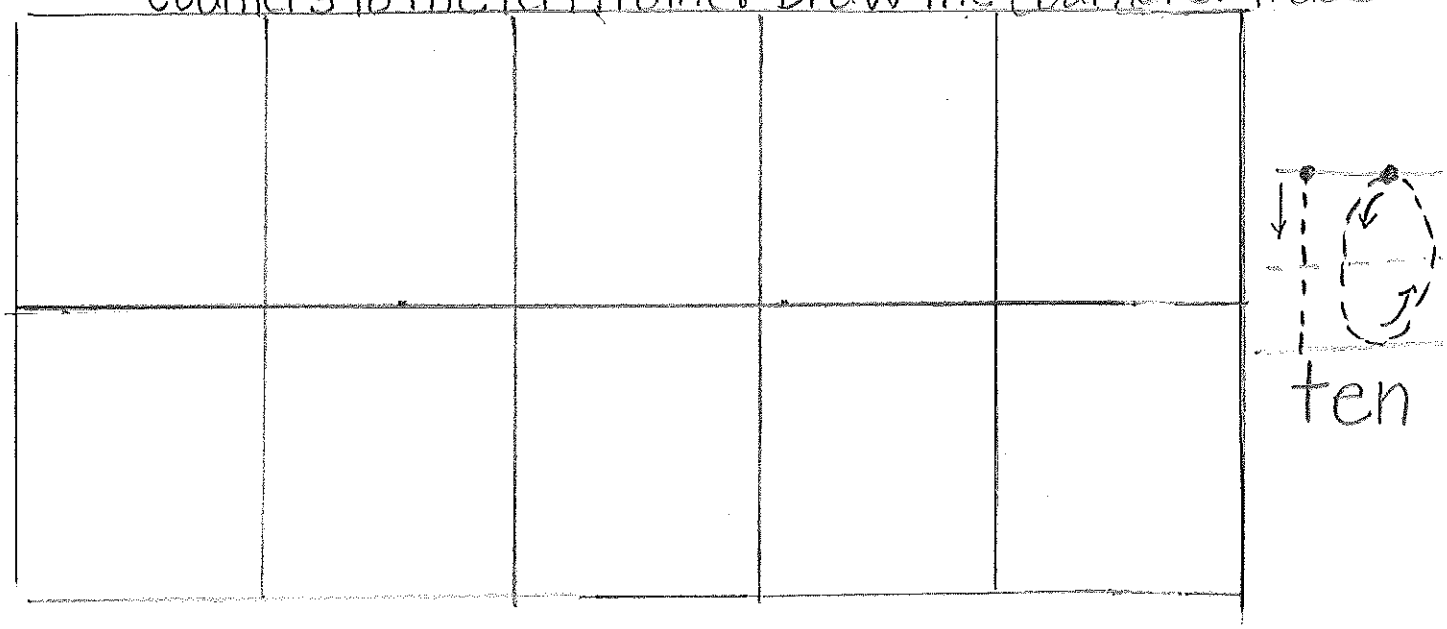
Go Math → Kindergarten

Paula Witherite

Old Problem: Model and Count 10

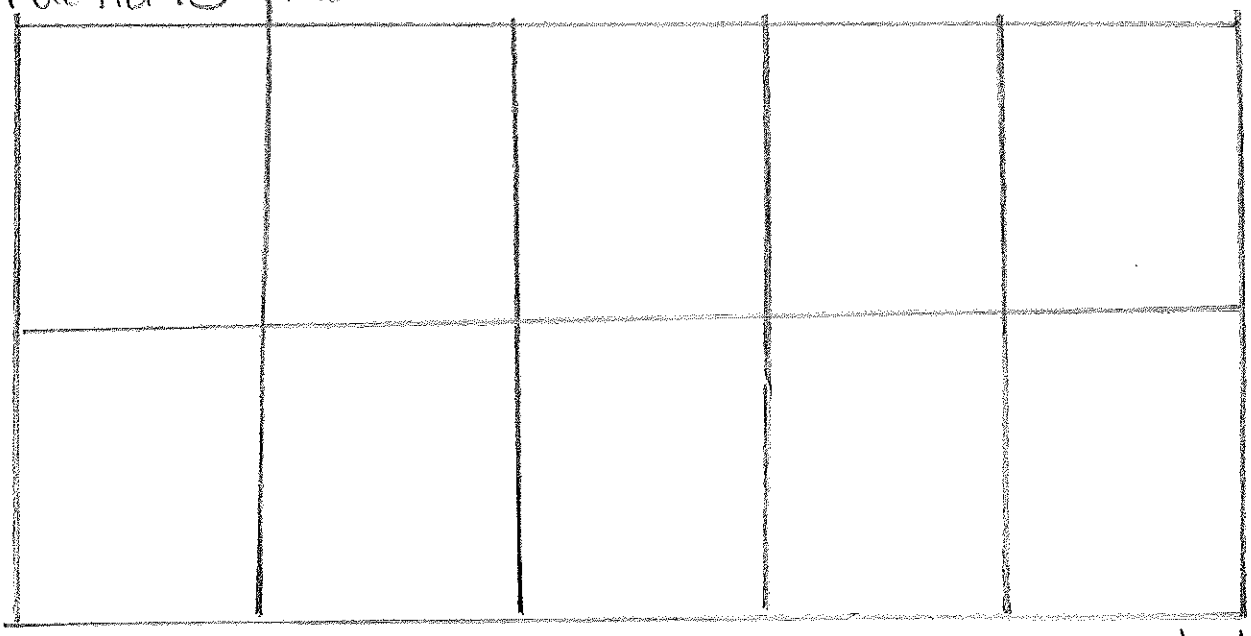
(Lesson 4.1)

Directions: Place a counter on each balloon. 2. Move the counters to the ten frame. Draw the counters. Trace



New Problem: Use your counters and ten frame to count the balloons.

Strategy to Adapt the Task: I removed the detailed instructions and allowed them to choose their strategy.



Discuss: Explain to your neighbor how you did it.

Extend: Set up stations with different amounts of manipulatives and a ten frame. Rotate and count.

Everyday Mathematics - Grade 1

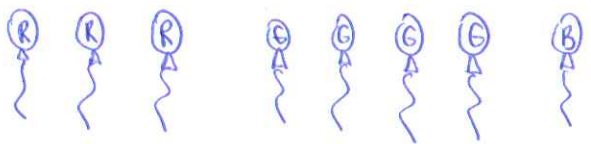
*Student Math Journal 1, p. 107

Draw and Solve.

Yuko has 3 red balloons, 4 green balloons, and 1 blue balloon.

How many balloons does she have in all?

8 balloons



Yuko has 3 red balloons, 4 green balloons, and 1 blue balloon.

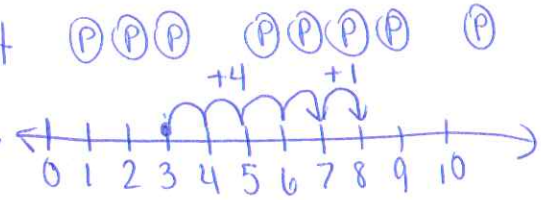
How many balloons does she have in all?

Strategy to adapt the task:
*I removed the given strategy in the given problem and replaced it by giving the student the choice to choose a strategy to solve the problem. I also added for the students to explain how they got their answer.

Choose a strategy to solve the number story. Explain how you got your answer.

Sample Answers:

Strategy - ① use pennies from Tool Kit



- ② count on a number line

Explanation - ① I took 3 pennies out of my Tool kit for the 3 red balloons, 4 pennies for the 4 green balloons, and 1 penny for the blue balloon. I counted all the pennies and got 8 so there are 8 balloons in all.

② I started at 3 on my number line. I counted up 4 more hops for the green balloon. Then one more hop for the blue balloon. I landed on 8. There are 8 balloons in all.

Math Expressions - Grade 2

Student page 28 | Teacher Edition p. 67

Add Four Addends - Activity sheet
Add in any order. Write the sum

4 + 4 + 5 + 2 = ☐ 8 + 8 + 5 + 2 = ☐

* Practicing adding multiple addends. Students are given a page with 33 problems.

Strategies for Raising Level of Cognitive Demand

- students represent solution in multiple ways
- removed constraints of one correct answer.
- students check each other's work

Activity: Game Close to 20 -

materials - Number Cards 0-10
recording sheet

☐ ☐ ☐ ☐ ☐
Choose 3 Cards to use

		Sum	Score
1.	___ + ___ + ___ =		___
2.	___ + ___ + ___ =		___

Students play in partners
Choose 5 cards each. Use three cards to get as close to 20 as possible.
Their score is how close they are to 20 below or over counts.

Ex. [5] [3] [~~8~~] [~~10~~] [~~7~~]

1. 8 + 2 + 10 = 20 Score 0

Draw 3 more cards since used 3 - always need 5.

They take turns and check each other's work.

new cards
[5] [3] [~~7~~] [~~6~~] [~~6~~]

2. 7 + 6 + 6 = 19 Score 1

Partner with lowest score after 10 rounds is the winner.

Math Expressions - Grade 2

pg. 40 Make a matching drawing or draw comparison bars. Write an equation. Solve the problem.

① Helen has 8 toys. If she gets 3 more, she will have as many toys as Matt. How many toys does Matt have?

② Martin has 14 plants in his garden. Jacob has 5 fewer plants. How many plants does Jacob have?

Strategies for Raising Level of Cognitive Demand.

- omit instructions
- extend a task with an additional Q

Directions: Solve the story problems below using at least two different strategies.

① Helen has 8 toys. If she gets 3 more, she will have as many toys as Matt. How many toys does Matt have?

② Martin has 14 plants in his garden. Jacob has 5 fewer plants. How many plants does Jacob have?

③ How are these problems similar? How are they different?

- open ended
- students must explain their response

Directions: Choose two numbers and write as many different types of comparing story problems using those numbers.

1. How are the story problems you wrote similar? How are they different.

2. Solve one of your problems. Why did you solve the problem that way?

Expression - Grade 2

p.34 - Student Page p. 126 - Teacher Manual

Add in any order. Write the total.

1. $7 + 3 + 5 = \square$ $8 + 4 + 8 = \square$

2. $4 + 2 + 8 = \square$ $1 + 6 + 9 = \square$

3. $6 + 2 + 4 + 4 = \square$ $2 + 6 + 4 + 8 = \square$

Strategies

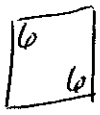
* Remove very leading questions and replace with open ended activity.
* Students Must represent and explain their response.

Target Number Game

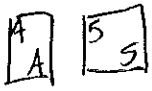
You have a deck of cards and flip over 5 cards. Flip over 1 more card that becomes your "target number." Use 2 or more of your cards to make the target number. (Ace = 1 or 11, Face Cards = 10)

For example, you flip 5 cards.

Target Card/Number

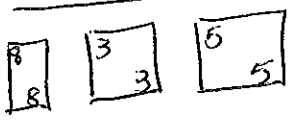


One Solution



$1 + 5 = 6$

One Solution



$8 + 3 - 5 = 6$

One Solution

$5 \times 3 = 15$ $8 + 1 = 9$

$15 - 9 = 6$

ORIGINAL (Estimating Sums) ENRICHMENT

Use journal page 112 to plan a route connecting four cities, beginning in Washington State and ending in Maine. The route should have the shortest total driving ~~time~~ distance and also find the route with the shortest driving time.

Change the problem

Instead of finding the shortest time or distance. Give the students a maximum target time. Student must find multiple ways to make the trip within the given time frame.

EDM Gr 4 Lesson 5-4

Everyday Mathematics (Common Core Edition) - Grade 3 · p. 246

- Students are provided with a variety store poster of packaged items (multiple items per pack). Using this poster, the students are given the following problem:

1. Yosh has 4 boxes of mini stock cars. There are 10 stock cars in each box. How many stock cars does he have?

boxes	cars/box	total cars

How do you know your answer makes sense?

Common Objective:

- solve and write number stories involving equal groups

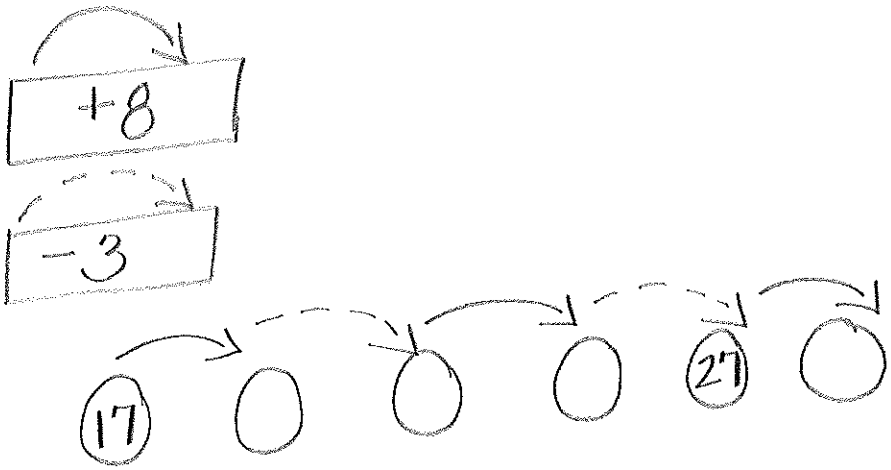
Strategies to increase cognitive demand:

- make the task more open-ended
- allow multiple entry points to the problem
- allow multiple solution strategies
- explain the answer in words (in context of the problem situation)

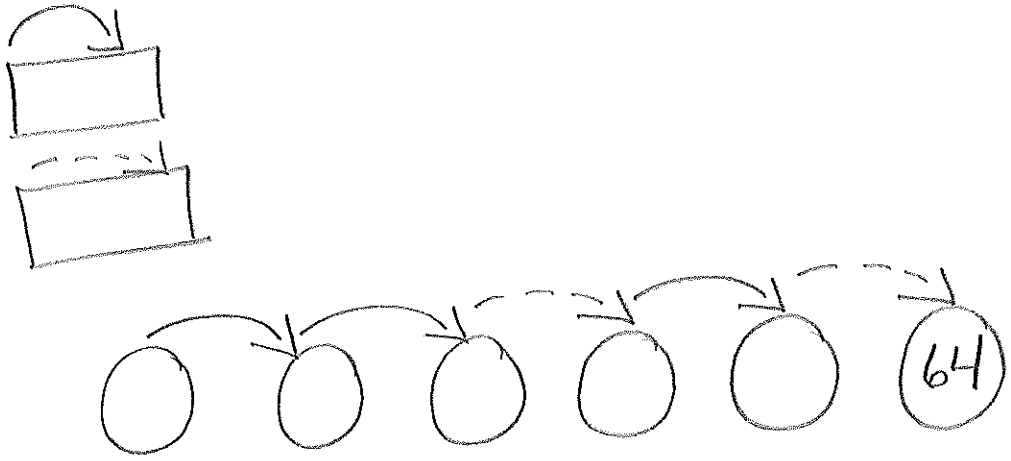
1. Your teacher would like to include more prizes in the class prize bag. There has to be enough prizes so that all 20 students in the class could each have 10 prizes. Use the Variety Store poster to select the prizes that you think your teacher should buy, and how many of each. Justify your answer about why your choice of prizes is best, making sure to explain that you have enough prizes for each student to have 10 prizes each.

Everyday Math Lesson 2.5 Grade 3

Fill the empty frame and arrow pattern using two rules.



Create a frame and arrow pattern using two rules.



Saxon Math
Grade 4

Saxon Math Grade 4 page 1 Performance Task

Task → Janie had only quarters, dimes, and nickels to buy her lunch. She spent all of her money and received no change. Could she have spent $1.96? What other coin would she have needed to spend $1.96? Using only quarters, dimes, and nickels, provide two different ways she could have used these coins to spend $2.25. Explain your answer. Find another amount of money she could have paid for lunch if she used 10 coins. Explain your answer.

New Task → Janie had only quarters, dimes, and nickels to buy her lunch.

1. She spent all of her money and received no change. Could she have spent $1.96? Draw the amount of coins to prove or disprove your answer.
2. Think of two different ways she could have used only quarters, dimes and nickels to spend $2.25. Explain your answer.
3. ~~[illegible]~~ Find two other amounts of money she could have paid for lunch if she used 10 coins.

Strategies → Used to increase level of demand

1. Allowed for proof of explanation by drawing coins. (#1)
2. Increased the amount of proof for #3 from 1 to 2.
3. Separated the task into 3 questions to allow students to break the task apart.
4. Removed information that suggests the answer in #1.

Every Day Math Grade 4 (2007ed) Lesson 3·7 Study Link

Measure to the nearest $\frac{1}{4}$ inch. Use the map scale to convert these measurements to real distances.

	Cities	Measurement in inches	Real Distance (miles)
#6	_____ and _____	Answers vary	

Learning Goal: Using scale (rate) to find distances.

Your car has a 20 gallon tank and can travel 25 miles per gallon. If you have a full tank at Cape Town, where could you travel to without getting gas on the way?

See ~~Andrew's email~~ next page for maps

Christy Cuglietta

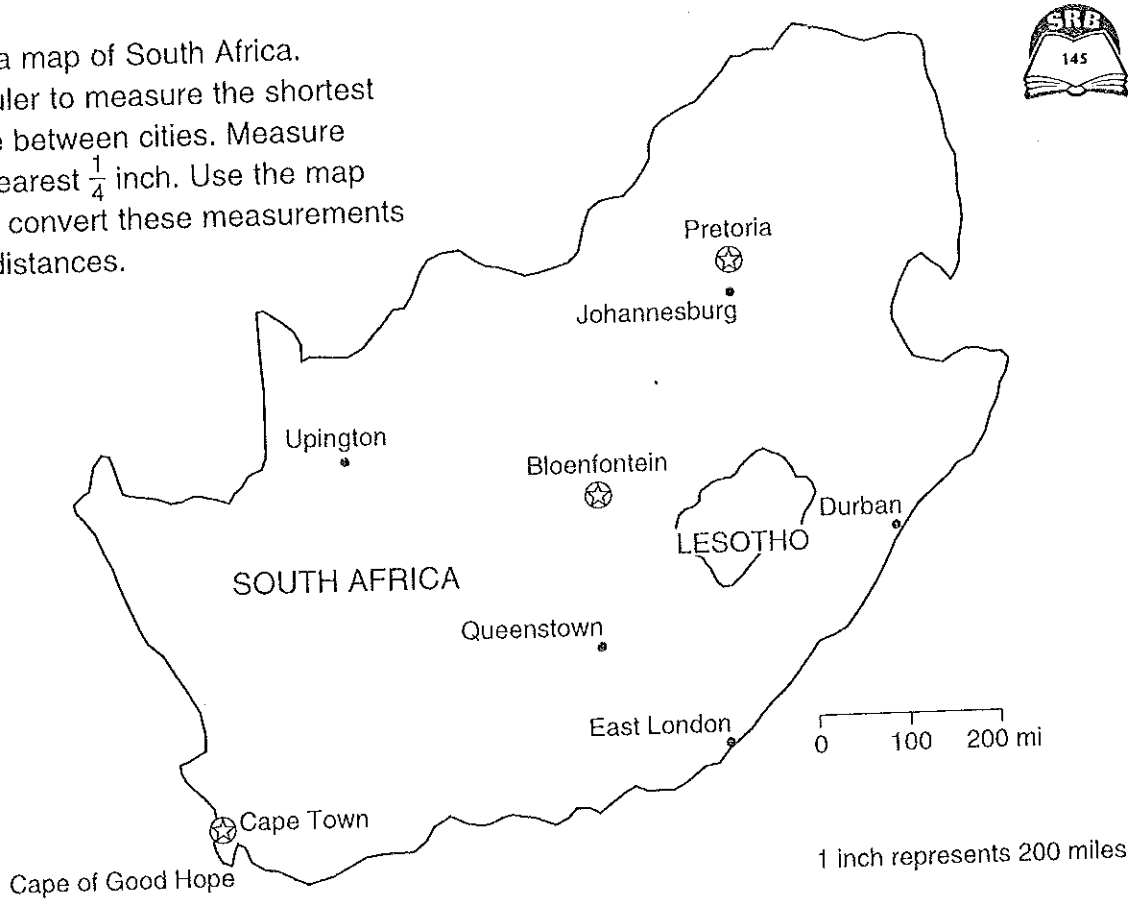
Name Date Time

STUDY LINK 3•7

Map Scale

SRB 145

Here is a map of South Africa. Use a ruler to measure the shortest distance between cities. Measure to the nearest $\frac{1}{4}$ inch. Use the map scale to convert these measurements to real distances.



	Cities	Measurement on Map (inches)	Real Distance (miles)
1.	Cape Town and Durban		
2.	Durban and Pretoria		
3.	Cape Town and Johannesburg		
4.	Johannesburg and Queenstown		
5.	East London and Upington		
6.	_____ and _____		

Practice

7. _____ = 767 + 254

8. 193 + 6,978 = _____

9. 562 − 388 = _____

10. _____ = 4,273 − 678

Go Math - Grade 4

Question #12 of Page 11

Find the sum...

5 thousands 2 tens 4 ones
+ 4 thousands 3 hundreds 2 ones

Question #12 Redux

Find the sum... Express your answer in at least two forms.

Extend...

Sue said that the expanded form of the answer was 9,000 + 500 + 6. Describe Sue's error and give the correct answer.

Saxon Math
Grade 4

Task (original)

Sammy plans to buy 60 ft of wire fencing to enclose his rectangular garden. The cost of the wire fencing is $2.79 per ft. Estimate how much money Sammy will need to buy the wire fencing to make a rectangular garden. Label each side of the garden. Explain how you found the length of the sides of the garden.

Task (Modified)

Sammy plans to buy 60 ft of wire fencing to enclose his rectangular garden. Draw and label what his garden looks like. Sammy needs to find out how much it will cost him to buy the wire fence. For each feet of fence is $2.79. What is the total cost for the 60ft of fence? What will the cost be if Sammy chose to make his garden 80 ft. around the perimeter. What would be the difference in cost?

Strategies Used to increase level of demand

- added vocabulary to pull from students' prior knowledge.
- increased length of fencing to find difference in cost
- changed order of tasks to allow for flow

Everyday Math - Grade 5

Goal: To use divisibility rules to solve problems.

Original

Directions: Given the following numbers, how can you test for divisibility without dividing.

Work in small groups.

Divisible by... 2? 3? 6? 9? 5? 10?

75
7,960
384
3,725
90
36,297

Adaption

Focus on divisibility rule for 3. Allow for discovery of the rule using a number line with numbers 1-50. Have the students circle the multiples of 3 → create rule.

Everyday Math - 5th Grade pg. 44

Goal: Using prior knowledge of prime vs composite #'s + factoring develop strategies for winning the game of Factor Captor

You have played the game of Factor Captor previously. Using what you know about factors, prime + composite come up with a list of strategies that will help you to win the game using a 100 grid. What strategies can you then come up with that would keep the score close/tied.

Strategies for Raising Level of Cognitive Demand

- omit part of the task instructions
- removed very leading questions + replaced with more open ended

Go Math Grade 5

Perform operations with multi-digit whole numbers and decimals. (Whole number quotients)

Task: One case can hold 3 boxes. Each box can hold 3 binders. How many cases are needed to hold 126 binders? (p 64 Lesson 2.1)

New task: One case can hold 3 boxes. Each box can hold 3 binders. How many cases are needed to hold 126 binders? After you have 126 binders, if one case gets lost, how many binders will be left? Draw a picture showing a representation of the binders.