2nd Grade

- Practice combinations within 20. Encourage thinking about relationships.
- Practice telling time and using money.

**PRACTICE WRITING NUMERALS!!!**

# Helpful Tools to Have at Home

- snap cubes or objects to count
- small whiteboard and dry erase markers
- blank number bond and/or tens frame
- Number lines
- 5 group cards

# Strategies for Helping No Matter What the Content

- Start by asking, “What do you already know about solving problems like this?”
- Try reading the problem aloud together.
- Ask your child, “Can you draw something that shows what’s happening in the problem?”
- Encourage perseverance -- remind kids that working hard makes their brains grow!
- Know when to walk away -- set a time limit and avoid battling over homework.
- Remember, it’s OK if there are mistakes!

# Parent links for PS 261 website

You can access links to grade math pages on our PS 261 website..

First Grade:

<http://www.ps261brooklyn.org/parent-resources/1st-grade-math-home-support/>

Second Grade:

<http://www.ps261brooklyn.org/parent-resources/2nd-grade-math-home-support/>