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Darien K-5 Math Instruction

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Outline

- Students will

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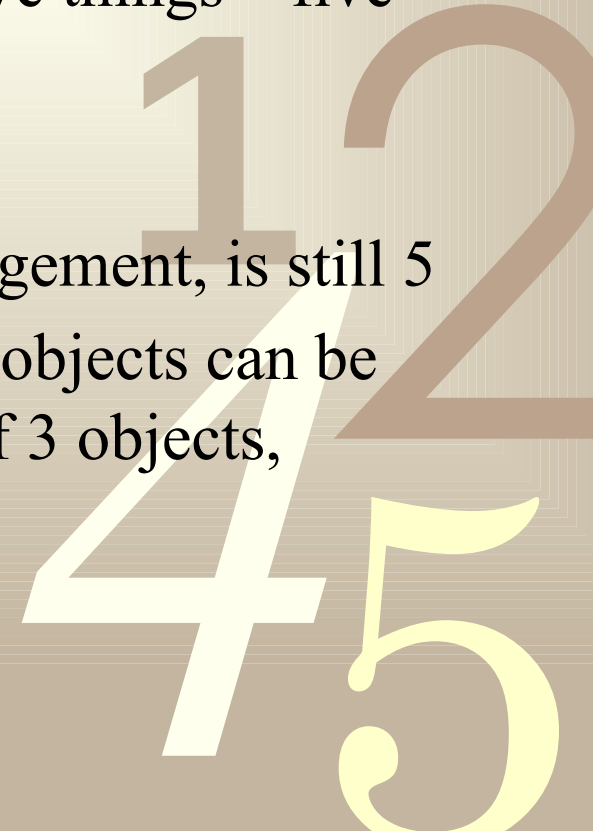
- use models
- make conjectures
- critique and apply the reasoning of others
- persevere
- share strategies
- know their facts
- prove their thinking
- use tools appropriately





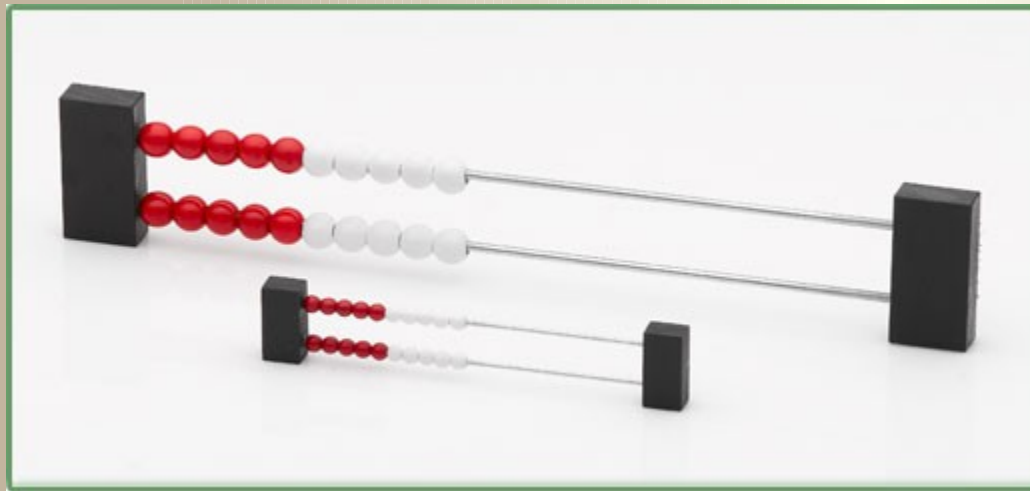
Improving Instructional Practice Landscape of Learning

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1. **Subitizing** – recognize a set of 5 objects as 5 w/o counting
 2. **Magnitude/Compare numbers** - five is more than four
 3. **Cardinality** - The oral name for a set of five things – five
 4. **Counting on** - trusting the count
 5. **Compensation** - $2+3 = 1 + 4$
 6. **Conservation** - 5 dots , regardless of arrangement, is still 5
 7. **Composing and decomposing** - a set of 5 objects can be separated into a set of 2 objects and a set of 3 objects,
 8. **Unitizing** - - concept of place value

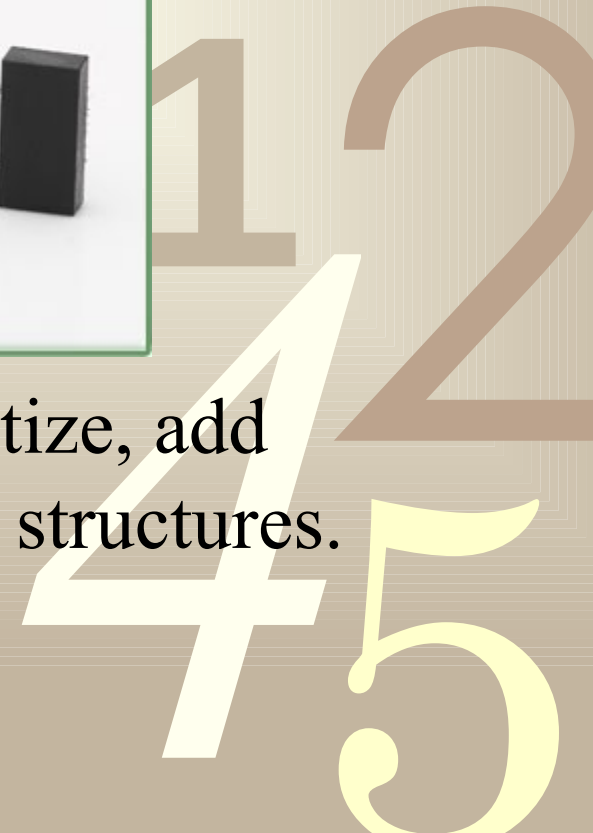


Math Rack

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- The math rack helps children: subitize, add subtract, and learn the five and ten structures.



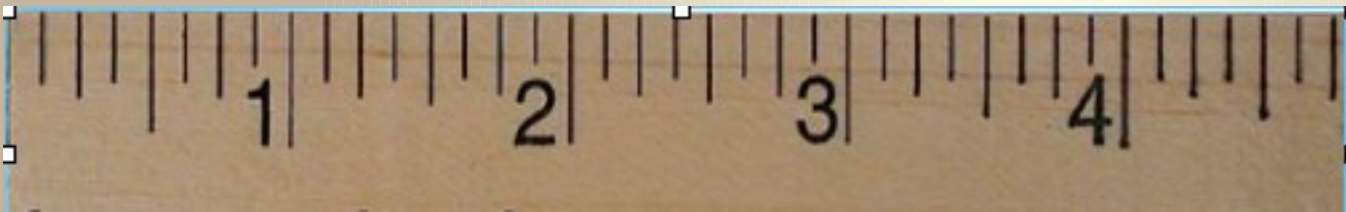
Warm up String on the Math Rack

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- 5 top, 5 bottom
- 6 top, 4 bottom
- 9 top, 1 bottom
- 9 top, 6 bottom
- 8 top, 7 bottom
- 6 top, 9 bottom
- 5 top, 10 bottom



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A ruler is an example of a number line.

$$1 \text{ cm} = 0.39 \text{ inches}$$

$$1 \text{ inch} = 2.54 \text{ cm}$$



Improving Instructional Practice

Warm-up String

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$60+20$

$30+50$

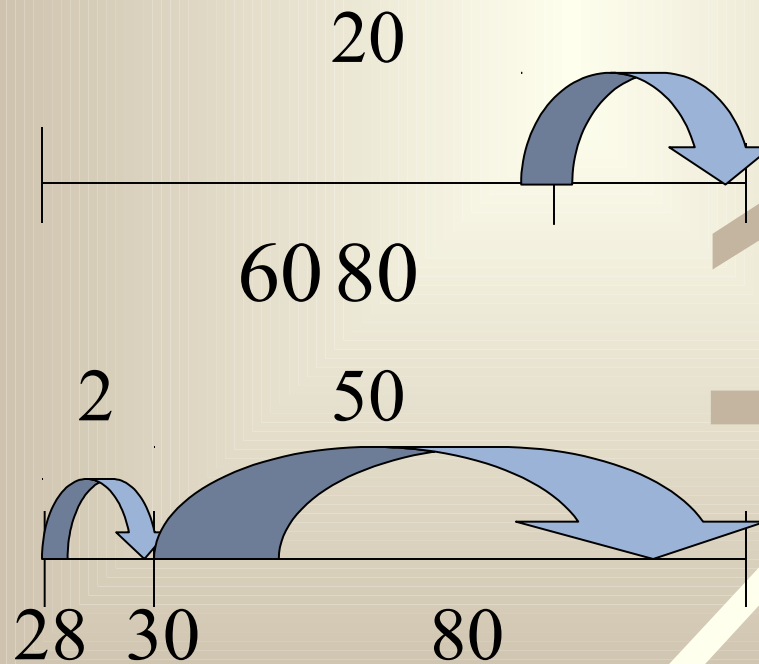
$28+52$

$32+48$

$33+47$

$98+42$

$97+34$



Number Line

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$-2\sqrt{5}$

$\sqrt{3}$

π

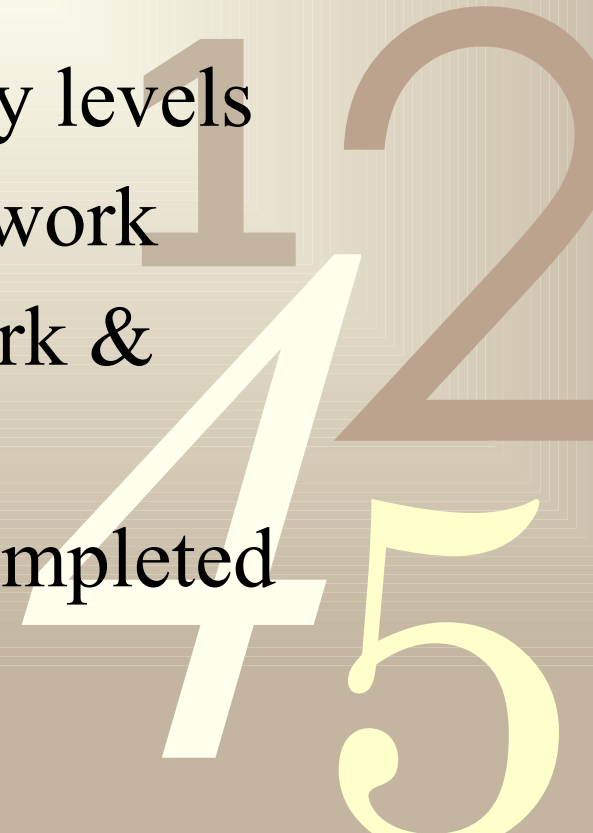


Improving Instructional Practice

CFLM Units of Study

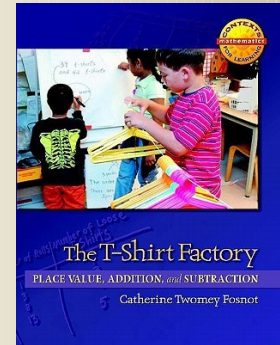
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- Provide a real life context for examining math concepts
- Group work is adjusted to ability levels
- Teacher confers while students work
- Gallery Walk-students share work & feedback
- Math Congress-discuss work completed

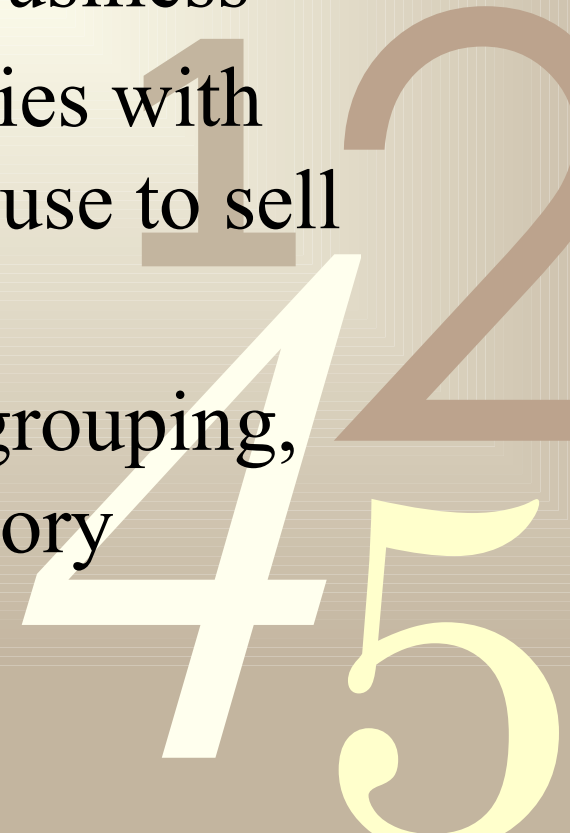


Improving Instructional Practice

2nd Gr. Unit—The T-Shirt Factory



- The Masloppy's help Grandma Eudora organize the t-shirts in a T-Shirt Business
- Students work in groups (companies with factories) organizing their warehouse to sell T-shirts.
- The math focus is place value, regrouping, equivalence, and recording inventory

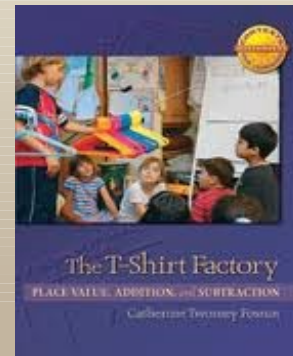


Improving Instructional Practice

2nd Grade Unit – The T-Shirt

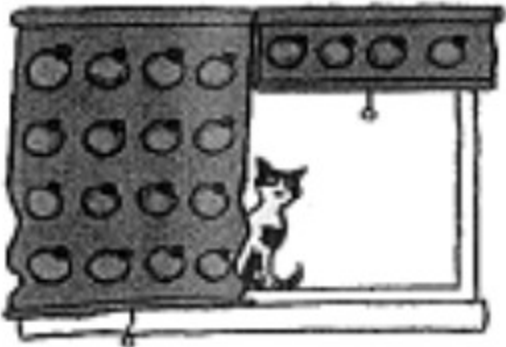
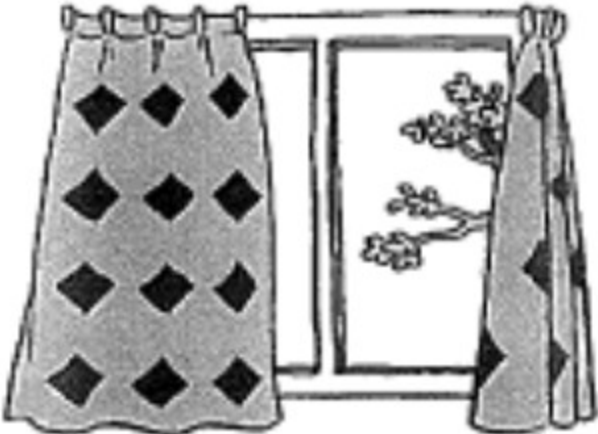
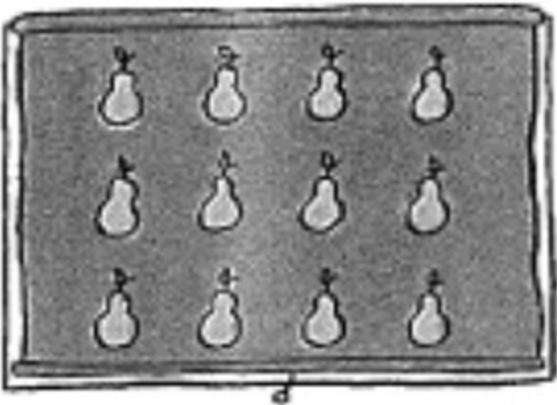
Factory

- Students organize t-shirts into rolls of 10 and loose singles (place value)
- Teacher hands out cards with numbers of shirts to organize; option to use hangers to represent shirts. Students chart results.
- Eudora Factory



Windows and Number Line Mysteries

Day 8



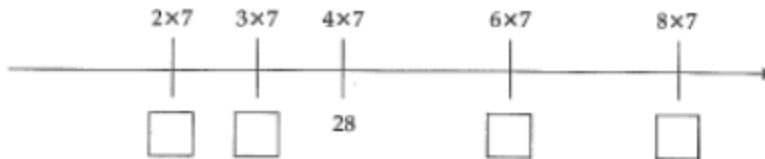
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Windows and Number Line Mysteries

Day 8



■ Here are three number lines. Fill in the missing numbers.



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Warm-up Multiplication String Facts on an Array

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3×1

3×9

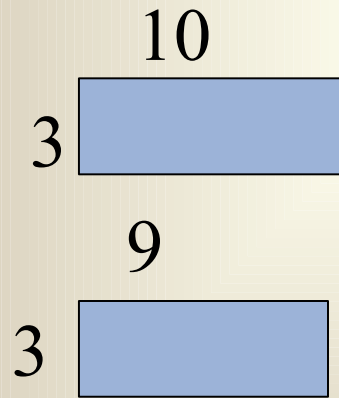
10×8

9×8

10×7

9×7

6×9



1 2
4 5

Warm-up Division String Facts on an Array

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28 / 7

70 / 7

98 / 7

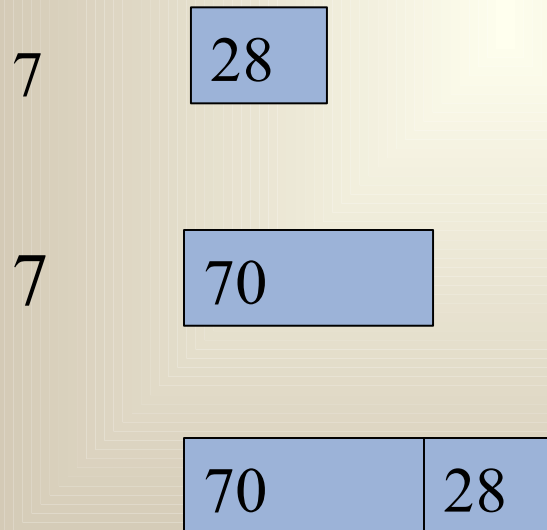
168 / 7

170 / 17

187 / 17

340 / 17

357 / 17

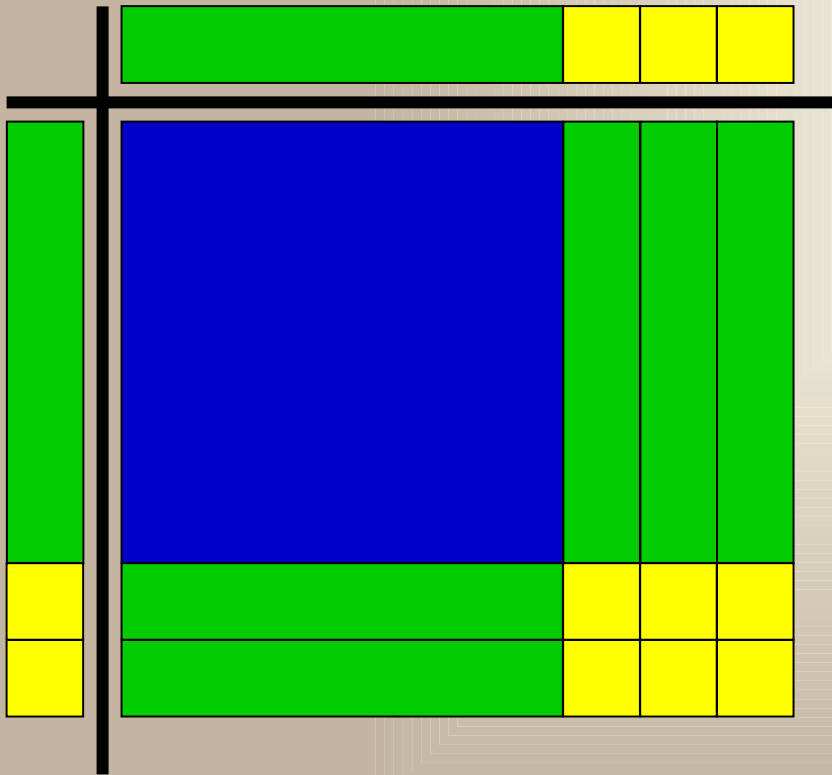


1 2
4 5

Multiplying Polynomials

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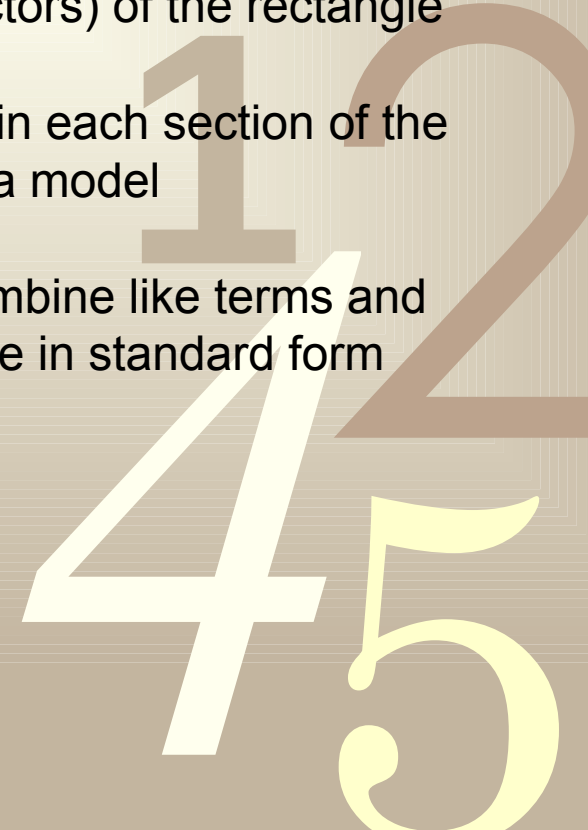
$$(x + 2)(x + 3) = x^2 + (2x + 3x) + 6 = x^2 + 5x + 6$$



Model the dimensions
(factors) of the rectangle

Fill in each section of the
area model

Combine like terms and
write in standard form



1. Make sense of problems & persevere in solving them.

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2. Reason abstractly and quantitatively.

3. Construct viable arguments and critique the reasoning of others.

4. Model with mathematics.

5. Use appropriate tools strategically.

6. Attend to precision.

7. Look for and make use of structure.

8. Look for and express regularity in repeated reasoning.



National Shift in Math Focus
Math CCSS

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Assessment reflecting Math CCSS & Practices

- Compare selected responses
- [Math CCSS Sample](#)
- <http://sampleitems.smarterbalanced.org/itempreview/sbac/index.htm>



Grade 3

- Marcus has 36 marbles. He is putting an equal number of marbles into 4 bags.

Choose Yes or No to indicate whether each number sentence could be used to find the number of marbles Marcus puts in each bag.

1. $36 \times 4 = \underline{\hspace{2cm}}$ YES NO

2. $36 \div 4 = \underline{\hspace{2cm}}$ YES NO

3. $4 \times \underline{\hspace{2cm}} = 36$ YES NO

4. $4 \div \underline{\hspace{2cm}} = 36$ YES NO



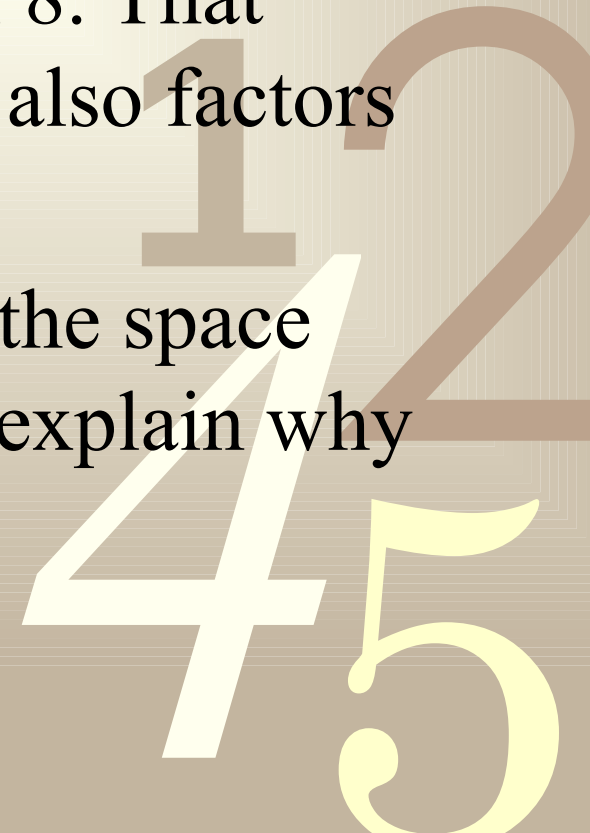
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Grade 4

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- Peter made the statement shown below.
- “The number 32 is a multiple of 8. That means all of the factors of 8 are also factors of 32.”

Is Peter’s statement correct? In the space below, use numbers and words to explain why or why not.



Grade 5

School Festival

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You serve on a committee that is in charge of planning a school festival. The following tasks need to be completed by committee members as part of the planning for the school festival.



•Determine the budget for the festival.

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•Choose the food and drinks for the festival.

•Determine amounts of supplies for making a dessert.

•Make a schedule of the different activities.

•Make some decisions on the games and prizes used during the festival.

