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# Helping with Math Homework in Grade 5

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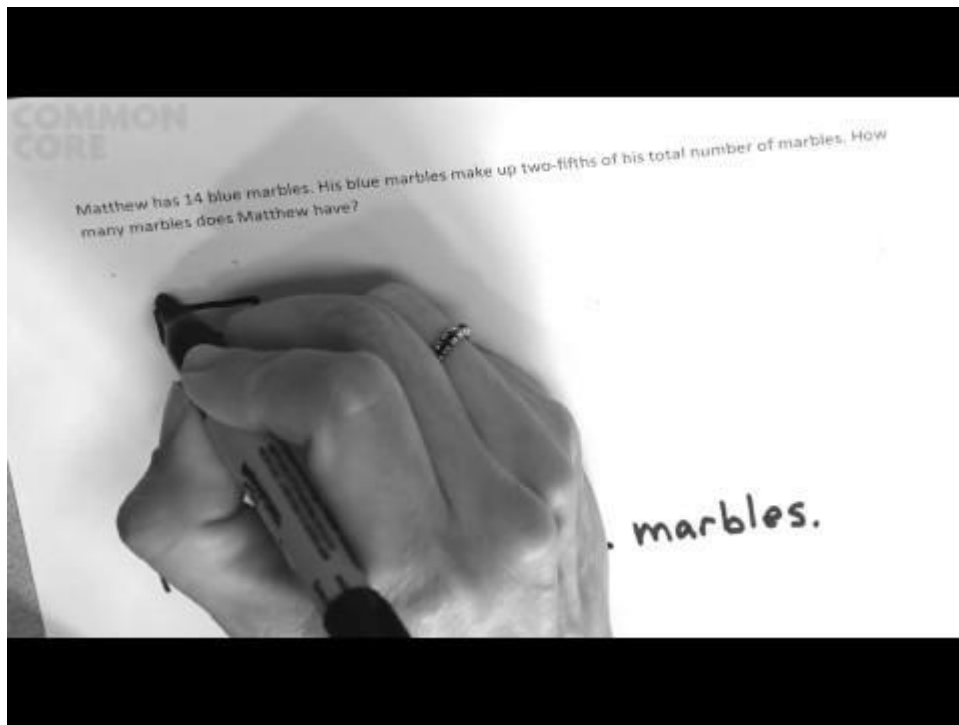
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# Agenda

- Do Now: Math Problem
- Our Math Curriculum and Teaching Methods
- Major Math Work of 5th Grade
- Models and Terms used in 5th Grade
- What's the Purpose of 5th grade Math Homework?
- What Parents Need to Know to Help with Math Homework
- Doing the Homework!
- Helpful Tools
- Parent Resources
- Final Thoughts about Homework

# Tape Diagram



# 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

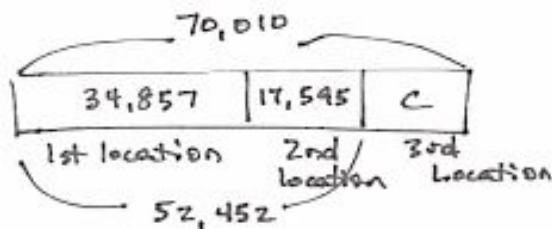
# Major Math Work Already Done in 5th Grade

- Understand a digit in a multi-digit number is 10 times greater than the digit to its right
- Understand a digit in a multi-digit number is  $\frac{1}{10}$ th of the digit to its left
- Read, write, compare and round decimals to the thousandths place.
- Add, subtract, multiply and divide decimals to the hundredths place.
- Using exponents and power of 10 to represent place value
- Convert equivalent metric units (e.g. 5 cm = 0.05 m) and relate it to the place value system
- Fluently multiply multi-digit whole numbers using the standard algorithm.
- Divide numbers up to four digits by two-digit numbers.

# Tape Diagrams

## 4th Grade

A company has 3 locations with 70,010 employees altogether. The first location has 34,857 employees. The second location has 17,595 employees. How many employees work in the third location?



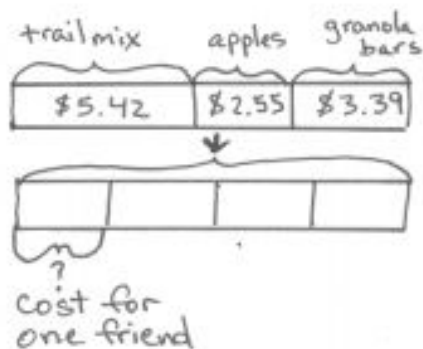
$$\begin{array}{r} 699^{10} \\ 70,010 \\ - 52,452 \\ \hline 17,558 \end{array}$$

17,558 employees work in their third location.

# Tape Diagrams

## 5th Grade

Jesse and three friends buy snacks for a hike. They buy trail mix for \$5.42, apples for \$2.55, and granola bars for \$3.39. If the four friends split the cost of the snacks equally, how much should each friend pay?



$$\begin{array}{r} \$ 5.42 \\ + 2.55 \\ + 3.39 \\ \hline \$ 11.36 \end{array}$$
$$\begin{array}{r} 2.84 \\ 4 \overline{) 11.36} \\ \underline{-8} \phantom{00} \\ 3.3 \phantom{0} \\ \underline{-3.2} \phantom{0} \\ 16 \\ \underline{-16} \\ 0 \end{array}$$

One friend should pay \$2.84.

# Area Model

5th Grade

Solve using the multiplication algorithm

$$43 \times 25$$



## 5th Grade

# Area Model

Area Model

$78 \times 65$

Partial Products

↓

$$\begin{array}{r} 78 \\ \times 65 \\ \hline 390 \\ 4680 \\ \hline 5070 \end{array}$$

Algorithm

$$\begin{array}{r} 78 \\ \times 65 \\ \hline 390 \\ 4680 \\ \hline 5070 \end{array}$$

and estimate the product

# What's the purpose 5th 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

# 5th Grade Homework: What Parents Need to Know

- Decimals work the same way as whole numbers. They're just smaller!
  - You can apply everything you know about whole numbers to operations with decimals. Example -  $2.64/2$  - parents can ask kids to read the number: 2 and 64 hundredths. Then say, what's 2 divided by 2? What's 64 divided by 2? What's 64 **hundredths** divided by 2?
- Visual models and representations are an important part of understanding the problems you're solving, and communicating your understanding to others.
- Standard algorithm - if your child gets stuck, connect back to place value chart, area model, or tape diagram.

# Doing the Homework

- Try solving the problems using the models and ways of thinking we have just discussed.
- Show your thinking when appropriate, and ask us questions!

# Helpful Tools and Resources to Use at Home

- small whiteboard and dry erase markers
- 5th grade - when kids are stuck:
  - Watch a Khan Academy video
  - Look back at class notes or handouts (models/examples)
  - Try 1 problem
  - If dealing with decimals, change the numbers to whole numbers

# 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 (or make a model) that shows what’s happening in the problem?”*
- Encourage **perseverance** -- remind kids that working hard makes their brains grow!
- Know when to say when -- set a time limit and avoid battling over homework. Write an email or note to the teacher.
- Remember, it’s OK if there are mistakes!

# Parent Resources

By visiting our school website:

[www.ps261brooklyn.org](http://www.ps261brooklyn.org)

<http://www.ps261brooklyn.org/parent-resources/5th-grade-math-home-support/>