Orangeburg Consolidated School District Five

Curriculum Pacing Guide
2012 - 2013

Mathematics
4th Grade

Acknowledgements

We would like to thank the following teachers for their dedication to the students of Orangeburg Consolidated School District Five. These teachers gave time and professional knowledge to modify and enhance the curriculum pacing guides to move our students and district towards being a world-class organization.

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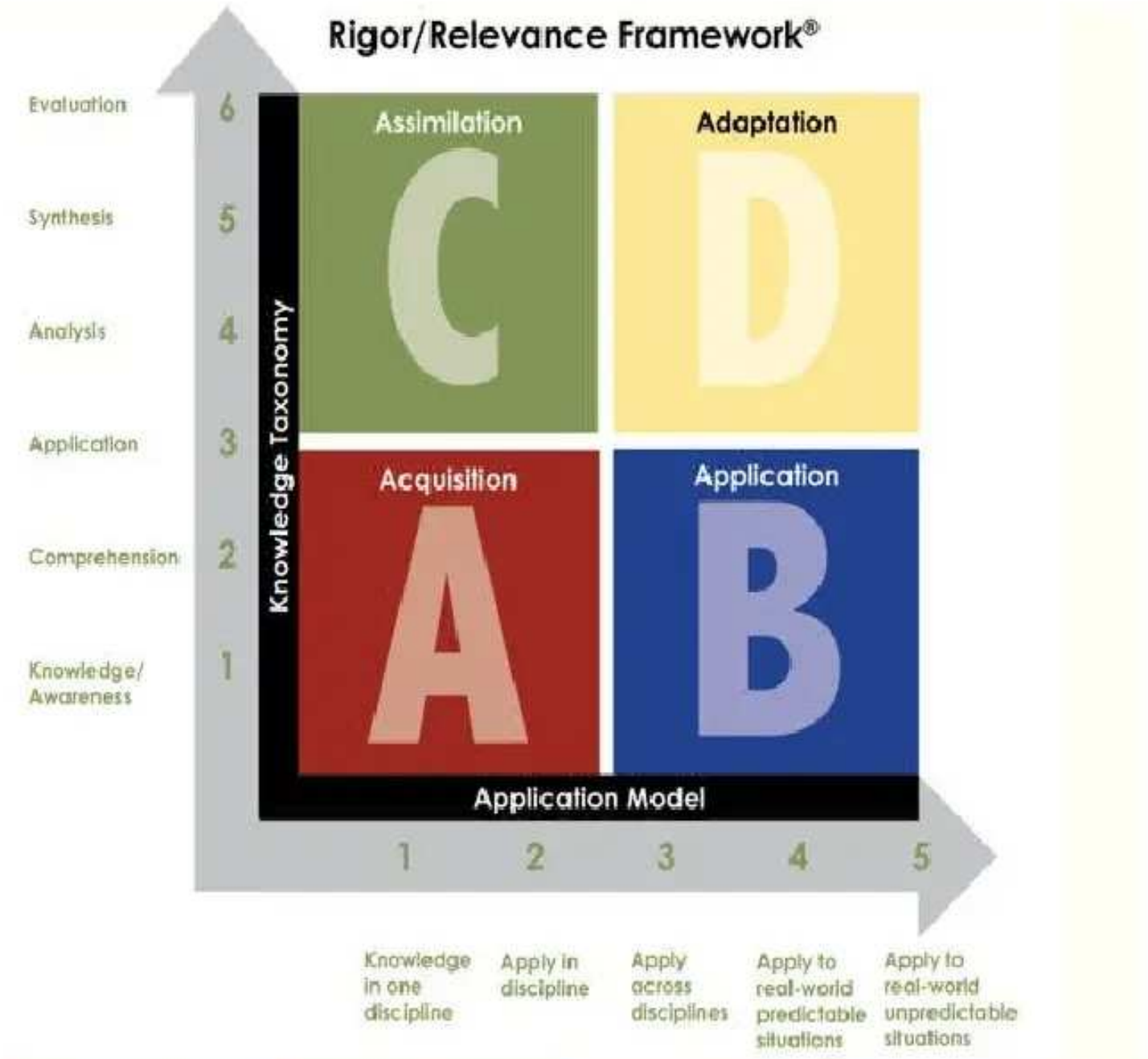
Audrey Irick, 4th Grade Social Studies (Marshall)
Andrea Perkins, 4th Grade Social Studies (Whittaker)
Anwar Hodges, 5th Grade Social Studies (Brookdale)
Sarah Hutto, 5th Grade Social Studies (Sheridan)

Reminder: This document is in draft form. Based on the most current and future data, the pacing may change. Please only print one semester at a time as changes may be made by the team as deemed necessary.



A	B	C	D
Students gather and store bits of knowledge and information. Students are primarily expected to remember or understand this knowledge.	Students use acquired knowledge to solve problems, design solutions, and complete work. The highest level of application is to apply knowledge to new and unpredictable situations.	Students extend and refine their acquired knowledge to be able to use that knowledge automatically and routinely to analyze and solve problems and create solutions.	Students have the competence to think in complex ways and to apply their knowledge and skills. Even when confronted with perplexing unknowns, students are able to use extensive knowledge and skill to create solutions and take action that further develops their skills and knowledge.

Sample Page Actual Pacing Guides Begins on Next Page
Understanding the parts of this Curriculum Pacing Guide:

Week of Aug. 20th - 24th — **Calendar week Monday through Friday**

Aug. 20th - 23rd — **Dates on which specified indicator(s) should be taught**

Indicator	CCSS
4-2.1 **Recognize** the period in the place-value structure of whole numbers: units, thousands, millions, and billions.	4.NBT.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*
Identified indicator	**Common Core State Standard that aligns with the identified SC State Standard**

Instructional Strategies

For this indicator (4-2.1), it is **essential** for students to:

- Understand place value
- Identify the place value as units, thousands, billions, millions

1. Use base ten blocks to build numbers. *Quadrant A*
2. Write numbers in a teacher-made chart, which identifies the value of each digit. *Quadrant A*
3. Write numbers in word form underlining period names, for example: four hundred twenty-five million, two hundred three thousand, two hundred .

Essential content-as identified by the SC Support Document-that students should be taught; Strategies and examples that can be used to teach the indicator

Resources

PASS Coach: lessons 1 and 6 , **Math Expressions Textbook:** Volume 1 pages 315 and 343

Web Sites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com

Resources that can be used to teach the indicator

Assessments

Benchmark

Scheduled district and state assessment windows; Where blank, use to write in classroom assessments

Week of Aug. 20th - Aug. 24th

Aug. 20th - Aug. 24th	**First Nine Weeks**
Indicator	**CCSS**
4-2.1 **Recognize** the period in the place-value structure of whole numbers: units, thousands, millions, and billions. **Weak 3rd Grade Indicator 3-2.12: Analyze the magnitude of digits through 999,999 on the basis of their place value.*	4.NBT.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare to multi-digit numbers based on meanings of the digits in each place, using >,=, and < to record the results of comparisons.
4-2.6 **Analyze** the magnitude of digits through hundredths on the basis of their place value **Weak 3rd Grade Indicator 3-2.12: Analyze the magnitude of digits through 999,999 on the basis of their place value.*	

Instructional Strategies

For this indicator (4-2.1), it is **essential** for students to:

- Understand place value
- Identify the place value as units, thousands, billions, millions
- Read whole numbers using appropriate periods
- Write whole numbers using the appropriate period

****Place Value**

1. Use base ten blocks to build numbers. *Quadrant A*

2. Write numbers in a teacher-made chart, which identifies the value of each digit. *Quadrant A*

3. Write numbers in word form underlining period names, for example: four hundred twenty-five million, two hundred three thousand, two hundred .

4. Use a sentence strip and create a place value chart with decimal places. Give students small numbers to manipulate on chart.

5. Play largest number game. Students create the largest number possible. Students create blanks on a sheet of paper (teacher can tell students 9 blanks). Teacher calls out a digit and students place digit on any blank. Once a digit is

   places it must stay there. After all blanks are full, students compare numbers to see who has the largest number.
6. A place value table is useful to visualize how large a number is. The following is an example of a place value table.

Billions			Millions			Thousands			Ones		
illionHundred	billionTen	billion	illionHundred	millionTen	million	andsHundred	thousandTen	thousand	Hundreds	Tens	Ones

- 3 digits make a period
- These periods represent breaks in large numbers and are always separated by a comma.
- At every comma you name the period these numbers are in.

Millions			Thousands			Ones		
	7	1	4	2	2	3	3	6

- Draw student's attention to the repeated pattern in each period (hundreds, tens, ones.)

For this indicator (4-2.6), it is **essential** for students to:

- The role of the decimal point is to designate the unit position.
- Use concrete and pictorial models to identify decimals through hundredths
- Understand that the pattern with tens is true on both sides of the decimal point

****Decimals**

1. Model that 0.7 = 7/10 = 0.70(seventy cents) to help students understand the value of the seven in the tenths place.

2. Use decimal square kit activities to allow students to work with decimal models that will help them analyze the magnitude of digits in decimal numbers.

3. Give students index cards with numbers 0-9 and a decimal card. Call out a number and have the students create that number. Walk around to check that the students have the digits in the correct places. This activity could be done in teams giving each student one card and having them organize themselves to create the number. *Quadrant C*

4. Create a number line showing decimals larger than zero but smaller than 1. Ask students to analyze values such as 0.1 and 0.01 or 0.5 and 0.05.

"See Differentiated Instruction" in Math Expressions Teacher Editions

Resources

PASS Coach: lessons 1 and 6 , **Math Expressions Textbook**: Volume 1 pages 315 and 343 , **OCSD5 Teaching and Learning Framework**

Web Sites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , **S³ Curriculum** , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Benchmark #1 Testing Window: Aug. 22nd - Aug. 31st

Week of Aug. 27th - Aug. 31st	
Aug. 27th - Aug. 30th	
Indicator	**CCSS**
4-2.3 **Apply** an algorithm to multiply whole numbers fluently	4.NBT.5 Multiply a whole number of up to four digits by one-digit number, and multiply two two-digit numbers. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
4-2.4 **Explain** the effect on the product when one of the factors is changed *[Weak indicator based on 2011-2012 benchmark results.]*	4.NBT.6 Find whole-number quotients and remainders without two four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation using equations, rectangular arrays, and/or area models.

Instructional Strategies

For this indicator (4-2.3), it is **essential** for students to:

- Recall basic multiplication facts
- estimate and determine the reasonableness of the product
- Connect experiences with concrete models to symbolic representations (numbers only)
- Multiply whole numbers up to four digit by four digit.

For this indicator (4-2.4), it is **essential** for students to:

- Recall basic multiplication fact
- Multiply numbers with fluently
- Understand that multiplication is creating equal grouping such as 4 x 5 is creating four sets of five

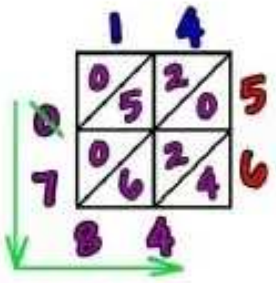
****Multiplication**

1. Write a multiplication problem. Each student copies and works the problem. Choose one student to be the "teacher." That student is to work the problem on the overhead so that every student can see what is being done. He or she must also explain everything he/she does. Choose another student who has solved the problem differently. Have him/her explain his/her method. *Quadrant A*

2. Pair students with a partner. The students try to solve multiplication problems using as many different strategies as possible. *Quadrant A*

3. Lattice Multiplication

   - Write 14 above the lattice.
   - Write 56 on the right side of the lattice.
   - Multiply 4 x 5. Then multiply 1 x 5.
   - Write answers as shown in the lattice (tens place goes in the top part of the square, one's place goes in bottom of the square).
   - Multiply 4 x 6. Then multiply 1 x 6.
   - Write answers as shown in the lattice (tens place goes in the top part of the square, one's place goes in bottom of the square).



- Add the numbers along each diagonal starting at the right.

4. Use pictorial models.

5. Give a sample problem with a wrong answer. Students must justify why or why not the answer is reasonable.

   Example: 98 x 13 = 500. Is this a reasonable estimate? Why or Why not?

"See Differentiated Instruction" in Math Expressions Teacher Editions

Resources

PASS Coach: lessons 2 and 3 , **Math Expressions Textbook:** Volume 1 pages 513 and 616 , **OCSD5 Teaching and Learning Framework**

Web Sites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , **S³ Curriculum** , www.ymathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Benchmark #1 Testing Window: Aug. 22nd - Aug. 31st

Week of Aug. 27th - Aug. 31st	
Aug. 31st	
Indicator	**CCSS**
4-2.2 **Apply** divisibility rules for 2, 5, and 10	

Instructional Strategies

For this indicator (4-2.2), it is **essential** for students to:

- Be able to divide whole numbers with a single-digit divisor in order to apply the divisibility rules
- Understand if the number ends in an even digit, the number is evenly divisible by 2.
- Understand if the number ends in 0 or 5, then the number is evenly divisible by 5.

1. Ask question: If you multiply a number by 2, 5, 10, is the product even or odd? Is the product divisible by 2, 5, and 10? Explain. Answer: Yes if one number is one of the factors of the product, the product has to be divisible by the number. *Quadrant A*
   Ex: 2 x 5 = 10, so 10 is divisible by 2 and 5.

2. Teacher makes a list of numbers that are divisible by 2. Students should examine numbers. Decide what the final digits have in common (even #). Have students test the rule with calculator. Write the rule. *Quadrant A*

3. Teacher makes a list of numbers divisible by 5. Students should examine the numbers. Attempt to divide each number by 5. When numbers are divisible by 5 have them construct divisibility rule. (A number is divisible by 5 if its final digit is 0 or 5.) *Quadrant A*

4. When numbers are divisible by 10 have them construct a divisibility rule. (A number is divisible by 10 when its final digit is 0.) *Quadrant A*

5. Put an X on any number divisible by 2. Put a circle around any number divisible by 5. Put a triangle on any number divisible by 10. *Quadrant A*

7	8	25	30
4,175	12	201	92
172	33	26	35
79	95	89	155

6. List 5 numbers divisible by both 2 and 5.
   List 5 numbers divisible by both 5 and 10.
   List 5 numbers divisible by 2, 5, and 10. *Quadrant C*

7. Use Every Day Counts® Calendar Math, "Number Line Activities." *Quadrant C*

8. Use manipulatives to identify the divisibility rules for 2, 5, and 10. (Beans, Cheerios) Give students 25 beans and have them divide into groups of 2, 5, and 10 discuss if any are remaining and what does it mean. Repeat with other numbers. *Quadrant A*

9. Solve word problems that apply this strategy. Make real world connections.

   Example: 27 dancers try out for a competition. If the competition requires 5 members in each dance group, will everyone be part of a dance group? Explain your reasoning. *Quadrant B*

Resources

OCSD5 Teaching and Learning Framework

Web Sites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , **S³ Curriculum** , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Benchmark #1 Testing Window: Aug. 22nd - Aug. 31st

Week of Sept. 3rd - Sept. 7th	
Sept. 3rd	
Indicator	**CCSS**
Labor Day (Holiday)	Labor Day (Holiday)
Instructional Strategies	
Labor Day (Holiday)	
Resources	
Labor Day (Holiday)	
Assessment	
Labor Day (Holiday)	

Sept. 4th – 5th	
Indicator	**CCSS**
4-2.2 **Apply** divisibility rules for 2, 5, and 10	
Instructional Strategies	

For this indicator (4-2.2), it is **essential** for students to:

- Be able to divide whole numbers with a single-digit divisor in order to apply the divisibility rules
- Understand if the number ends in an even digit, the number is evenly divisible by 2.
- Understand if the number ends in 0 or 5, then the number is evenly divisible by 5.

1. Ask question: If you multiply a number by 2, 5, 10, is the product even or odd? Is the product divisible by 2, 5, and 10? Explain. Answer: Yes if one number is one of the factors of the product, the product has to be divisible by the number. *Quadrant A*

   Ex: 2 x 5 = 10, so 10 is divisible by 2 and 5.

2. Teacher makes a list of numbers that are divisible by 2. Students should examine numbers. Decide what the final digits have in common (even #). Have students test the rule with calculator. Write the rule. *Quadrant A*

3. Teacher makes a list of numbers divisible by 5. Students should examine the numbers. Attempt to divide each number by 5. When numbers are divisible by 5 have them construct divisibility rule. (A number is divisible by 5 if its final digit is 0 or 5.) *Quadrant A*

4. When numbers are divisible by 10 have them construct a divisibility rule. (A number is divisible by 10 when its final digit is 0.) *Quadrant A*

5. Put an X on any number divisible by 2. Put a circle around any number divisible by 5. Put a triangle on any number divisible by 10. *Quadrant A*

7	8	25	30
4,175	12	201	92
172	33	26	35
79	95	89	155

6. List 5 numbers divisible by both 2 and 5.
   List 5 numbers divisible by both 5 and 10.
   List 5 numbers divisible by 2, 5, and 10. *Quadrant C*

7. Use Every Day Counts® Calendar Math, "Number Line Activities." *Quadrant C*

8. Use manipulatives to identify the divisibility rules for 2, 5, and 10. (Beans, Cheerios) Give students 25 beans and have them divide into groups of 2, 5, and 10 discuss if any are remaining and what does it mean. Repeat with other numbers. *Quadrant A*

9. Solve word problems that apply this strategy. Make real world connections.

   Example: 27 dancers try out for a competition. If the competition requires 5 members in each dance group, will everyone be part of a dance group? Explain your reasoning. *Quadrant B*

Resources

OCSD5 Teaching and Learning Framework

Web Sites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , **S³ Curriculum** , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Sept. 3rd - 7th	
Sept. 6th - 7th	
Indicator	**CCSS**
4-2.5 **Generate** strategies to divide whole numbers by single-digit divisors.	

Instructional Strategies

For this indicator(4-2.5), it is **essential** for students to:

- Understand the inverse relationship between multiplication and division
- Recall basic multiplication facts
- Explore division in story problems situations
- Generate their own strategy for division
- Recognize the remainder in story problem situations and with concrete models
- Give meaning to the remainder
- Perform division where the dividend has more than four digits

1. Students can use manipulatives (M&M's®, Blocks, Chips, Marbles, Buttons) to represent using multiplication and subtraction as a strategy for dividing.

2. Allow the students to generate a strategy for solving the problem to demonstrate understanding of division using pictorial or concrete models. Students will share strategies. There are 118 children signed up for ballet lessons. The ballet teacher plans to put 6 children in each class. How many classes will the teacher have? *Quadrant B*

3. Use story problems requiring division to allow students to generate strategies to find solutions. Students can be assured of the accuracy of the product if the solution can be checked by multiplication. It takes 12 people to fill the seats of the athletic van. If there are 66 people needing seats on an athletic van, how many athletic vans are needed? Check by multiplying 12 x 5 = 60; 60 + 6 = 66. This problem was solved accurately. Students will use pictorial models and share solutions. *Quadrant B*

4. Model the division strategy below with jelly beans to determine how many each student will receive and will there be any left over? There are 152 jellybeans to share among 8 students.

9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10

Explanation:

8 x 10 = 80; 152 – 80 = 72

8 x 9 = 72; 72 – 72 = 0

5. Compare the size of the dividends to the size of the quotients, (Quotient will always be less than the dividend).

6. Use Base Ten blocks to show concrete/pictorial models. Have students show dividend in base ten blocks. Divide into equal groups.

Resources

PASS Coach: lesson 4 , **Math Expressions Textbook:** Volume 1 pages 607 and 703 , **OCSD5 Teaching and Learning Framework**

Web Sites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , **S³ Curriculum** , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Sept. 10th - Sept. 14th	
Sept. 10th - 12th	
Indicator	**CCSS**
4-2.5 **Generate** strategies to divide whole numbers by single-digit divisors.	

Instructional Strategies

For this indicator (4-2.5), it is **essential** for students to:

- Understand the inverse relationship between multiplication and division
- Recall basic multiplication facts
- Explore division in story problems situations
- Generate their own strategy for division
- Recognize the remainder in story problem situations and with concrete models
- Give meaning to the remainder
- Perform division where the dividend has more than four digits

1. Students can use manipulatives (M&M's®, Blocks, Chips, Marbles, Buttons) to represent using multiplication and subtraction as a strategy for dividing.

2. Allow the students to generate a strategy for solving the problem to demonstrate understanding of division using pictorial or concrete models. Students will share strategies. There are 118 children signed up for ballet lessons. The ballet teacher plans to put 6 children in each class. How many classes will the teacher have? *Quadrant B*

3. Use story problems requiring division to allow students to generate strategies to find solutions. Students can be assured of the accuracy of the product if the solution can be checked by multiplication. It takes 12 people to fill the seats of the athletic van. If there are 66 people needing seats on an athletic van, how many athletic vans are needed? Check by multiplying 12 x 5 = 60, 60 + 6 = 66. This problem was solved accurately. Students will use pictorial models and share solutions. *Quadrant B*

4. Model the division strategy below with jelly beans to determine how many each student will receive and will there be any left over? There are 152 jellybeans to share among 8 students.

9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10

Explanation:

8 x 10 = 80; 152 – 80 = 72

8 x 9 = 72; 72 – 72 = 0

5. Compare the size of the dividends to the size of the quotients, (Quotient will always be less than the dividend).

6. Use Base Ten blocks to show concrete/pictorial models. Have students show dividend in base ten blocks. Divide into

equal groups.

Resources

PASS Coach: lesson 4 , **Math Expressions Textbook:** Volume 1 pages 607 and 703 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

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Assessment

Week of Sept. 10th - Sept. 14th

Sept. 13th - Sept. 14th

Indicator	CCSS
4-2.6 **Analyze** the magnitude of digits through hundredths on the basis of their place value	
4-2.7 **Compare** decimals through hundredths by using the terms *is less than, is greater than,* and *is equal to* and the symbols <, >, and =.	4.NF.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record results of comparisons with the symbols >, =, or < and justify the conclusions.

Instructional Strategies

For this indicator (4-2.6), it is **essential** for students to:

- The role of the decimal point is to designate the unit position.
- Use concrete and pictorial models to identify decimals through hundredths
- Understand that the pattern with tens is true on both sides of the decimal point

For this indicator (4-2.7), it is **essential** for students to:

- Understand place value
- Understand the role of the decimal point
- Model place value relationships i.e. what does tenths look like, what does hundredths look like, etc…
- Understand the difference between when zero is in the tenths like (0.05) and when zero is in the hundredths place (0.5)

1. Review the meaning of symbols >, <, and = and relate to the terms.

2. Use decimal squares kit.

3. Make six sets of cards for 0.0 through 0.9. Put them in a bag. Each student draws two cards and takes turns holding them up and explaining whether they are "greater than," "less than," or "equal to", and writing the numbers with the correct symbol (>, <, =) between them on the board. *Quadrant A*

4. The teacher writes two decimal numbers on the board such as 0.89 and 0.8. The students make oral statements using the terms *"is less than," "is greater than," "is equal to."* The whole class writes them in their math journals using the symbols (>, <, =). *Quadrant A*

5. Play "I'm Greater" using decimal cards (ex. 0.54). Prepare twenty-four cards with decimal numbers and/or models represented to hundredths. Turn the cards over to where the numbers can't be read. Have two students stand up and draw a card. The student with the least number places his/her card in a discard pile and sits down. The student with the greatest number continues to stand while another student tries to draw a larger card. Again, the one with the largest card stands. Continue until all the cards are used. *Quadrant A*

6. Prepare two sets of numerals cards 0 through 9, two decimal cards, and >, <, and = cards. Set nine chairs at the front of the room. Assign two students to be the decimals and have them sit in the second and seventh chair. Six students draw a digit card and take a seat in any other chair besides the fifth. One student decides whether the decimal number on the right that the students formed is greater or the one on the left is greater. They get the correct

symbol and sit in the fifth chair to make the inequality true. *Quadrant A*

7. Divide the class into pairs and have them prepare two sets of ten cards with decimal numbers and models (0.0 to 9.99.) Each pair turns the cards face down and plays a game of "Concentration" using the cards. If they draw the same number, they must compare them using the words "equal to." If they draw different cards, the next player must compare the cards using the words "less than" or "greater than." *Quadrant A*

8. Construct a mock story with items and price tags. Relate money to comparison to hundredths place. Order and compare prices of items using symbols and words. *Quadrant C*

****Decimals**

9. Model that 0.7 = 7/10 = 0.70(seventy cents) to help students understand the value of the seven in the tenths place.

10. Use decimal square kit activities to allow students to work with decimal models that will help them analyze the magnitude of digits in decimal numbers.

11. Give students index cards with numbers 0-9 and a decimal card. Call out a number and have the students create that number. Walk around to check that the students have the digits in the correct places. This activity could be done in teams giving each student one card and having them organize themselves to create the number. *Quadrant C*

12. Create a number line showing decimals larger than zero but smaller than 1. Ask students to analyze values such as 0.1 and 0.01 or 0.5 and 0.05.

Resources

PASS Coach: lesson 10 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework** , **Math Expressions Textbook:** Vol 2 page 1057

Web Sites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Sept. 17th - Sept. 21st	
Sept. 17th	
Indicator	**CCSS**
4-2.6 **Analyze** the magnitude of digits through hundredths on the basis of their place value	
4-2.7 **Compare** decimals through hundredths by using the terms *is less than, is greater than,* and *is equal to* and the symbols <, >, and =.	4.NF.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record results of comparisons with the symbols >, =, or < and justify the conclusions.

Instructional Strategies

For this indicator (4-2.6), it is ~~**essential**~~ for students to:

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- Use concrete and pictorial models to identify decimals through hundredths
- Understand that the pattern with tens is true on both sides of the decimal point

For this indicator (4-2.7), it is **essential** for students to:

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- Understand the role of the decimal point
- Model place value relationships i.e. what does tenths look like, what does hundredths look like, etc…
- Understand the difference between when zero is in the tenths like (0.05) and when zero is in the hundredths place (0.5)

1. Review the meaning of symbols >, <, and = and relate to the terms.

2. Use decimal squares kit.

3. Make six sets of cards for 0.0 through 0.9. Put them in a bag. Each student draws two cards and takes turns holding them up and explaining whether they are "greater than," "less than," or "equal to", and writing the numbers with the correct symbol (>, <, =) between them on the board. *Quadrant A*

4. The teacher writes two decimal numbers on the board such as 0.89 and 0.8. The students make oral statements using the terms *"is less than," "is greater than," "is equal to."* The whole class writes them in their math journals using the symbols (>, <, =). *Quadrant A*

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6. Prepare two sets of numerals cards 0 through 9, two decimal cards, and >, <, and = cards. Set nine chairs at the front of the room. Assign two students to be the decimals and have them sit in the second and seventh chair. Six students draw a digit card and take a seat in any other chair besides the fifth. One student decides whether the

decimal number on the right that the students formed is greater or the one on the left is greater. They get the correct symbol and sit in the fifth chair to make the inequality true. *Quadrant A*

7. Divide the class into pairs and have them prepare two sets of ten cards with decimal numbers and models (0.0 to 9.99.) Each pair turns the cards face down and plays a game of "Concentration" using the cards. If they draw the same number, they must compare them using the words "equal to." If they draw different cards, the next player must compare the cards using the words "less than" or "greater than." *Quadrant A*

8. Construct a mock story with items and price tags. Relate money to comparison to hundredths place. Order and compare prices of items using symbols and words. *Quadrant C*

****Decimals**

9. Model that 0.7 = 7/10 = 0.70(seventy cents) to help students understand the value of the seven in the tenths place.

10. Use decimal square kit activities to allow students to work with decimal models that will help them analyze the magnitude of digits in decimal numbers.

11. Give students index cards with numbers 0-9 and a decimal card. Call out a number and have the students create that number. Walk around to check that the students have the digits in the correct places. This activity could be done in teams giving each student one card and having them organize themselves to create the number. *Quadrant C*

12. Create a number line showing decimals larger than zero but smaller than 1. Ask students to analyze values such as 0.1 and 0.01 or 0.5 and 0.05.

Resources

PASS Coach: lesson 10 , **Math Expressions Textbook:** Vol 2 page 1057 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Web Sites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Sept. 17th - Sept 21st

Sept. 18th - 20th

Indicator	CCSS
4-2.12 **Generate** strategies to add and subtract decimals through hundredths.	4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

Instructional Strategies

For this indicator (4-2.12), it is **essential** for students to:

- Understand place value
- Name decimals through the hundredths
- Generate strategies from story problems (in context)
- Use concrete and or pictorial models to represent these operations
- Use an estimation strategies to approximate the answer

1. Use 10x10 grids showing 100. Label one grid 1.00. Cut another grid into two pieces. Cut only on lines. Make each piece a different number of small squares. Label each piece in decimals to hundredths. Write 0.52 + 0.48 = 1.00.

Using models show that 0.52 added to 0.48 equals 1.00. Use the procedure with different addends. The inverse can also be shown with these models: *Quadrant A*

1.00 – 0.52 = 0.48 OR 1.00 – 0.48 = 0.52.

2. Using grids 10x10 have students shade in decimals which add up to 1.00. Solve problems using grid. Shade first number in red; second number in blue. *Quadrant A* **(Solve problems using a grid.)**

   Example: 0.13 +0.46 = _____
   0.75 + 0.25 = _____
   0.75 + 0.25 = _____
   0.90 + 0.03 = _____

3. To subtract decimals using concrete models (10x10 grid), lightly shade in the larger decimal on grid. Shade the smaller decimal darkly. The part left still only lightly shaded represents the answer. *Quadrant A*

4. Use Decimal Squares Kit addition and subtraction activities.

5. Model writing addition and subtraction problems accurately (lining the decimals up).

Resources

PASS Coach: lesson 11 , **Math Expressions Textbook:** Volume 2 pages 1105 and 1113 , **S³ Curriculum** , **CSD5 Teaching and Learning Framework**

Web Sites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Sept. 17th - 21st	
Sept. 21st	
Indicator	**CCSS**
4-2.10 **Identify** common the fraction/decimal equivalents ½ = .5, ¼ = .25, ¾ = .75, 1/3≈.33, 2/3≈.67, multiples of 1/10, and multiples of 1/100.	4.NF.6 Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.

Instructional Strategies

For this indicator(4-2.10), it is **essential** for students to:

- Recall the relationships outlined in the indicator
- Understand that a fraction and a decimal are two ways to write the same number
- Find a concrete and or real world representation of these equivalencies to support retention of these facts
- Understand the concept of equivalency
- Understand that not all fractions have exact decimal equivalent
- Understand the meaning of approximation (≈)

1. Use pennies to show how $\frac{1}{3}$ and $\frac{2}{3}$ are approximate as decimal equivalents to 0.33 and 0.67. *Quadrant* C

2. Students will create a chart to model fraction/decimal equivalents. *Quadrant A*

Example:

decimal	decimal model	fraction	fraction model
0.50		**1/2**	

3. Take a "1" dollar bill on the overhead and cut it in ½. Cut it into thirds. Cut in into fourths. Discuss relationship with decimals.

4. Relate one dollar to 4 quarters.

   1 out of 4 quarters = $0.25
   2 out of 4 quarters = $0.50

5. Create an anchor chart of common fraction/decimal equivalents.

Resources

PASS Coach: lesson 7 , **Math Expressions Textbook:** Volume 2 pages 1035 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Web Sites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Sept. 24th - Sept. 28th	
Sept. 24th - 25th	**Second Nine Weeks**
Indicator	**CCSS**
4-2.10 **Identify** common the fraction/decimal equivalents ½ = .5, ¼ = .25, ¾ = .75, 1/3≈.33, 2/3≈.67, multiples of 1/10, and multiples of 1/100.	4.NF.6 Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.

Instructional Strategies

For this indicator(4-2.10), it is **essential** for students to:

- Recall the relationships outlined in the indicator
- Understand that a fraction and a decimal are two ways to write the same number
- Find a concrete and or real world representation of these equivalencies to support retention of these facts
- Understand the concept of equivalency
- Understand that not all fractions have exact decimal equivalent
- Understand the meaning of approximation (≈)

1. Use pennies to show how $\frac{1}{3}$ and $\frac{2}{3}$ are approximate as decimal equivalents to 0.33 and 0.67. *Quadrant* C

2. Students will create a chart to model fraction/decimal equivalents. *Quadrant A*

Example:

decimal	decimal model	fraction	fraction model
0.50		**1/2**	

3. Take a "1" dollar bill on the overhead and cut it in ½. Cut it into thirds. Cut in into fourths. Discuss relationship with decimals.

4. Relate one dollar to 4 quarters.

   1 out of 4 quarters = $0.25
   2 out of 4 quarters = $0.50

5. Create an anchor chart of common fraction/decimal equivalents.

Resources
PASS Coach: lesson 7 , **Math Expressions Textbook:** Volume 2 pages 1035 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework** **Websites:** www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*
Assessment

Sept. 26th - 28th	
Indicator	**CCSS**
4-2.8 **Apply** strategies and procedures to find equivalent forms of fractions.	4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with the denominator 100, and used this technique to add to fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*

Instructional Strategies

For this indicator (4-2.8), it is **essential** for students to:

- Understand the meaning of numerator, denominator and fraction
- Recall basic multiplication facts
- Understand that the fractions have the same value even though they look different
- Understand that simplifying a fraction does not change the value of the fraction
- Develop and apply a strategy for finding equivalent fractions
- Use concrete and/or pictorial models to find equivalent fractions

1. Place students in pairs. Distribute grid paper to each student with four 10 x 10 (2 hundredths and 2 tenths grids). Write on the board: $\frac{4}{10}, \frac{60}{100}, \frac{7}{10}, \frac{20}{100}$. The first partner shows each fraction on one of the 10 x 10 squares. The second partner shows an equivalent fraction $\frac{40}{100}, \frac{6}{10}, \frac{70}{100}, \frac{2}{10}$ on another grid. *Quadrant A*

2. Students will use fraction circles, fraction bars, and pattern blocks to show equivalent forms of fractions called out by the teachers. *Quadrant A*

3. Using an egg carton, have students take turns filling a portion of the carton with a counter. Have them determine what fraction is represented and the different ways the fraction can be written or read. For example, if the student fills three of the 12 portions, then they should write and/or say 3/12 or ¼. *Quadrant B*

Resources
PASS Coach: lesson 5 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework** **Websites:** www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*
Assessment

Week of Oct. 1st - Oct. 5th	
Oct. 1st	
Indicator	**CCSS**
4-2.8 **Apply** strategies and procedures to find equivalent forms of fractions.	4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with the denominator 100, and used this technique to add to fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*
Instructional Strategies	
For this indicator (4-2.8), it is **essential** for students to: • Understand the meaning of numerator, denominator and fraction • Recall basic multiplication facts • Understand that the fractions have the same value even though they look different • Understand that simplifying a fraction does not change the value of the fraction • Develop and apply a strategy for finding equivalent fractions • Use concrete and/or pictorial models to find equivalent fractions 1. Place students in pairs. Distribute grid paper to each student with four 10 x 10 (2 hundredths and 2 tenths grids). Write on the board: $\frac{4}{10}, \frac{60}{100}, \frac{7}{10}, \frac{20}{100}$. The first partner shows each fraction on one of the 10 x 10 squares. The second partner shows an equivalent fraction $\frac{40}{100}, \frac{6}{10}, \frac{70}{100}, \frac{2}{10}$ on another grid. *Quadrant A* 2. Students will use fraction circles, fraction bars, and pattern blocks to show equivalent forms of fractions called out by the teachers. *Quadrant A* 3. Using an egg carton, have students take turns filling a portion of the carton with a counter. Have them determine what fraction is represented and the different ways the fraction can be written or read. For example, if the student fills three of the 12 portions, then they should write and/or say 3/12 or ¼. *Quadrant B*	
Resources **PASS Coach:** lesson 5 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework** **Websites:** www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*	

Assessment

Oct 2nd - 4th	
Indicator	**CCSS**
4-2.9 **Compare** the relative size of fractions to the benchmarks 0, ½, and 1.	4.NF.2 Compare two fractions with different numerators and different denominators, e.g., by creating, denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record results of comparisons with symbols >,=, and < and justify the conclusions e.g., by using a visual fraction model.

Instructional Strategies

For this indicator (4-2.9), it is **essential** for students to:

- Recognize the benchmark fraction
- Locate or place fractions on the number line
- Use concrete or pictorial models to represent the comparison
- Recognize fractions that are greater than or equal to one
- Determine if two fractions are equivalent
- Recognize a fractional form of one
- Explain their reasoning
- Understand the concept of equivalency

1. Show fraction bars or fraction circles and review fraction names. (Make certain students know what 1 whole looks like.) Then show fractions (ex.: $\frac{1}{8}$, $\frac{10}{12}$, $\frac{4}{6}$, etc.) and have students determine if fractions are closer to zero (none of the whole) one-half ($\frac{1}{2}$ of the whole), or the whole fraction (1). *Quadrant A*

2. Give students their own set of fraction bars or fraction circles and have them show you different fractions that are close to 0, then $\frac{1}{2}$, and finally 1 whole. Ask students to name other fractions, that they do not have models for, which are close to each benchmark (ex.: $\frac{1}{20}$ is close to 0, $\frac{52}{100}$ is close to $\frac{1}{2}$, $\frac{98}{100}$ is close to 1 whole). *Quadrant B*

3. Give students two different color paper plates with a cut the length of the radius in each. Students will demonstrate different fractions as called out by the teacher. *Quadrant A*

4. Teacher will list fractions that are close to the benchmarks 0, $\frac{1}{2}$, 1.

   Students will determine which benchmark the fraction is closest to by using the strategy of comparing the numerator and denominator. (Teacher will model strategy)

   Ex. $\frac{7}{8}$ is close to 1 because 7 and 8 are close to each other.

1/8 is close to 0 because 1 and 8 are farther apart.

5/8 is close to 1/2 because 4/8 = 1/2 and 5/8 is close to 4/8.

5. Teacher will make a number line and label the benchmarks 0, ½, and 1. Students will add fractions to their proper place. (Also shows equivalent fractions).

0 1/2 1

6. Label boxes with Benchmarks. Pass out fractions to two teams. Relay ... put the fractions in the correct box.

7. Use water bottles to demonstrate benchmarks. Students drink different amounts.

8. Show students what 0, ½, and 1 looks like when dealing with a fractions. (Example: 0 = 0/8…1/2= 4/8…1=8/8)

Resources

PASS Coach: lesson 9 , **Math Expressions Textbook:** Vol. 2 pages 985 and 1143 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Oct. 1st - 5th

Oct. 5th

Indicator

4-2.11 **Represent** improper fractions, mixed numbers, and decimals.

CCSS

4.NF.3 Understand a fraction a/b with a > 1 as the sum of fractions 1/b.

a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*

c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

d. Solve word problems involving addition and subtraction

	of fractions referring to the same hole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. 4.NF.6 Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*

Instructional Strategies

For this indicator (4-2.11), it is **essential** for students to:

- Go back and forth between the three representations i.e. improper to decimal, mixed number to improper, decimal to mixed number, etc…
- Recall equivalent fractions
- Recall common benchmark fractions
- Recognize that a decimal has a whole number part and a decimal part
- Understand the role of the decimal is the designate the unit position
- Understand that a mixed number has a whole number part and a fractional part

1. Have student write number riddles. Students may exchange riddles and solve.

   "I'm thinking of a number between one and two. It's more than $1\frac{1}{4}$ *but less than* $1\frac{5}{8}$*. It is equivalent to* $\frac{6}{4}$*."*
   Quadrant B

2. Draw a number line with missing fractions. Students then name the missing fractions. Model fractions with tiles using one rectangle as a whole. Ask, "What pattern do you see on the number line? What is another name for $\frac{3}{2}$ ($1\frac{1}{2}$)?
   Quadrant C

3. Have students begin with a mixed number and represent it as a single fraction (ex. 1 $\frac{3}{4}$ to $\frac{7}{4}$) Students may use models or drawing to explain their thinking.

4. Ask students to make a model using paper and crayons of the improper fraction $\frac{9}{4}$, students should be able to see that the denominator is 4 and thus they are working with fourths. They should then draw nine parts with a value of one-fourth each. They should then group the fourths to make wholes. Thus resulting in $\frac{9}{4}$ = $2\frac{1}{4}$ = 2.25 using the model.

   Ex. $2\frac{1}{4}$

5. Model using mathematical equations to change improper fractions into mixed numbers and mixed numbers into improper fractions.

Resources

PASS Coach: lessons 6 and 8 , **Math Expressions Textbook:** Volume 2 page 891 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework** **Websites:** www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com www.learner.org/resources , *www.eduplace.com*
Assessment

Week of Oct. 8th - 12th	
Oct. 8 - 11th	
Indicator	**CCSS**
4-2.11 **Represent** improper fractions, mixed numbers, and decimals.	4.NF.3 Understand a fraction a/b with a > 1 as the sum of fractions 1/b. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.* c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. d. Solve word problems involving addition and subtraction of fractions referring to the same hole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. 4.NF.6 Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*

Instructional Strategies

For this indicator (4-2.11), it is **essential** for students to:

- Go back and forth between the three representations i.e. improper to decimal, mixed number to improper, decimal to mixed number, etc…
- Recall equivalent fractions
- Recall common benchmark fractions
- Recognize that a decimal has a whole number part and a decimal part
- Understand the role of the decimal is the designate the unit position
- Understand that a mixed number has a whole number part and a fractional part

1. Have student write numbers riddles. Students may exchange riddles and solve. *"I'm thinking of a number between* $1\frac{1}{4}$ *one and two. It's more than* $1\frac{5}{8}$ *but less than* $\frac{6}{4}$ *. It is equivalent to ." Quadrant B*

2. Draw a number line with missing fractions. Students then name the missing fractions. Model fractions with tiles using one rectangle as a whole. Ask, "What pattern do you see on the number line? What is another name for $\frac{3}{2}$ ($1\frac{1}{2}$)?

$\frac{3}{4}$ $\frac{7}{4}$

3. Have students begin with a mixed number and represent it as a single fraction (ex. 1 to) Students may use models or drawing to explain their thinking.

4. Ask students to make a model using paper and crayons of the improper fraction $\frac{9}{4}$, students should be able to see that the denominator is 4 and thus they are working with fourths. They should then draw nine parts with a value of one-fourth each. They should then group the fourths to make wholes. Thus resulting in $\frac{9}{4} = 2\frac{1}{4} = 2.25$ using the model.

Ex. $2\frac{1}{4}$

5. Model using mathematical equations to change improper fractions into mixed numbers and mixed numbers into improper fractions.

Resources

PASS Coach: lessons 6 and 8 , **Math Expressions Textbook:** Volume 2 page 891 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Oct. 8th - 12th	
Oct. 12th	
Indicator	**CCSS**
Review Number and Operations Unit	
Instructional Strategies	
Resources	
OCSD5 Teaching and Learning Framework **Websites: Think Central:** Standards Practice Worksheets , **www.quizlet.com** , **http://www.math-aids.com/Place_Value/** (place value) , **http://gamequarium.com/math.htm** , **www.superkids.com/aweb/tools/math** **http://www.mathplayground.com/thinkingblocks.html** : (Multiplication and Fractions) , **www.superteachertools.com**: Jeopardy , Speed Match Quiz Maker , Who Wants to be a Millionaire , Board Game , Hang Man **http://www.sheppardsoftware.com/mathgames/decimals.htm** : (decimals) ,	
Assessment	

Week of Oct. 15th - 19th	
Oct. 15th - 16th	
Indicator	**CCSS**
Review Numbers and Operations Unit	
Instructional Strategies	
Resources	
OCSD5 Teaching and Learning Framework **Websites: Think Central:** Standards Practice Worksheets , www.superteachertools.com : Jeopardy , Speed Match Quiz Maker , Hang Man , Who Wants to be a Millionaire , Board Game , www.quizlet.com , www.superkids.com/aweb/tools/math , http://gamequarium.com/math.htm , http://www.math-aids.com/Place_Value/ : (place value) , http://www.mathplayground.com/thinkingblocks.html : (Multiplication and Fractions) , http://www.sheppardsoftware.com/mathgames/decimals.htm : (decimals)	
Assessment	

Oct. 17th - 19th	
Indicator	**CCSS**
4-6.1 **Compare** how data-collection methods impact survey results.	
Instructional Strategies	
For this indicator(4-6.1), it is **essential** for students to: • Analyze a variety of data collection methods • Compare and draw logical conclusions about how data-collection methods impact survey results. • Explore data using real-world examples and its real world purpose • Determine advantages and disadvantages of different methods 1. Make a list of favorite places students would like to go to for a vacation, such as Disneyland, Myrtle Beach, etc. Survey different classes to collect information. Organize the data using tally marks. Make an appropriate graph to represent the data. Compare results from 1 class to the whole school. *Quadrant B* 2. Have students survey a class in each grade level as to what is their favorite school subject (Reading, English, Math, Social Studies, and Science). Create an appropriate graph to represent the data. Discuss the benefits of surveying different grade levels and how that affects the data. Survey males and females separately. Compare the data. Discuss how the data collection impacts survey results. *Quadrant B* 3. Generate a list with the class of 5 favorite television programs. Survey students. Survey teachers. Organize data into an appropriate graph. Use computer software to chart data collected from different samples. Compare and draw logical conclusions about how data-collection methods impact survey results. *Quadrant C*	
Resources	
PASS Coach: lesson 35 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework** **Websites:** www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com ,	

www.learner.org/resources , *www.eduplace.com*
Assessment

Week of Oct. 22nd - 26th
Oct. 22nd - 25th

Indicator	CCSS
4-6.2 **Interpret** data in tables, line graphs, bar graphs, and double bar graphs whose scale increments are greater than or equal to 1. 4-6.3 **Organize** data in tables, line graphs, and bar graphs whose scale increments are greater than or equal to 1.	

Instructional Strategies

For this indicator (4-6.2), it is **essential** for students to:

- Use the mathematical terms increasing, decreasing, or varying to show change over time to interpret data.
- Imply more than simply reading data in a graph.
- Clarify, paraphrase, represent, and translate data from graphical to verbal form.

For this indicator (4-6.3), it is **essential** for students to:

- Understand the structure of tables, line graphs, and bar graphs
- Determine which type of graph would best represent the data
- Engage in real-world experiences in which they organize data
- Create scales where the increments are greater than or equal to 1

1. Prepare a bar graph to represent the following information. Discuss what the graph shows. Analyze data. *Quadrant A*

Year	World Population
12,000 BC	1 million
1650	500 million
1850	1 billion
1990	5 billion

2. Copy a line graph from a newspaper, magazine, or book. Distribute a copy to each pair of students. Discuss headings, labels, horizontal line, vertical line, and what the graph is showing. *Quadrant A*

3. Find examples of double bar graphs. Model how to interpret the data. Model clarifying, paraphrasing, and translating the data into verbal form. Students should be able to compare the data represented by the double bars.

4. Draw a bar graph on the board. Label: Swimming (21), Basketball (18), Tennis (7), Soccer (9), and Baseball (30). Explain that the graph stands for favorite sports among the fourth graders at their school, and each bar stands for a different sport. Students answer the following questions: *Quadrant A*
   - How many more students prefer baseball than soccer?
   - How many students favored basketball and swimming altogether?
   - How many students in all answered the survey?

   Students make up and discuss other questions they can answer from the graph. *Quadrant B*

5. Write the following on the board: orange juice, 90¢ a can; apple juice, 60¢ a can; pineapple juice, 70¢ a can. Students show this data by drawing a bar graph and a pictograph. Compare the graphs. How are they alike? *Quadrant B*

6. Make a list of favorite sports, restaurants, colors, and vacation places. Explain to the students that they will choose their favorite in each category. Explain that this will be the data they will use to construct a bar graph. *Quadrant B*

7. Divide class into four groups and assign each student to construct a bar graph using the given data. After drawing the bar graph, answer the following questions: *Quadrant D*
    - What is the favorite _____?
    - What is the least favorite _____?
    - How many students voted for _____?
    - How many students altogether voted for _____?

   Practice using sets of data to determine appropriate scales that are greater than 1. This concept is new this year.

7. Each student prints his or her first name on an index card. Make and label columns: '2 letters,' '3 letters,' '4 letters,' and so on. Have each student tape his/her card in a vertical row above the appropriate label. Discuss how to read this bar graph. *Quadrant B*

8. Pair up with another teacher and compare favorite subjects, favorite sports, or any topic you wish to compare. Place data in tables and create a double bar graph. Discuss results with both classes. *Quadrant C*

9. Create a line graph showing how students grew since they were born. Explain how line graphs show charge over time. *Quadrant C*

10. Have students survey their classmates, organize the data in a table and graph, and write three questions that can be answered by the graph.

Resources

PASS Coach: lesson 30, 31, 32, and 33 , **Math Expressions Textbook:** Vol. 1 page 179 and Vol. 2 page 825 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Oct. 22nd - 26th	
Oct. 26th	
Indicator	**CCSS**
Professional Development/Workdays	Professional Development/Workdays
Instructional Strategies	
Professional Development/Workdays	
Resources	
Professional Development/Workdays	
Assessment	
Professional Development/Workdays	

Week of Oct. 29th - Nov. 2nd	
Oct. 29th - Nov. 2nd	
Indicator	**CCSS**
4-6.4 **Distinguish** between categorical and numerical data. 4-6.5 **Match** categorical and numerical data to appropriate graphs.	

Instructional Strategies

For this indicator (4-6.4), it is **essential** for students to:

- Understand the vocabulary terms categorical data and numerical data.
- Distinguish between the two types of data
- Match the types to the appropriate graph

For this indicator (4-6.5), it is **essential** for students to:

- Understand the characteristics of numerical data
- Understand the characteristics of categorical data
- Match terms with graphical and verbal representations (the favorite pizza topping for teachers)
- Explore many different examples/models

1. Warm up by grouping animals into categories. (categorical)
2. Use Navigating Through Data Analysis and Probability in Grades 3 through 5, "Name That Data Type," p. 19. Students distinguish between categorical and numerical data by playing a little game. *Quadrant A*
3. Show different tables, charts or graphs and discuss if data is categorical or numerical. *Quadrant A*
4. Have students write the definition of categorical data in their math journals, such as "data that groups objects by one or more characteristic or traits they share," and numerical data such as "data that has numbers assigned to certain measurable properties." Generate several examples of each. *Quadrant A*
5. Provide students with twenty polygons of different colors, shapes, and sizes. Have them sort polygons into categories, such as, size, shape, or color. Have the students sort, draw, count, and describe the various categories. *Quadrant C*
6. Measure the height of various students and record the data. Lead the class in a discussion as to why this is numerical data. *Quadrant B*
7. Use the information on a line graph and a bar graph to discuss the characteristics of the data represented on each graph. What kind of data is displayed on each graph, categorical or numerical? *Quadrant C*

8. As a class record the temperature at the same time of day for five days. Discuss the data and decide which type of graph is appropriate for the data. Make a class graph. *Quadrant B*

9. Students graph the amount of time they watch television each day during the week. Discuss the data and which graph is appropriate for the data. Because the data is a measure of time and days, guide students to see that because the data represents a measure it would be numerical and have them choose an appropriate graph and graph their data. *Quadrant B*

10. Conduct a survey. Pick a category such as color or sports and list four or five choices on paper. Students vote for their favorite. Pair students and give them a copy of student votes. Display data using appropriate graph(s). Compare the graphs. Which type of graph is best in representing data? *Quadrant C*

11. Use Navigating Through Data Analysis and Probability in Grades 3 through 5, "How Much Sleep Did You Get?" p. 34. *Quadrant C*

12. Use Navigating Through Data Analysis and Probability in Grades 3 through 5 "What's My Method?" p. 18. Students work in groups to answer questions on "Data Sets" worksheets pp. 96 - 97.

Resources

PASS Coach: lesson 33 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Nov. 5th - Nov. 9th	
Nov. 5th	
Indicator	**CCSS**
4-6.6 **Predict** on the basis of data whether events are *likely, unlikely, certain, impossible*, or *equally likely* to occur. 4-6.7 **Analyze** possible outcomes for a simple event.	

Instructional Strategies

For this indicator(4-6.6), it is **essential** for students to:

- Understand that probability is the chance that a given event will occur
- Understand that an event is something that might happen
- Understand that an outcome is a possible result of an experiment
- Understand that an event that is likely has a good chance of happening
- Understand that an event that is unlikely does not have a good chance of happening
- Understand that an event that is impossible will never happen
- Understand that an event that is certain will always happen
- Develop a conceptual understanding of these mathematical terms likely, unlikely, equally likely, certain, and impossible.
- Use the language of probability to predict whether events are likely, unlikely, certain, impossible, or equally likely to occur.

For this indicator(4-6.7), it is **essential** for students to:

- Understand the meaning of simple event
- Understand the meaning of outcomes
- Understand how the possible outcomes relate to each other.
- Explore probability through experiments that have possible outcomes

1. Put twenty confetti pieces, candy pieces, or marbles in a paper sandwich sacks. Divide the students into groups.

Have each group look at and record the colors of them and place them back in the sack. Have students record the event of choosing each color/kind as likely, unlikely, certain, or impossible. *Quadrant B*

2. Use clear chips of different colors to demonstrate probabilities on the overhead. Have students record them as likely, unlikely, certain, or impossible. Put all of the same color (red) on the overhead. What is the probability of picking a red one? *Quadrant A*

3. Give each group of four or five students a small bag of gallon jug lids or other objects. Have the students observe the contents and write down the ratio of each lid color in their math journals. Write several possible numerical outcomes on the board such as: 4 out of 11 are blue, 6 out of 11 are red, 1 out of 11 is purple. Have the students place the ratios under the correct column with the heading being: *Quadrant B*

   Impossible Not Likely Likely Certain

   Compare and discuss choices.

4. Tell students that a coin should land the same number of times on heads as it does on tails. Ask them how many times it should land on each if tossed twenty times. Each pair of students' tosses the penny twenty times and records how many times it lands on heads and how many times it lands on tails Repeat 50 times and compare results. *Quadrant B*

5. Use spinners divided into fractional parts each colored a different color. Decide on the possible outcomes. Have the students spin it several times and record the results. Compare results to the possible outcomes. *Quadrant B*

6. Use clear chips of different colors to demonstrate probabilities on the overhead. If you remove some, do the probabilities change? How come? *Quadrant C*

7. Give student groups collections of objects varying in color, size, shape or some other attribute. Have students write the possible outcomes of drawing each "kind" of object from the collection. Have students use their data to predict the outcomes as likely, unlikely, certain, impossible or equally likely. (4-6.6 connection).

8. Notes: Impossible = Never = 0/10, Certain=Always = 10/10

Resources

PASS Coach: Lesson 34 , Math Expressions Textbook Vol. 2 page 945 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Benchmark #2 Testing Window: Nov. 5th - Nov. 16th

Week of Nov. 5th - Nov. 9th	
Nov. 6th	
Indicator	**CCSS**
Election Day (Holiday)	Election Day (Holiday)
Instructional Strategies	
Election Day (Holiday)	
Resources	
Election Day (Holiday)	
Assessment	
Election Day (Holiday)	

Nov. 7th - Nov. 9th	
Indicator	**CCSS**

4-6.6 **Predict** on the basis of data whether events are *likely, unlikely, certain, impossible*, or *equally likely* to occur. 4-6.7 **Analyze** possible outcomes for a simple event.	

Instructional Strategies

For this indicator(4-6.6), it is **essential** for students to:

- Understand that probability is the chance that a given event will occur
- Understand that an event is something that might happen
- Understand that an outcome is a possible result of an experiment
- Understand that an event that is likely has a good chance of happening
- Understand that an event that is unlikely does not have a good chance of happening
- Understand that an event that is impossible will never happen
- Understand that an event that is certain will always happen
- Develop a conceptual understanding of these mathematical terms likely, unlikely, equally likely, certain, and impossible.
- Use the language of probability to predict whether events are likely, unlikely, certain, impossible, or equally likely to occur.

For this indicator(4-6.7), it is **essential** for students to:

- Understand the meaning of simple event
- Understand the meaning of outcomes
- Understand how the possible outcomes relate to each other.
- Explore probability through experiments that have possible outcomes

1. Put twenty confetti pieces, candy pieces, or marbles in a paper sandwich sacks. Divide the students into groups. Have each group look at and record the colors of them and place them back in the sack. Have students record the event of choosing each color/kind as likely, unlikely, certain, or impossible. *Quadrant B*

2. Use clear chips of different colors to demonstrate probabilities on the overhead. Have students record them as likely, unlikely, certain, or impossible. Put all of the same color (red) on the overhead. What is the probability of picking a red one? *Quadrant A*

3. Give each group of four or five students a small bag of gallon jug lids or other objects. Have the students observe the contents and write down the ratio of each lid color in their math journals. Write several possible numerical outcomes on the board such as: 4 out of 11 are blue, 6 out of 11 are red, 1 out of 11 is purple. Have the students place the ratios under the correct column with the heading being: *Quadrant B*

   Impossible Not Likely Likely Certain

   Compare and discuss choices.

4. Tell students that a coin should land the same number of times on heads as it does on tails. Ask them how many times it should land on each if tossed twenty times. Each pair of students' tosses the penny twenty times and records how many times it lands on heads and how many times it lands on tails Repeat 50 times and compare results. *Quadrant B*

5. Use spinners divided into fractional parts each colored a different color. Decide on the possible outcomes. Have the students spin it several times and record the results. Compare results to the possible outcomes. *Quadrant B*

6. Use clear chips of different colors to demonstrate probabilities on the overhead. If you remove some, do the probabilities change? How come? *Quadrant C*

7. Give student groups collections of objects varying in color, size, shape or some other attribute. Have students write the possible outcomes of drawing each "kind" of object from the collection. Have students use their data to predict the outcomes as likely, unlikely, certain, impossible or equally likely. (4-6.6 connection).

8. Notes: Impossible = Never = 0/10, Certain=Always = 10/10

Resources

PASS Coach: Lesson 34 , **Math Expressions Textbook:** Vol. 2 page 945 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Benchmark #2 Testing Window: Nov. 5th - Nov. 16th

Week of Nov. 12th - Nov. 16th	
Nov. 12th	
Indicator	**CCSS**
4-6.6 **Predict** on the basis of data whether events are *likely, unlikely, certain, impossible*, or *equally likely* to occur. 4-6.7 **Analyze** possible outcomes for a simple event.	

Instructional Strategies

For this indicator(4-6.6), it is **essential** for students to:

- Understand that probability is the chance that a given event will occur
- Understand that an event is something that might happen
- Understand that an outcome is a possible result of an experiment
- Understand that an event that is likely has a good chance of happening
- Understand that an event that is unlikely does not have a good chance of happening

- Understand that an event that is impossible will never happen
- Understand that an event that is certain will always happen
- Develop a conceptual understanding of these mathematical terms likely, unlikely, equally likely, certain, and impossible.
- Use the language of probability to predict whether events are likely, unlikely, certain, impossible, or equally likely to occur.

For this indicator(4-6.7), it is **essential** for students to:

- Understand the meaning of simple event
- Understand the meaning of outcomes
- Understand how the possible outcomes relate to each other.
- Explore probability through experiments that have possible outcomes

1. Put twenty confetti pieces, candy pieces, or marbles in a paper sandwich sacks. Divide the students into groups. Have each group look at and record the colors of them and place them back in the sack. Have students record the event of choosing each color/kind as likely, unlikely, certain, or impossible. *Quadrant B*

2. Use clear chips of different colors to demonstrate probabilities on the overhead. Have students record them as likely, unlikely, certain, or impossible. Put all of the same color (red) on the overhead. What is the probability of picking a red one? *Quadrant A*

3. Give each group of four or five students a small bag of gallon jug lids or other objects. Have the students observe the contents and write down the ratio of each lid color in their math journals. Write several possible numerical outcomes on the board such as: 4 out of 11 are blue, 6 out of 11 are red, 1 out of 11 is purple. Have the students place the ratios under the correct column with the heading being: *Quadrant B*

   Impossible Not Likely Likely Certain

   Compare and discuss choices.

4. Put twenty confetti pieces, candy pieces, or marbles in a paper sandwich bag. Divide the students into groups. Have each group look at and record the colors of them and place them back in the bag. They prepare a possibility chart for their bag of objects. Each of the students take turns pulling out an object recording the color and then replacing them in the bag. They record the outcomes of several tries and compare them to the possibilities. *Quadrant B*

5. Tell students that a coin should land the same number of times on heads as it does on tails. Ask them how many times it should land on each if tossed twenty times. Each pair of students' tosses the penny twenty times and records how many times it lands on heads and how many times it lands on tails Repeat 50 times and compare results. *Quadrant B*

6. Use spinners divided into fractional parts each colored a different color. Decide on the possible outcomes. Have the students spin it several times and record the results. Compare results to the possible outcomes. *Quadrant B*

7. Use clear chips of different colors to demonstrate probabilities on the overhead. If you remove some, do the probabilities change? How come? *Quadrant C*

8. Give student groups collections of objects varying in color, size, shape or some other attribute. Have students write the possible outcomes of drawing each "kind" of object from the collection. Have students use their data to predict the outcomes as likely, unlikely, certain, impossible or equally likely (4-6.6 connection).

Resources

PASS Coach: Lesson 34 , **Math Expressions Textbook:** Vol. 2 page 945 , **S^3 Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Benchmark #2 Testing Window: Nov. 5th - Nov. 16th

Week of Nov. 12th - 16th
Nov. 13th - 15th

Indicator	CCSS
Review Data Analysis and Probability Unit	

Instructional Strategies

Resources

OCSD5 Teaching and Learning Framework

Websites: **Think Central:** Standards Practice Worksheets , **www.quizlet.com** , **www.superteachertools.com**: Jeopardy , Speed Match Quiz Maker , Who Wants to be a Millionaire , Board Game , Hang Man , **http://www.free-training-tutorial.com/probability-games.html**: (probability) , **http://gamequarium.com/math.htm** , **www.superkids.com/aweb/tools/math** , **http://illuminations.nctm.org/LessonDetail.aspx?ID=L370**: (categorical and numerical data) , **http://nces.ed.gov/nceskids/createagraph/**: (creating graphs)

Assessment

Benchmark #2 Testing Window: Nov. 5th - Nov. 16th

Nov. 16th

Indicator	CCSS
4-3.1 **Analyze** numeric, nonnumeric, and repeating patterns involving all operations and decimal patterns through hundredths. 4-3.2 **Generalize** a rule for numeric, nonnumeric, and repeating patterns involving all operations. *3rd Grade Standard 3-3.2 Apply procedures to find missing numbers in numeric patterns that involve whole number operations. [Weak indicator based on 2011-2012 benchmark results.]*	4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the patterns that were not explicit in the rule itself. . *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

Instructional Strategies

For this indicator(4-3.1), it is **essential** for students to:

- Determine the pattern
- Write the rule in words. For example, the multiply by 2 add 3
- Analyze decimal patterns through hundredths using models, counting, or skip counting such as
  - 0.10, 0.15, 0.20, ____ because it applies a familiar whole number pattern that involves skip counting (counting by 5's).
  - 0.2, 0.4, 0.6, ____ because it applies a familiar whole number pattern that involves skip counting (counting by 2's).
- Analyze information to solve increasingly more sophisticated problems such as
  - 3, 5, 4, 6, ___ (add 2 then subtract 1)
  - 1, 4, 13, 40, ___ (multiply by 3 then add 1)
- Analyze information to solve nonnumeric patterns involving manipulative, pictures or symbols.
  - Determine the number of dots in Stage Four of the pattern.

Stage 1 Stage 2 Stage 3

For this indicator(4-3.2), it is **essential** for students to:

- Determine the pattern
- Write the rule in words. For example, the multiply by 2 add 3

1. Distribute tables and number sequences with all the information in/on them. Students determine the rule by using the following guidelines:
   a. Look at the relationship(s) between the numbers.
   b. Tell the relationship by using the operation sign (+, -, x, etc.) and what is happening each time (x5, -6, or +7) or write it in your own words. *Quadrant C*

2. Every Day Counts® Calendar Math daily calendar pieces. *Quadrant A*

3. Give students sentence strips with shapes or sound patterns. They determine the rule for the pattern. *Quadrant A*

4. Analyze at input/output tables to determine rule for table. *Quadrant A*

5. Use a hundred board. Use rules to find patterns within the numbers (multiples, factors, digits with a difference of 1). Students use different colors to show rules on their own hundred board. *Quadrant A*

6. Use triangles to create a day old "worm." Follow with a 2-day and 3-day-old worm. Find the pattern to create a ten-day-old worm. *Quadrant A*

7. Read Anno's Magic Seeds by Mit Sumasa Anno.

8. Use money and decimal squares to analyze decimal patterns through hundredths. Show students a hundreds grid and divide it into quarters. Compare ¼ to 25¢, 2/4 to 50¢3/4 to 75¢ and 1 to $1.

9. Use Every Day Counts® Calendar Math daily calendar pieces to generalize a rule for patterns. *Quadrant A*

10. Use Navigating Through Algebra in Grades 3 through 5, "Triangle-Rule Machine," p. 58. Students describe the rule that will produce the perimeter for any given arrangement of triangles. *Quadrant A*

11. Students identify the "stem" or "core" of repeating patterns (numeric & non-numeric). *Quadrant A*

    The **core** of the **shape** pattern

12. Compare multiple patterns and generalize a rule.

13. Use input output tables to generalize a rule.

Resources

PASS Coach: Lesson 34 , **Math Expressions Textbook:** Vol. 2 page 945 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.ymathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment
Benchmark #2 Testing Window: Nov. 5th - Nov. 16th

Week of Nov. 19th - 23rd	
Nov. 19th - 20th	
Indicator	**CCSS**
4-3.1 **Analyze** numeric, nonnumeric, and repeating patterns involving all operations and decimal patterns through hundredths. 4-3.2 **Generalize** a rule for numeric, nonnumeric, and repeating patterns involving all operations.	4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the patterns that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in*

3rd Grade Standard 3-3.2 Apply procedures to find missing numbers in numeric patterns that involve whole number operations. [Weak indicator based on 2011-2012 benchmark results.]	*this way.*

Instructional Strategies

For this indicator(4-3.1), it is **essential** for students to:

- Determine the pattern
- Write the rule in words. For example, the multiply by 2 add 3
- Analyze decimal patterns through hundredths using models, counting, or skip counting such as
  - 0.10, 0.15, 0.20, ____ because it applies a familiar whole number pattern that involves skip counting (counting by 5's).
  - 0.2, 0.4, 0.6, ____ because it applies a familiar whole number pattern that involves skip counting (counting by 2's).
- Analyze information to solve increasingly more sophisticated problems such as
  - 3, 5, 4, 6, ___ (add 2 then subtract 1)
  - 1, 4, 13, 40, ___ (multiply by 3 then add 1)
- Analyze information to solve nonnumeric patterns involving manipulative, pictures or symbols.
  - Determine the number of dots in Stage Four of the pattern.

Stage 1 Stage 2 Stage 3

For this indicator(4-3.2), it is **essential** for students to:

- Determine the pattern
- Write the rule in words. For example, the multiply by 2 add 3

1. Distribute tables and number sequences with all the information in/on them. Students determine the rule by using the following guidelines:
   a. Look at the relationship(s) between the numbers.
   b. Tell the relationship by using the operation sign (+, -, x, etc.) and what is happening each time (x5, -6, or +7) or write it in your own words. *Quadrant C*

2. Every Day Counts® Calendar Math daily calendar pieces. *Quadrant A*

3. Give students sentence strips with shapes or sound patterns. They determine the rule for the pattern. *Quadrant A*

4. Analyze at input/output tables to determine rule for table. *Quadrant A*

5. Use a hundred board. Use rules to find patterns within the numbers (multiples, factors, digits with a difference of 1). Students use different colors to show rules on their own hundred board. *Quadrant A*

6. Use triangles to create a day old "worm." Follow with a 2-day and 3-day-old worm. Find the pattern to create a ten-day-old worm. *Quadrant A*

7. Read Anno's Magic Seeds by Mit Sumasa Anno.

8. Use money and decimal squares to analyze decimal patterns through hundredths. Show students a hundreds grid and divide it into quarters. Compare ¼ to 25¢, 2/4 to 50¢3/4 to 75¢ and 1 to $1.

9. Use Every Day Counts® Calendar Math daily calendar pieces to generalize a rule for patterns. *Quadrant A*

10. Use Navigating Through Algebra in Grades 3 through 5, "Triangle-Rule Machine," p. 58. Students describe the rule that will produce the perimeter for any given arrangement of triangles. *Quadrant A*

11. Students identify the “stem” or “core” of repeating patterns (numeric & non-numeric). *Quadrant A*

    The **core** of the **shape** pattern

12. Compare multiple patterns and generalize a rule.

13. Use input output tables to generalize a rule.

Resources

PASS Coach: Lesson 34 , **Math Expressions Textbook:** Vol. 2 page 945 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Nov. 19th - 23rd	
Nov. 21st - Nov. 23rd	
Indicator	**CCSS**
Thanksgiving (Holiday)	Thanksgiving (Holiday)
Instructional Strategies	
Thanksgiving (Holiday)	
Resources	
Thanksgiving (Holiday)	
Assessment	
Thanksgiving (Holiday)	

Week of Nov. 26th - Nov. 30th	
Nov. 26th - Nov. 28th	
Indicator	**CCSS**
4-3.1 **Analyze** numeric, nonnumeric, and repeating patterns involving all operations and decimal patterns through hundredths. 4-3.2 **Generalize** a rule for numeric, nonnumeric, and repeating patterns involving all operations.	4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the patterns that were not explicit in the rule itself. . *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in*

3rd Grade Standard 3-3.2 Apply procedures to find missing numbers in numeric patterns that involve whole number operations. [Weak indicator based on 2011-2012 benchmark results.]	*this way.*

Instructional Strategies

For this indicator(4-3.1), it is **essential** for students to:

- Determine the pattern
- Write the rule in words. For example, the multiply by 2 add 3
- Analyze decimal patterns through hundredths using models, counting, or skip counting such as
  - 0.10, 0.15, 0.20, ____ because it applies a familiar whole number pattern that involves skip counting (counting by 5's).
  - 0.2, 0.4, 0.6, ____ because it applies a familiar whole number pattern that involves skip counting (counting by 2's).
- Analyze information to solve increasingly more sophisticated problems such as
  - 3, 5, 4, 6, ___ (add 2 then subtract 1)
  - 1, 4, 13, 40, ___ (multiply by 3 then add 1)
- Analyze information to solve nonnumeric patterns involving manipulative, pictures or symbols.
  - Determine the number of dots in Stage Four of the pattern.

Stage 1 Stage 2 Stage 3

For this indicator(4-3.2), it is **essential** for students to:

- Determine the pattern
- Write the rule in words. For example, the multiply by 2 add 3

1. Distribute tables and number sequences with all the information in/on them. Students determine the rule by using the following guidelines:
   a. Look at the relationship(s) between the numbers.
   b. Tell the relationship by using the operation sign (+, -, x, etc.) and what is happening each time (x5, -6, or +7) or write it in your own words. *Quadrant C*
2. Every Day Counts® Calendar Math daily calendar pieces. *Quadrant A*
3. Give students sentence strips with shapes or sound patterns. They determine the rule for the pattern. *Quadrant A*
4. Analyze at input/output tables to determine rule for table. *Quadrant A*
5. Use a hundred board. Use rules to find patterns within the numbers (multiples, factors, digits with a difference of 1). Students use different colors to show rules on their own hundred board. *Quadrant A*
6. Use triangles to create a day old "worm." Follow with a 2-day and 3-day-old worm. Find the pattern to create a ten-day-old worm. *Quadrant A*
7. Read Anno's Magic Seeds by Mit Sumasa Anno.
8. Use money and decimal squares to analyze decimal patterns through hundredths. Show students a hundreds grid and divide it into quarters. Compare ¼ to 25¢, 2/4 to 50¢3/4 to 75¢ and 1 to $1.
9. Use Every Day Counts® Calendar Math daily calendar pieces to generalize a rule for patterns. *Quadrant A*
10. Use Navigating Through Algebra in Grades 3 through 5, "Triangle-Rule Machine," p. 58. Students describe the rule that will produce the perimeter for any given arrangement of triangles. *Quadrant A*

11. Students identify the “stem” or “core” of repeating patterns (numeric & non-numeric). *Quadrant A*

The **core** of the **shape** pattern

12. Compare multiple patterns and generalize a rule.

13. Use input output tables to generalize a rule.

Resources

PASS Coach: Lesson 34 , **Math Expressions Textbook:** Vol. 2 page 945 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Nov. 26th - 30th

Nov. 29th and 30th

Indicator	CCSS
4-3.3 **Use** a rule to complete a sequence or a table.	4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the patterns that were not explicit in the rule itself. . *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

Instructional Strategies

For this indicator(4-3.3), it is **essential** for students to:

- Determine the pattern
- Interpret a rule
- Use the rule to complete a table or sequence
- Perform operations fluently

1. Laminate some input, output tables. Give the tables, erasable markers, and rule cards (such as x9 or +4) to each group of 4-5. Write any 4 numbers on the overhead for them to put in the input column and have each group use the rule and draw the table in their journals. Switch rule cards with the groups and continue. *Quadrant A*

2. Draw number lines on sentence strips and laminate. Give each pair a number line. Draw a number line on the board with missing numbers in the sequence. Have the students use erasable markers to fill in what is missing. They can write the rule on the back of the sentence strip. *Quadrant A*

3. Laminate empty tables for each student or pair of students. Supply them with erasable markers. Give the students a lead in sentence such as,” Dylan’s allowance is four dollars a week…” Explain how much he will have in six weeks. Have them turn the information into a table and describe what is happening (see example below). Represent charts both vertically and horizontally. *Quadrant B*

Week	Dollars
1	4
6	24

Describe: Each week Dylan does his chores he can put another four dollars in the bank. So for each week, you

multiply by four.

4. Use a number line to demonstrate skip counting of decimals. Have students write the examples in their journals and create their own number lines to show decimal patterns. These can be written on sentence strips. Have students explain and extend the pattern. *Quadrant A*

0.45 0.47 0.49

5. Laminate a large 5" by 7" input/output table. Have a different letter representing the answers on the right side (output) of the table. Leave the left side (input) of the table blank. Give the students a rule for the table such as, x 8. Have the students take turns writing any number they wish with an erasable marker in the blanks on the input side. *Quadrant A*

Input	Output
	r
	m
	s
	d
	t

The class draws the table in their *math* journal and completes the table each time by telling what product each letter represents. This can be adapted for sums, differences, and quotients.

Resources

PASS Coach: lessons 13 and 14 , **Math Expressions Textbook:** Vol. 2 783 and 792 , **S[3] Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.ymathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Dec. 3rd - 7th	
Dec. 3rd	
Indicator	**CCSS**
4-3.3 **Use** a rule to complete a sequence or a table.	4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the patterns that were not explicit in the rule itself. . *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain*

	informally why the numbers will continue to alternate in this way.

Instructional Strategies

For this indicator(4-3.3), it is **essential** for students to:

- Determine the pattern
- Interpret a rule
- Use the rule to complete a table or sequence
- Perform operations fluently

1. Laminate some input, output tables. Give the tables, erasable markers, and rule cards (such as x9 or +4) to each group of 4-5. Write any 4 numbers on the overhead for them to put in the input column and have each group use the rule and draw the table in their journals. Switch rule cards with the groups and continue. *Quadrant A*

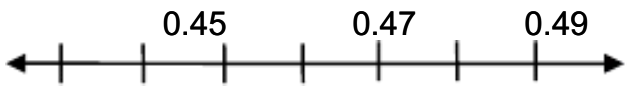
2. Draw number lines on sentence strips and laminate. Give each pair a number line. Draw a number line on the board with missing numbers in the sequence. Have the students use erasable markers to fill in what is missing. They can write the rule on the back of the sentence strip. *Quadrant A*

3. Laminate empty tables for each student or pair of students. Supply them with erasable markers. Give the students a lead in sentence such as," Dylan's allowance is four dollars a week…" Explain how much he will have in six weeks. Have them turn the information into a table and describe what is happening (see example below). Represent charts both vertically and horizontally. *Quadrant B*

Week	Dollars
1 6	4 24

Describe: Each week Dylan does his chores he can put another four dollars in the bank. So for each week, you multiply by four.

4. Use a number line to demonstrate skip counting of decimals. Have students write the examples in their journals and create their own number lines to show decimal patterns. These can be written on sentence strips. Have students explain and extend the pattern. *Quadrant A*



5. Laminate a large 5" by 7" input/output table. Have a different letter representing the answers on the right side (output) of the table. Leave the left side (input) of the table blank. Give the students a rule for the table such as, x 8. Have the students take turns writing any number they wish with an erasable marker in the blanks on the input side. *Quadrant A*

Input	Output
	r
	m
	s
	d
	t

The class draws the table in their *math* journal and completes the table each time by telling what product each letter represents. This can be adapted for sums, differences, and quotients.

Resources

PASS Coach: lessons 13 and 14 , **Math Expressions Textbook:** Vol. 2 783 and 792 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: ~~www.thinkcentral.com~~ (Standards Practice Worksheets) , ~~www.studyisland.com~~ , ~~www.vmathlive.com~~ , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Dec. 3rd - 7th

Dec. 4th - 6th

Indicator	CCSS
4-3.4 **Translate** among, letters, symbols, and words to represent quantities in simple mathematical expressions or equations.	4.OA.1 Interpret a multiplication equation as a comparison e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations. 4.OA.3 Solve multi-step word problems posed with whole numbers and have a whole-number answer using the four operations including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Instructional Strategies

For this indicator(4-3.4), it is **essential** for students to:

- Understand the relationship between unknown quantities and symbols and letters
- Interpret simple word problems
- Understand the difference between an expression and an equation
- Understand the relationship between the words form and the expression or equation
- Write number sentences
- Understand whole number operations

Warm up:

- Review missing subtrahends, addends etc. using blanks 45 - ___ = 34
- Review pattern rules; such as, +15 fits the pattern 30, 45, ___, 75.

1. Prepare a chart with numbers being represented by the letters of the alphabet. Ex. a = 1, b = 2, c = 3, d = 4, etc. Write **r + a** and have them tell you what the value of that expression would be. Then write **w – r** and have students tell you what the value of that expression would be. Discuss how they found each value. *Quadrant C*

2. Make 10 to 12 sets of cards with missing addends on them represented by letters and the letter and answer on the other. Distribute them at random face up and call on one student to find the matching card by looking on the other students' desk. Continue until all matches have been found. *Quadrant A*

3. Make a chart using symbols to represent a number. Have the student tell you the sum, difference, or product of the two. *Quadrant A*

4. Read Math Appeal, Mind – Stretching Math Riddles by Greg Tang.

5. Give students simple word problems and have them write an equation showing the missing information as a variable. Solve problems when teaching 4-3.5.

Resources

PASS Coach: lesson 15 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Dec. 3rd - 7th

Dec. 7th

Indicator	CCSS
4-3.5 **Apply** procedures to find the value of an unknown letter or symbol in a whole-number equation.	4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison. 4.OA.3 Solve multi-step word problems posed with whole numbers and have a whole-number answer using the four operations including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Instructional Strategies

For this indicator(4-3.5), it is **essential** for students to:

- Find the value when the symbol representing the unknown quantity in different positions. For example,
  - x 3 = 6
  - 3 + = 5
  - 7 – 2 = G

1. Prepare cards like in the example. Give students the cards such as, 45 + x > 45 + ___. Have them tell you all the positive whole numbers that would make the number sentence true (1, 2, 3, 4, 5, 6). Discuss. *Quadrant A*

2. Have one student write any number sentence on the board. Have the other students see how many different ways they could get the same answer. Have them write these in their math journals. *Quadrant C* Ex: 8 + n =13

3. Tell students there are several ways to represent relationships using equations. Explain each and have them write examples in their math journals. *Quadrant A*

   Ex: n + 7 = 15

4. Write an equation such as n + 5 = 12 on the overhead. Give each student a card with one number on it. Call students up to the overhead or board and see if their card solves the equation correctly when they cover the "n". In the example, 12 + x = 18, means 12 plus how many equals 18. (12 + 6 = 18) *Quadrant A*

5. Play "Equation Bingo": Teacher calls out or writes an equation on the board, for example 8 x n = 56. Students cover the number (n) on their bingo card (if that factor is there). Use a variety of equations with all different operations. *Quadrant A*

Resources

PASS Coach: lesson 16 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Dec. 10th - 14th	
Dec. 10th - 13th	
Indicator	**CCSS**
4-3.5 **Apply** procedures to find the value of an unknown letter or symbol in a whole-number equation.	4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

	4.OA.3 Solve multi-step word problems posed with whole numbers and have a whole-number answer using the four operations including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Instructional Strategies

For this indicator(4.3.5), it is **essential** for students to:

- Find the value when the symbol representing the unknown quantity in different positions. For example,
  - x 3 = 6
  - 3 + = 5
  - 7 – 2 = G

1. Prepare cards like in the example. Give students the cards such as, 45 + x > 45 + ___. Have them tell you all the positive whole numbers that would make the number sentence true (1, 2, 3, 4, 5, 6). Discuss. *Quadrant A*

2. Have one student write any number sentence on the board. Have the other students see how many different ways they could get the same answer. Have them write these in their math journals. *Quadrant C* Ex: 8 + n =13

3. Tell students there are several ways to represent relationships using equations. Explain each and have them write examples in their math journals. *Quadrant A*

   Ex: n + 7 = 15

4. Write an equation such as n + 5 = 12 on the overhead. Give each student a card with one number on it. Call students up to the overhead or board and see if their card solves the equation correctly when they cover the "n". In the example, 12 + x = 18, means 12 plus how many equals 18. (12 + 6 = 18) *Quadrant A*

5. Play "Equation Bingo": Teacher calls out or writes an equation on the board, for example 8 x n = 56. Students cover the number (n) on their bingo card (if that factor is there). Use a variety of equations with all different operations. *Quadrant A*

Resources

PASS Coach: lesson 16 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Dec. 14th	
Indicator	**CCSS**
Review Algebra Unit	

Instructional Strategies

Resources

OCSD5 Teaching and Learning Framework

Websites: **Think Central:** Standards Practice Worksheets , **www.quizlet.com** , **http://www.free-training-tutorial.com/sequences-games.html**: (patterns) , **http://www.softschools.com/math/patterns/game/** : (patterns) , **www.superkids.com/aweb/tools/math** , **http://gamequarium.com/math.htm** , **www.superteachertools.com**: Jeopardy , Speed Math Quiz Maker , Who Wants to be a Millionaire , Board Game , Hang Man

Assessment

Week of Dec. 17th - Jan. 4th	
Dec. 17th - Jan. 2nd	
Indicator	**CCSS**
Winter Break	Winter Break
Instructional Strategies	
Winter Break	

Resources
Winter Break
Assessment
Winter Break

Week of Jan. 3rd - Jan. 4th	
Jan. 3rd - 4th	
Indicator	**CCSS**
4-3.6 **Illustrate** situations that show change over time as either increasing, decreasing, or varying.	Winter Break

Instructional Strategies

For this indicator(4-3.6), it is **essential** for students to:

- Understand change over time
- Determine if change has occurred
- Understand the concepts of increasing, decreasing and varying
- Use their understanding of change over time to find examples increasing, decreasing and varying change
- Describe observed change in words
- Recognize counter-examples. For example, when change stays the same.

1. Have students research and label rates of growth of plants and animals and put the data into a chart or on a graph to illustrate the growth. *Quadrant B*

2. Have students show the growth of multiple towns over a five-year period in a table. They can make up a "fictitious" chart showing a rise and decline in the growth during the five years and tell reasons why their town showed these rises and declines. Determine if their town showed increase, decrease, or varying. *Quadrant C*

3. Have students interview their parents and make timelines to show how they grew over the years. Were there growth spurts? Are there medical records or baby books that would have this information? *Quadrant B*

4. Growth in the population of the United States varies. Obtain census data and have the students "read" it and tell the reasons why population growth varies from decade to decade. *Quadrant B*

5. Laminate some graphs like the one in the example. Give each group a graph to analyze and have each person in the group tell you about a different aspect of the graph such as, changes in the graph over time may be said to be increasing, decreasing, and varying. *Quadrant A*

Resources

PASS Coach: lesson 17 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*iBreak

Assessment

inter Break

Week of Jan. 7th - Jan. 11th	
Jan. 7th - Jan. 9th	
Indicator	**CCSS**
4-3.6 **Illustrate** situations that show change over time as either increasing, decreasing, or varying.	

Instructional Strategies

For this indicator(4-3.6), it is **essential** for students to:

- Understand change over time

- Determine if change has occurred
- Understand the concepts of increasing, decreasing and varying
- Use their understanding of change over time to find examples increasing, decreasing and varying change
- Describe observed change in words
- Recognize counter-examples. For example, when change stays the same.

1. Have students research and label rates of growth of plants and animals and put the data into a chart or on a graph to illustrate the growth. Quadrant B

2. Have students show the growth of multiple towns over a five-year period in a table. They can make up a "fictitious" chart showing a rise and decline in the growth during the five years and tell reasons why their town showed these rises and declines. Determine if their town showed increase, decrease, or varying. *Quadrant C*

3. Have students interview their parents and make timelines to show how they grew over the years. Were there growth spurts? Are there medical records or baby books that would have this information? *Quadrant B*

4. Growth in the population of the United States varies. Obtain census data and have the students "read" it and tell the reasons why population growth varies from decade to decade. *Quadrant B*

5. Laminate some graphs like the one in the example. Give each group a graph to analyze and have each person in the group tell you about a different aspect of the graph such as, changes in the graph over time may be said to be increasing, decreasing, and varying. *Quadrant A*

Resources

PASS Coach: lesson 17 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*iBreak

Assessment

Week of Jan. 7th - Jan. 11th

Jan. 10th - 11th

Indicator	**CCSS**
Review Algebra Unit	Break

Instructional Strategies

Resources

OCSD5 Teaching and Learning Framework

Websites: www.superteachertools.com : Jeopardy , Speed Match Quiz Maker , Who Wants to be a Millionaire , Board Game , Hang Man , **Think Central:** Standards Practice Worksheets , www.quizlet.com , http://www.free-training-tutorial.com/sequences-games.html : (patterns) , www.superkids.com/aweb/tools/math , http://gamequarium.com/math.htm , http://www.softschools.com/math/patterns/game/ : (patterns)Winter Break

Assessment

Winter Break

Week of Jan. 14th - 18th

Jan. 14th

Indicator	**CCSS**
Review Algebra Unit	

Instructional Strategies
Winter Break
Resources
OCSD5 Teaching and Learning Framework **Websites:** www.superteachertools.com: Jeopardy , Speed Match Quiz Maker , Who Wants to be a Millionaire , Board Game , Hang Man , **Think Central:** Standards Practice Worksheets , www.quizlet.com , http://www.free-training-tutorial.com/sequences-games.html : (patterns) , www.superkids.com/aweb/tools/math , http://gamequarium.com/math.htm , http://www.softschools.com/math/patterns/game/ : (patterns)Winter Break
Assessment
Winter Break

Week of Jan. 14th - 18th	
Jan. 15th - 17th	
Indicator	**CCSS**
4-5.1 **Use** appropriate tools to measure objects to the nearest unit: measuring length in quarter inches, centimeters, and millimeters; measuring liquid volume in cups, quarts, and liters; and measuring weight and mass in pounds, milligrams, and kilograms. 4-5.9 **Exemplify** situations in which highly accurate measurements are required.	Winter Break
Instructional Strategies	
For this indicator(4-5.1), it is **essential** for students to: • Understand which unit of measure is most appropriate for length, volume and mass • Locate the nearest unit • Use other words synonymous with nearest such as “closest to” • Understand that their measurement is an approximation in some cases • Understand quarter inches • Use appropriate abbreviations for measurements (meters is m, pounds is lb, etc..) • Measure using actual tools • Read a measurement from a pictorial representation For this indicator(4-5.9), it is **essential** for students to: • Understand the meaning of accuracy • Provide examples of situations where accurate measurements are needed • Analyze non examples (situations where accuracy is not required) 1. Use Navigating Through Measurement in Grades 3 through 5, “What Can We Measure?” p. 13. Discuss with students all objects have measurable physical properties; weight, length, capacity, or volume. Discuss tools used to find this information. Make a chart listing the object, the measurable property, tool used to measure, and actual measurement. *Quadrant A* 2. Have students measure a variety of objects in the classroom to the nearest quarter-inch, centimeter, and millimeter. *Quadrant A* 3. Using a scale, have students find objects that weigh 1 pound, 2 pounds, 1 kilogram, 1 milligram, etc. *Quadrant B* 4. United Streaming Video: Tools for Measurement: reviews appropriate tools for measurement.	

5. Have students bring in some containers, such as gallon jugs, 24 fl oz soda containers, etc. and have them remove the labels. These can be placed on a T-chart on chart paper according to size (liquid volume). *Quadrant B*

Use to measure:	Large containers	Small containers
	gallons	cups
	liters	milliliters

6. Use Navigating Through Measurement in Grades 3 through 5, "My Benchmarks," p. 39. Students identify objects to measure, list the attribute to measure, give an estimate, and measure the objects. *Quadrant B*

7. Discuss professions that use measurement (architects, engineers, interior decorators, chefs, building contractors, doctors, etc.). What would happen if their measurements were not accurate? *Quadrant B*

8. Have teams build something. Give some teams rulers and have some teams use benchmark measurements. Explain why highly accurate measurements were needed to build. *Quadrant A*

9. Select something to make (cookies, Kool-Aid). While cooking or mixing, students use incorrect measurements. Allow them to sample the finished product(s). *Quadrant B*

10. Use Navigating Through Measurement in Grades 3 through 5, "How Precise Should My Measurements Be?" p. 43. Students determine activities where measurements must be exact or not. *Quadrant B*

Resources

PASS Coach: lesson 26 and 27 , **S** [3] **Curriculum** , **OCSD5 Teaching and Learning Framework**
Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*in

Assessment

inter Break

Jan. 18th	**Third Nine Weeks**
Indicator	**CCSS**
Professional Development/Workday	Professional Development/Workday
Instructional Strategies	
Professional Development/Workday	
Resources	
Professional Development/Workday	
Assessment	
Professional Development/Workday	

Week of Jan. 21st - Jan. 25th	
Jan. 21st - Jan. 22nd	
Indicator	**CCSS**
Martin Luther King Jr. Day (Holiday)	Martin Luther King Jr. Day (Holiday)
Professional Development/Workday	Professional Development/Workday
Instructional Strategies	
Martin Luther King Jr. Day (Holiday)	

Professional Development/Workday

Resources

Martin Luther King Jr. Day (Holiday)
Professional Development/Workday

Assessment

Martin Luther King Jr. Day (Holiday)
Professional Development/Workday

Week of Jan. 23rd - Jan. 25th

Jan. 23rd – 25th

Indicator

4-5.8 **Recall** equivalencies associated with liquid volume, time, weight, and length: 8 liquid ounces = 1 cup, 2 cups = 1 pint, 2 pints = 1 quart, 4 quarts = 1 gallon; 365 days = 1 year, 52 weeks = 1 year; 16 ounces = 1 pound, 2,000 pounds = 1 ton; and 5,280 feet = 1 mile.

4-5.3 **Use** equivalencies to convert units of measure within the U.S. Customary System: converting length in inches, feet, yards, and miles; converting weight in ounces, pounds, and tons; converting liquid volume in cups, pints, quarts, and gallons; and converting time in years, months, weeks, days, hours, minutes, and seconds.

3rd Grade Standard 3-5.4 Use common referents to make comparisons and estimates associated with length, liquid volume, and mass and weight: meters compared to yards, kilometers to miles, liters to quarts, and kilograms to pounds. [Weak indicator based on 2011-2012 benchmark results.]

CCSS

4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. . *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*

Instructional Strategies

For this indicator(4-5.8), it is **essential** for students to:

- Recall the listed equivalencies

For this indicator(4-5.3), it is **essential** for students to:

- Analyze concrete and or pictorial models to determine the relationships among these measures.
- Convert units using the basic relationships

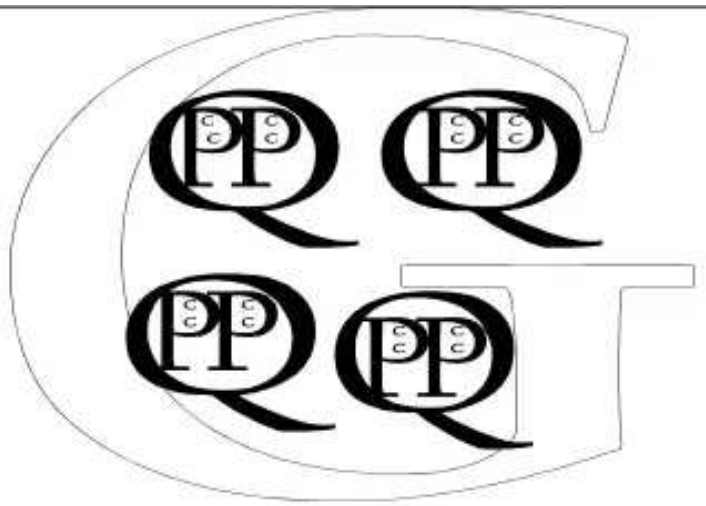
1. Model with students: 2 cups in a pint, 2 pints in a quart, 4 quarts in a gallon using measuring cups and containers. *Quadrant A*

2. Review relationships with time – how many days are in a year? *Quadrant A*

3. Play concentration with equivalencies. *Quadrant C*

4. Play Bingo. Students create boards and call out equivalencies. *Quadrant D*

5. Model “Gallon Man” strategy to help students recall liquid volume equivalencies.



6. Laminate blank input, output tables. Use blank tables to show the relationship between customary units. *Quadrant A*

Rule: ** 12

Inches	Feet
12	1
24	2
30	2.5

7. Play "I Have" with the students as a review. Prepare a set of questions, each on different index cards. Put the answers to each question on the back of another card's question. Pass them out at random and have a student start by reading his/her question (What would one meter equal in centimeters?). Another student that has the answer reads it and then reads his/her question (What is two pounds in ounces?). The game continues until all the cards have been read. *Quadrant A*

8. Have students bring some containers, such as gallon jugs, 24 FL OZ soda containers, etc. and have them remove the labels. These can be placed on chart paper to show the conversions as they are on the labels. *Quadrant B*

9. Have students create input/output tables. Use the tables to demonstrate converting periods of time. 1 minute = 60 seconds, 1 hour = 60 minutes, 1 day = 24 hours, 2 days = 48 hours, 1.5 days = 36 hours (Can be used w/feet, inches, ounces, cups, pints, etc.) *Quadrant A*

Rule: x 60	
1 hr.	60 min.
2 hrs.	120 min.
2 hrs. 5 min.	125 min.
4 hrs.	240 min.

10. Provide a calendar and date cards. Have a student pick a card and show that date on the calendar. Have the students tell how many hours it has been since January 1st or any arbitrary date. *Quadrant B*

Resources

PASS Coach: lesson 23 and 28 , **Math Expressions Textbook:** Vol. 2 pages 1161, 1175, and 1187 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Jan. 28th - Feb. 1st

Jan. 28th – 31st

Indicator	CCSS
4-5.8 **Recall** equivalencies associated with liquid volume, time, weight, and length: 8 liquid ounces = 1 cup, 2 cups = 1 pint, 2 pints = 1 quart, 4 quarts = 1 gallon; 365 days = 1 year, 52 weeks = 1 year; 16 ounces = 1 pound, 2,000 pounds = 1 ton; and 5,280 feet = 1 mile. 4-5.3 **Use** equivalencies to convert units of measure within the U.S. Customary System: converting length in inches, feet, yards, and miles; converting weight in ounces, pounds, and tons; converting liquid volume in cups, pints, quarts, and gallons; and converting time in years, months, weeks, days, hours, minutes, and seconds. *3rd Grade Standard 3-5.4 Use common referents to make comparisons and estimates associated with length, liquid volume, and mass and weight: meters compared to yards, kilometers to miles, liters to quarts, and kilograms to pounds. [Weak indicator based on 2011-2012 benchmark results.]*Break	4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. . *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...* Winter Break

Instructional Strategies

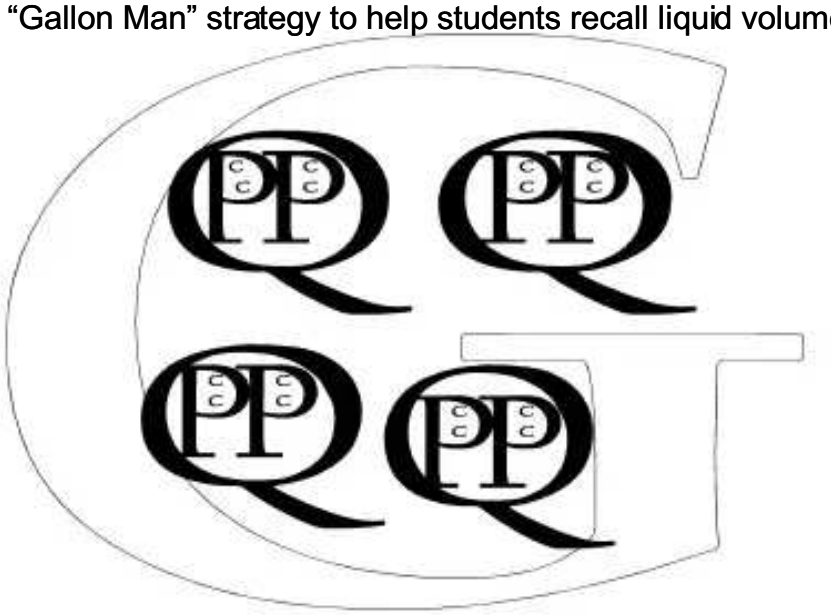
For this indicator(4-5.8), it is **essential** for students to:

- Recall the listed equivalencies

For this indicator(4-5.3), it is **essential** for students to:

- Analyze concrete and or pictorial models to determine the relationships among these measures.
- Convert units using the basic relationships

1. Model with students: 2 cups in a pint, 2 pints in a quart, 4 quarts in a gallon using measuring cups and containers. *Quadrant A*
2. Review relationships with time – how many days are in a year? *Quadrant A*
3. Play concentration with equivalencies. *Quadrant C*
4. Play Bingo. Students create boards and call out equivalencies. *Quadrant D*
5. Model “Gallon Man” strategy to help students recall liquid volume equivalencies.



6. Laminate blank input, output tables. Use blank tables to show the relationship between customary units. *Quadrant A*

Rule: ÷ 12

Inches	Feet
12	1
24	2
30	2.5

7. Play "I Have" with the students as a review. Prepare a set of questions, each on different index cards. Put the answers to each question on the back of another card's question. Pass them out at random and have a student start by reading his/her question (What would one meter equal in centimeters?). Another student that has the answer reads it and then reads his/her question (What is two pounds in ounces?). The game continues until all the cards have been read. *Quadrant A*

8. Have students bring some containers, such as gallon jugs, 24 FL OZ soda containers, etc. and have them remove the labels. These can be placed on chart paper to show the conversions as they are on the labels. *Quadrant B*

9. Have students create input/output tables. Use the tables to demonstrate converting periods of time. 1 minute = 60 seconds, 1 hour = 60 minutes, 1 day = 24 hours, 2 days = 48 hours, 1.5 days = 36 hours (Can be used w/feet, inches, ounces, cups, pints, etc.) *Quadrant A*

Rule: x 60	
1 hr.	60 min.
2 hrs.	120 min.
2 hrs. 5 min.	125 min.
4 hrs.	240 min.

10. Provide a calendar and date cards. Have a student pick a card and show that date on the calendar. Have the students tell how many hours it has been since January 1st or any arbitrary date. *Quadrant B*

Resources

PASS Coach: lesson 23 and 28 , **Math Expressions Textbook:** Vol. 2 pages 1161, 1175, and 1187 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Winter Break

Week of Jan. 28th - Feb 1st	
Feb. 1st	
Indicator	**CCSS**
4-5.7 **Use** Celsius and Fahrenheit thermometers to determine temperature changes during time intervals.	

Instructional Strategies

For this indicator(4-5.7), it is **essential** for students to:

- Understand how to read a thermometer given in concrete and pictorial form
- Understand that temperature changes over time
- Understand if the temperature is increasing or decreasing
- Understand how subtract and add whole numbers fluently
- Recognize the notation for Celsius and Fahrenheit

1. Put thermometers on four walls of the classroom, two Fahrenheit and two Celsius. Divide the class into four groups. Assign each group a thermometer. Have them measure the room temperature from 'their wall' several times during the day and make a chart. Discuss the results. *Quadrant B*

2. Make up situation cards as follows, “At 9:00 a.m. it was 72 degrees Fahrenheit. At 10:00 a.m. it was 52 degrees Fahrenheit. Did the temperature rise or drop? How much?” *Quadrant A*

3. Put two blank laminated thermometers on a page. Have the students in pairs, use erasable markers and each fill in one of the thermometers. What is the temperature difference? Did the temperature rise or drop? How much? *Quadrant A*

4. Give the students a sheet with ‘High and Low’ for each day of the week. Have them listen to the weather for five days in a row and record the Highs and Lows in Fahrenheit and Celsius. Display the results and discuss them. *Quadrant B*

5. Give students thermometers and take a “field trip” around the school to measure the temperature of various rooms.

Resources

PASS Coach: lesson 24 , **Math Expressions Textbook:** Vol. 657 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Feb. 4th - 8th	
Feb. 4th - 5th	
Indicator	**CCSS**
4-5.7 **Use** Celsius and Fahrenheit thermometers to determine temperature changes during time intervals.	Winter Break

Instructional Strategies

For this indicator(4-5.7), it is **essential** for students to:

- Understand how to read a thermometer given in concrete and pictorial form
- Understand that temperature changes over time
- Understand if the temperature is increasing or decreasing
- Understand how subtract and add whole numbers fluently
- Recognize the notation for Celsius and Fahrenheit

1. Put thermometers on four walls of the classroom, two Fahrenheit and two Celsius. Divide the class into four groups. Assign each group a thermometer. Have them measure the room temperature from 'their wall' several times during the day and make a chart. Discuss the results. *Quadrant B*

2. Make up situation cards as follows, "At 9:00 a.m. it was 72 degrees Fahrenheit. At 10:00 a.m. it was 52 degrees Fahrenheit. Did the temperature rise or drop? How much?" *Quadrant A*

3. Put two blank laminated thermometers on a page. Have the students in pairs, use erasable markers and each fill in one of the thermometers. What is the temperature difference? Did the temperature rise or drop? How much? *Quadrant A*

4. Give the students a sheet with 'High and Low' for each day of the week. Have them listen to the weather for five days in a row and record the 'Highs and Lows' in Fahrenheit and Celsius. Display the results and discuss them. *Quadrant B*

5. Give students thermometers and take a "field trip" around the school to measure the temperature of various rooms.

Resources

PASS Coach: lesson 24 , **Math Expressions Textbook:** Vol. 657 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.ymathlive.com www.learner.org/resources , *www.eduplace.com*

Assessment

Winter Break

Feb. 6th - 8th	
Indicator	**CCSS**
4-5.6 **Apply** strategies and procedures to determine the amount of elapsed time in hours and minutes within a 12-hour period, either a.m. or p.m.	4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

Instructional Strategies

For this indicator(4-5.6), it is **essential** for students to:

- Understand the meaning of elapsed time
- Understand the difference between a.m. and p.m.
- Understand the meaning of 12-hour period

- Understand past and future time
- Determine elapsed time when the information in given in word or pictorial form
- Find the elapsed time when given the start and end time
- Find the end time when given the start time and elapsed time
- Find the start time when given the end time and elapsed time

1. Review periods of time: 1 minute = 60 seconds, 1 hour = 60 minutes, 1 day = 24 hours. From midnight to noon is a.m. From noon to midnight is p.m. *Quadrant A*

2. Provide two analog clocks both set to different times. Students determine the elapsed time. *Quadrant A*

3. Tape a small piece of paper numbered one through five on the students' desks. At different times of the day say, "Look at the clock, write down the time and what we are doing." During math time, students write the elapsed time in between each time interval. *Quadrant A*

4. Pass out word problems on cards such as, "How much time has passed if you left home at 6:15 a.m. and arrived back at 10:45 a.m.?" Students come to the board and explain the process that they would use to figure the problem out. *Quadrant B*

5. Students can draw a T chart to help them determine elapsed time.

   For example: Toby left home at 7:15 a.m. He returned at 10:42 a.m. How long was he gone?

Time	Hours	Minutes
7:15	0	0
8:15	1	0
9:15	1	0
10:15	1	0
10:30	0	15
10:40	0	10
10:42	0	2
	3 hours	27 minutes

   On the chart, students record the start time. Beginning with the hours they add hours and record them in the hour column. /then they move to minutes and add minutes (in any increments) until they reach the end of time. Finally students add the hours and minutes to get the elapsed time. *Quadrant A*

Resources

PASS Coach: lesson 23 , **Math Expressions Textbook**: Vol.12 p. 743 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework** inter

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com* Break

Assessment

Winter Break

Week of Feb. 11th - 15th	
Feb. 11th - 12th	
Indicator	**CCSS**
4-5.6 **Apply** strategies and procedures to determine the amount of elapsed time in hours and minutes within a 12-hour period, either a.m. or p.m.	4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

Instructional Strategies

For this indicator(4-5.6), it is **essential** for students to:

- Understand the meaning of elapsed time
- Understand the difference between a.m. and p.m.
- Understand the meaning of 12-hour period
- Understand past and future time
- Determine elapsed time when the information in given in word or pictorial form
- Find the elapsed time when given the start and end time
- Find the end time when given the start time and elapsed time
- Find the start time when given the end time and elapsed time

1. Review periods of time: 1 minute = 60 seconds, 1 hour = 60 minutes, 1 day = 24 hours. From midnight to noon is a.m. From noon to midnight is p.m. *Quadrant A*

2. Provide two analog clocks both set to different times. Students determine the elapsed time. *Quadrant A*

3. Tape a small piece of paper numbered one through five on the students' desks. At different times of the day say, "Look at the clock, write down the time and what we are doing." During math time, students write the elapsed time in between each time interval. *Quadrant A*

4. Pass out word problems on cards such as, "How much time has passed if you left home at 6:15 a.m. and arrived back at 10:45 a.m.?" Students come to the board and explain the process that they would use to figure the problem out. *Quadrant B*

5. Students can draw a T chart to help them determine elapsed time.

   For example: Toby left home at 7:15 a.m. He returned at 10:42 a.m. How long was he gone?

Time	Hours	Minutes
7:15	0	0
8:15	1	0
9:15	1	0
10:15	1	0
10:30	0	15
10:40	0	10
10:42	0	2
	3 hours	27 minutes

   On the chart, students record the start time. Beginning with the hours they add hours and record them in the hour column. /then they move to minutes and add minutes (in any increments) until they reach the end of time. Finally students add the hours and minutes to get the elapsed time. *Quadrant A*

Resources

PASS Coach: lesson 23 , **Math Expressions Textbook**: Vol.12 p. 743 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework** inter

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com* Break
Assessment
inter Break

Week of Feb. 11th - 15th	
Feb. 13th - 15th	
Indicator	**CCSS**
Review Measurement Unit Break	Winter Break
Instructional Strategies	
Winter Break	
Resources	
OCSD5 Teaching and Learning Framework **Websites: Think Central:** Standards Practice Worksheets , **www.superteachertools.com**: Jeopardy , Speed Match Quiz Maker , Who Wants to be a Millionaire , Board Game , Hang Man , **http://gamequarium.com/math.htm** **http://www.watchknowlearn.org/Category.aspx?CategoryID=2024** : (angles videos) , **www.quizlet.com** , **http://olc.spsd.sk.ca/de/math1-3/virtual%20manipulatives/olcruler.html** : (ruler) , **www.superkids.com/aweb/tools/math** , **http://www.mrnussbaum.com/mathdrills/clocks/elapse10.htm** (elapsed time) , **http://www.mrnussbaum.com/mathdrills/clocks/elapse10.htm** (temperature)	
Assessment	
Winter Break	

Week of Feb. 18th - Feb. 22nd	
Feb. 18th	
Indicator	**CCSS**
President's Day (Holiday)	President's Day (Holiday)
Instructional Strategies	
President's Day (Holiday)	
Resources	
President's Day (Holiday)	
Assessment	
President's Day (Holiday)	

Week of Feb. 18th - 22nd	
Feb. 19th - 21st	
Indicator	**CCSS**
4-4.6 **Represent** points, lines, line segments, rays, angles, and polygons. Winter Break	4.MD.5 Recognize angles as geometric shapes that are formed whenever to raise share a common endpoint, and understand concepts of angle measurement. a. An angle is measured with reference to a circle with its center at the common endpoint of the raise, by considering the fraction of the circular arc between the points with the two rays intersect the circle. An angled it turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measurement of *n* degrees. 4.G.1 Draw points, lines, line segments, raise, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.r Break
Instructional Strategies	

For this indicator(4-4.6), it is **essential** for students to:

- Understand that an angle is where two rays meet with a common endpoint.
- Understand that a line goes on forever in both directions
- Understand that a line segment is part of a line and has two endpoints
- Understand that intersecting lines cross or meet each other at a point
- Represent points, lines, line segments, rays, angles, and polygons using appropriate notation

For each of the following have students write the terms using mathematical notation as in the example.

1. Have the students dip pretzels in icing and place them on paper towels to demonstrate points and line segments. They can use candy hearts to demonstrate angles, lines, and ray arrows. Have them write the mathematical notation right on the paper towel. *Quadrant A*

2. Put sticky notes with capital letters around the room on angles, line segments, and points. Have the students draw and label the objects and the angles, line segments, and points in their math journals. *Quadrant A*

3. Give each child a bit of shaving cream on their desks and have them draw and label points, lines, line segments, rays, and angles. *Quadrant A*

4. Draw a house on the board. Have students draw, label, and identify angles and line segments on the house using mathematical notation. *Quadrant B*

5. Use coffee stirs and smiley stickers to illustrate line segments, lines, rays, angles, and points. The students can easily cut the coffee stirs in the shape of arrows for the rays, etc. *Quadrant A*

6. Distribute several polygons and have the students put capital letters at the vertices. Have them represent the line segments, angles, etc. using the correct mathematical notation. *Quadrant B*

7. Give students exemplars of angles, rays, lines, line segments, and points. Student should identify each using correct mathematical notation.

8. Body Math: hold up a fist to represent a point. Stretch both arms out to the sides (reach for the walls) make a fist with one hand a leave the other hand open to show a ray. Stretch both arms out to the sides (reach for the walls) leave both hands open to show a line. Stretch both arms out to the sides (reach for the walls) make two fists to show a line segment.

Resources

PASS Coach: lesson 18 , **Math Expressions Textbook:** Vol.1 p. 225 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*Break

Assessment

Winter Break

Week of Feb. 18th - 22nd	
Feb. 22nd	
Indicator	**CCSS**
4-5.2 **Compare** angle measures with referent angles of 45 degrees, 90 degrees, and 180 degrees to estimate angle measures.	4.MD.5 Recognize angles as geometric shapes that are formed whenever to raise share a common endpoint, and understand concepts of angle measurement. a. An angle is measured with reference to a circle with its center at the common endpoint of the raise, by considering the fraction of the circular arc between the points with the two rays intersect the circle. An angled it turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measurement of *n* degrees 4.G.1 Draw points, lines, line segments, raise, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

Instructional Strategies

For this indicator(4-5.2), it is **essential** for students to:

- Recognize angles that measure 45, 90 and 180
- Understand the relationship between these angles.
- Understand the meaning of referent (benchmark)
- Judge the reasonable of measurement based on these angle measurements
- State whether or not the given angle is between, greater than or less than the benchmark angles

1. Students make clock faces using paper plates. Tell them to use the clock hands to demonstrate angles at 45 degrees,

90 degrees, and 180 degrees. Give students a time and ask them to show it on their clock. Is it acute, obtuse, or right angle.

2. Students use straight edges (rulers) to draw and label angles in their math journals. *Quadrant A*

3. Use corners of index cards or the die cut capital letter "L" to demonstrate right angles. Use a side of the index card to demonstrate straight angles. Use a die cut letter "V" to demonstrate 45-degree angles. Use four die cut letter "Vs" to make angles. First, make a 45-degree angle using one "V". Then use two "Vs" to demonstrate a 90-degree angle and four to demonstrate a 180-degree angle. Have them compare and investigate why this is true. *Quadrant A*

4. Students' glue and label pretzel sticks in 45-, 90-, and 180-degree angles. Make sure that they understand that length of the lines and positions of the angles do not change the measure of the angles.

   90 degrees 45 degrees

5. Cut out and label several 90- and 45-degree triangles. Students trace and label the angles that are 45 and 90 degrees. Review scalene, isosceles and equilateral triangles.

6. Play "I Have" with the students as a review. Prepare a set of questions, each on different index cards. Put the answers to each question on the back of another card's question. Pass them out to students at random. One student reads his/her question (What could the measurement of an acute angle be?). Another child that has the answer, reads it, (I have 45-degrees) and then reads his/her question (What is two 45-degree angles put together?). The game continues until all the cards have been read. *Quadrant A*

7. Use Navigating Through Measurement in Grades 3 through 5, "Measurement Scavenger Hunt," p. 34. Students identify objects in the room and determine how angels relate to one another. *Quadrant A*

8. Write "greater than 90°", "less than 90°, "90°" on the board. Give students index cards with various angle measures. Have students sort themselves by standing or lining up at the correct label.

9. Give each student a piece of waxed paper. Allow them to fold and crease to create angles with various measures.

10. Give students (or have students make) 45, 90, and 180 degree angles. Display various angles and have students compare the size to the benchmarks.

Resources

PASS Coach: lesson 25 , **Math Expressions Textbook:** Vol. 1 p. 437 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Feb. 25th – Mar. 1st	
Feb. 25th - 26th	
Indicator	**CCSS**
4-5.2 **Compare** angle measures with referent angles of 45 degrees, 90 degrees, and 180 degrees to estimate angle measures.	4.MD.5 Recognize angles as geometric shapes that are formed whenever to raise share a common endpoint, and understand concepts of angle measurement. a. An angle is measured with reference to a circle with its center at the common endpoint of the raise, by considering the fraction of the circular arc between the points with the two rays intersect the circle. An angled it turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measurement of *n* degrees 4.G.1 Draw points, lines, line segments, raise, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

Instructional Strategies

For this indicator(4-5.2), it is **essential** for students to:

- Recognize angles that measure 45, 90 and 180
- Understand the relationship between these angles.
- Understand the meaning of referent (benchmark)
- Judge the reasonable of measurement based on these angle measurements
- State whether or not the given angle is between, greater than or less than the benchmark angles

1. Students make clock faces using paper plates. Tell them to use the clock hands to demonstrate angles at 45 degrees, 90 degrees, and 180 degrees. Give students a time and ask them to show it on their clock. Is it acute, obtuse, or right angle.

2. Students use straight edges (rulers) to draw and label angles in their math journals. *Quadrant A*

3. Use corners of index cards or the die cut capital letter "L" to demonstrate right angles. Use a side of the index card to demonstrate straight angles. Use a die cut letter "V" to demonstrate 45-degree angles. Use four die cut letter "Vs" to make angles. First, make a 45-degree angle using one "V". Then use two "Vs" to demonstrate a 90-degree angle and four to demonstrate a 180-degree angle. Have them compare and investigate why this is true. *Quadrant A*

4. Students' glue and label pretzel sticks in 45-, 90-, and 180-degree angles. Make sure that they understand that length of the lines and positions of the angles do not change the measure of the angles.

   90 degrees 45 degrees

5. Cut out and label several 90- and 45-degree triangles. Students trace and label the angles that are 45 and 90 degrees. Review scalene, isosceles and equilateral triangles.

6. Play "I Have" with the students as a review. Prepare a set of questions, each on different index cards. Put the answers to each question on the back of another card's question. Pass them out to students at random. One student reads his/her question (What could the measurement of an acute angle be?). Another child that has the answer, reads it, (I have 45-degrees) and then reads his/her question (What is two 45-degree angles put together?). The game

continues until all the cards have been read. *Quadrant A*

7. Use Navigating Through Measurement in Grades 3 through 5, "Measurement Scavenger Hunt," p. 34. Students identify objects in the room and determine how angels relate to one another. *Quadrant A*

8. Write "greater than 90°", "less than 90°, "90°" on the board. Give students index cards with various angle measures. Have students sort themselves by standing or lining up at the correct label.

9. Give each student a piece of waxed paper. Allow them to fold and crease to create angles with various measures.
10. Give students (or have students make) 45, 90, and 180 degree angles. Display various angles and have students compare the size to the benchmarks.

Resources

PASS Coach: lesson 25 , **Math Expressions Textbook:** Vol. 1 p. 437 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*

Assessment

Week of Feb. 25th – Mar. 1st

Feb. 27th - Mar. 1st

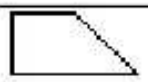
Indicator	CCSS
4-4.1 **Analyze** the quadrilaterals squares, rectangles, trapezoids, rhombuses, and parallelograms according to their properties.	4.G.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

Instructional Strategies

For this indicator (4-4.1), it is **essential** for students to:

- Explore many different examples/models of each type of quadrilateral (squares, rectangles, trapezoids, rhombuses, and parallelograms) so they will learn the unique properties of each.
- Understand the relationship among the various quadrilaterals based on the number of sides, opposite sides, side lengths, and angle measures.
- Classify these quadrilaterals by their properties instead of a memorized picture of one example.
- Analyze quadrilaterals that are oriented in position other than the upright position
- Use appropriate vocabulary
- Sort examples into categories

1. Create a chart listing the types of quadrilaterals, with number and types of angles, number of parallel sides, etc.

Type	Angles	Sides	Illustration
Trapezoid	2 obtuse 2 acute	1 set of parallel sides	
Trapezoid	2 right 1 obtuse 1 acute	1 set of parallel sides	
parallelogram	2 obtuse 2 acute	Opposite sides are parallel	

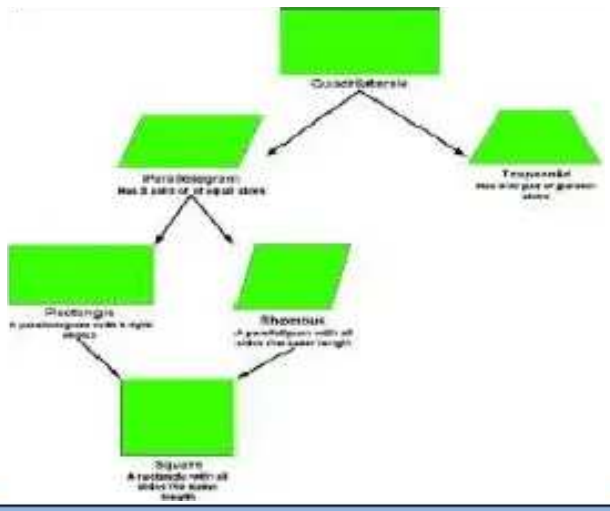
2. Collect pictures of different quadrilaterals to create a collage, and identify each quadrilateral in the collage. *Quadrant A*

3. If assigned as group work – each group would work with a specific type of quadrilateral, then join together as a quilt. *Quadrant A*

4. Use Navigating Through Geometry in Grades 3 through 5, "Roping in Quadrilaterals," p. 22. Students sort quadrilaterals by attributes using Venn diagrams. *Quadrant B*

5. Create a variety of classification charts of quadrilaterals by properties. (Number of sides, opposite sides, side lengths, and angle measures) *Quadrant C*

6. Create a graphic organizer to illustrate the relationship between the quadrilaterals.



Resources

PASS Coach: lesson 18 , **Math Expressions Textbook:** Vol. 1 p. 231 and 479 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework** Winter

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*Break

Assessment

Winter Br

Week of Mar. 4th - 8th	
Mar. 4th - 6th	
Indicator	**CCSS**
4-5.4 **Analyze** the perimeter of a polygon.inter Break	inter Break
Instructional Strategies	

For this indicator(4-5.4), it is **essential** for students to:

- Recall their generated strategy for finding perimeter
- Understand the properties of polygons they have learned
- Understand the meaning of perimeter
- Find missing values in order to compute the perimeter. For example, students may be given a rectangle where only the length of one side and width of the other side are given. They will need to use find the lengths of the two other sides before finding the perimeter.
- Analyze the perimeters of polygons where the lengths of the sides are given in pictorial or word form

1. Review polygons. *Quadrant A*

2. Have students create a polygon on graph paper and figure the perimeter of the shape using the squares on the grid paper as units. *Quadrant A*

3. Give students polygons with sides labeled with measurements. Students add all sides together to find perimeter. *Quadrant A*

4. Use Navigating Through Measurement in Grades 3 through 5, "Changing Garden," p. 62. Students find various gardens with the same perimeter. *Quadrant A*

Resources

PASS Coach: lesson 29 , **Math Expressions Textbook:** Vol. 1 p. 239 and 479 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com* Winter Break

Assessment

Benchmark #3 Testing Window: March 4th – March 15th
Winter Break

Week of Mar. 4th - 8th	
Mar. 7th - 8th	
Indicator	**CCSS**
4-4.2 **Analyze** the relationship between three-dimensional geometric shapes in the form of cubes, rectangular prisms, and cylinders and their two-dimensional nets.reak	Winter Break
Instructional Strategies	

For this indicator(4-4.2), it is **essential** for students to:

- Understand that a net is a two-dimensional representation of a three-dimensional shape.
- Identify the two-dimensional shapes that make the three-dimensional shape.
- Explore different ways that those shapes can be placed to create the three-dimensional shape.
- Comprehend the properties that represent cubes, rectangular prisms, and cylinders.
- Construct three-dimensional shapes from nets.
- Understand that there are a variety of ways to create a net for each three-dimensional shape, but to also see the common characteristics

1. Begin by showing, discussing, and naming several rectangular prisms, as well as the numbers of faces, vertexes, and edges. *Quadrant A*
2. Cover each side of several rectangular prisms with cut out two-dimensional shapes. Discuss the rectangular prisms then unfold and remove the paper. Discuss the shape of the net that was made to cover the prism. *Quadrant A*
3. Give students copies of nets for rectangular prisms and allow them to cut and fold to build a prism. *Quadrant A*
4. Give student partners a square, a circle, and a rectangle to trace in order to make the example of the prism and cylinder net. Have the squares, rectangles, and circles of various sizes to make different size rectangular prisms and cylinders. *Quadrant C*
5. Give students precut geometric nets for prisms and cylinders. Have them predict what three-dimensional shapes will be made from the two-dimensional patterns. Describe the net. *Quadrant A*
6. Prism nets can be displayed in different ways. Have the students draw as many ways as they can arrange four congruent rectangles and two congruent squares to make a net for a rectangular prism. Arrange the squares and rectangles in ways they will not make a net for a rectangular prism and demonstrate. Have students describe the properties of a prism in their math journals and draw the net. *Quadrant C*
7. Have students use gumdrops and coffee stirrers to build rectangular prisms. The gumdrops are the vertexes and the coffee stirrers are the edges. Quadrant A
8. Have students unfold rectangular prisms, such as tissue boxes, cereal boxes, etc. to show the net. Have the students trace it and see if they can fold their representation to make the prism. *Quadrant B*
9. Have students use pipe cleaners, pretzel sticks, straws, and jar lids to create prism and cylinder nets. *Quadrant A*
10. Have students collect tubes (cylinders) such as toilet paper rolls and trace the circular ends. Then have them cut out a straight line in the tube and unfold it. What shape is it? (rectangle) *Quadrant B*
11. Use Navigating Through Geometry in Grades 3 through 5, "Building Solids," p. 26. Students construct models of solids. *Quadrant B*
12. Use Navigating Through Geometry in Grades 3 through 5, "Exploring Packages," p. 80. Students compare shapes and draw a net for a package. *Quadrant A*
13. Use Navigating Through Geometry in Grades 3 through 5, "It's All in the Packaging." Students use geodot paper to create packages for objects. *Quadrant A*
14. Students use graph paper to draw the nets for a cube, rectangular prism and cylinder. *Quadrant C*
15. Use boxes and cut on edges into nets. Reassemble faces on a flat surface to create nets for original box. *Quadrant C*

16. Look for relationships between the 2-D shapes that create 3-D shapes. Collect data about faces, edges, and vertices in a chart. *Quadrant B* Break

Resources

PASS Coach: lesson 20 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.ymathlive.com , www.learner.org/resources , *www.eduplace.com* Winter Break

Assessment

Benchmark #3 Testing Window: March 4th – March 15th

Week of Mar. 11th - 15th	
Mar. 11th	
Indicator	**CCSS**
4-4.2 **Analyze** the relationship between three-dimensional geometric shapes in the form of cubes, rectangular prisms, and cylinders and their two-dimensional nets.	Winter Break

Instructional Strategies

For this indicator(4-4.2), it is **essential** for students to:

- Understand that a net is a two-dimensional representation of a three-dimensional shape.
- Identify the two-dimensional shapes that make the three-dimensional shape.
- Explore different ways that those shapes can be placed to create the three-dimensional shape.
- Comprehend the properties that represent cubes, rectangular prisms, and cylinders.
- Construct three-dimensional shapes from nets.
- Understand that there are a variety of ways to create a net for each three-dimensional shape, but to also see the common characteristics

1. Begin by showing, discussing, and naming several rectangular prisms, as well as the numbers of faces, vertexes, and edges. *Quadrant A*
2. Cover each side of several rectangular prisms with cut out two-dimensional shapes. Discuss the rectangular prisms then unfold and remove the paper. Discuss the shape of the net that was made to cover the prism. *Quadrant A*
3. Give students copies of nets for rectangular prisms and allow them to cut and fold to build a prism. *Quadrant A*
4. Give student partners a square, a circle, and a rectangle to trace in order to make the example of the prism and cylinder net. Have the squares, rectangles, and circles of various sizes to make different size rectangular prisms and cylinders. *Quadrant C*
5. Give students precut geometric nets for prisms and cylinders. Have them predict what three-dimensional shapes will be made from the two-dimensional patterns. Describe the net. *Quadrant A*
6. Prism nets can be displayed in different ways. Have the students draw as many ways as they can arrange four congruent rectangles and two congruent squares to make a net for a rectangular prism. Arrange the squares and rectangles in ways they will not make a net for a rectangular prism and demonstrate. Have students describe the

properties of a prism in their math journals and draw the net. *Quadrant C*

7. Have students use gumdrops and coffee stirrers to build rectangular prisms. The gumdrops are the vertexes and the coffee stirrers are the edges. Quadrant A

8. Have students unfold rectangular prisms, such as tissue boxes, cereal boxes, etc. to show the net. Have the students trace it and see if they can fold their representation to make the prism. *Quadrant B*

9. Have students use pipe cleaners, pretzel sticks, straws, and jar lids to create prism and cylinder nets. *Quadrant A*

10. Have students collect tubes (cylinders) such as toilet paper rolls and trace the circular ends. Then have them cut out a straight line in the tube and unfold it. What shape is it? (rectangle) *Quadrant B*

11. Use Navigating Through Geometry in Grades 3 through 5, "Building Solids," p. 26. Students construct models of solids. *Quadrant B*

12. Use Navigating Through Geometry in Grades 3 through 5, "Exploring Packages," p. 80. Students compare shapes and draw a net for a package. *Quadrant A*

13. Use Navigating Through Geometry in Grades 3 through 5, "It's All in the Packaging." Students use geodot paper to create packages for objects. *Quadrant A*

14. Students use graph paper to draw the nets for a cube, rectangular prism and cylinder. *Quadrant C*

15. Use boxes and cut on edges into nets. Reassemble faces on a flat surface to create nets for original box. *Quadrant C*

16. Look for relationships between the 2-D shapes that create 3-D shapes. Collect data about faces, edges, and vertices in a chart. *Quadrant B* Break

Resources

PASS Coach: lesson 20 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com* Winter Break

Assessment

Benchmark #3 Testing Window: March 4th – March 15th
Winter Break

Week of Mar. 11th - 15th
Mar. 12th - 15th

Indicator	CCSS
4-5.5 **Generate** strategies to determine the area of rectangles and triangles.	Winter Break

Instructional Strategies

For this indicator(4-5.5), it is **essential** for students to:

- Understand the meaning of area
- Use concrete and/or pictorial models to generate strategies
- Understand the difference between area and perimeter
- Understand that area is measured in square units
- Use appropriate units of measure in square units

1. Students create a rectangle on graph paper. Ask them to figure out how many squares are inside the shape. This is the area. *Quadrant A*

2. Teach area of a square or rectangle by using Geoboard. Divide the shape in half, creating 2 triangles. What is the area of one triangle? What is the relationship between rectangle area and triangle area? It is half (divide by 2).

Quadrant A

3. Using Unifix® cubes or snap cubes – students make a rectangle. Count how many squares were used to create their shape. This is the area. *Quadrant A*

4. Give each student a piece of grid paper to demonstrate area. Make a chart of the different shapes that were made to show each area such as that for 24 square-centimeter shapes. *Quadrant C*

5. Use grid paper (cm or inch) to determine area of a certain rectangle. Ask the students, "How many rows? How many columns? How could you use the rows and columns to determine the area of the rectangle?" *Quadrant A*

   Rectangles could be:
   1 x 24, 2x12, 3x8, 4x6

6. Give each student graph paper and a set of tangrams. Have students make a square with the tangrams on the graph paper. Trace the edge of the tangrams. Have the students count the number of squares that are enclosed in the drawing to find the area. Compare the answer from the traced tangrams to the answer found by using the formula. *Quadrant B*

7. Use Navigating Through Measurement in Grades 3 through 5, "Changing Garden," p. 62. Students find various gardens with the same perimeter and can also find areas of those rectangular gardens. *Quadrant A*

8. Use Navigating Through Measurement in Grades 3 through 5, "Geo-Exploration – Triangles," p. 71. *Quadrant A* inter

Resources

PASS Coach: lesson 29 , **Math Expressions Textbook:** Vol.1 p.251 and 471 , **S[3] Curriculum** , **OCSD5 Teaching and Learning Framework** Winter

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , ***www.eduplace.com*** Break

Assessment

Benchmark #3 Testing Window: March 4th – March 15th

Winter Break

Week of Mar. 18th - 22nd	
Mar. 18th - 20th	**(Writing PASS Mach 19 - 20)**
Indicator	**CCSS**
4-4.4 **Represent** the two-dimensional shapes trapezoids, rhombuses, and parallelograms and the three-dimensional shapes cubes, rectangular prisms, and cylinders.	Winter Break

Instructional Strategies

For this indicator(4-4.4), it is **essential** for students to:

- Recall the properties of each shape
- Represent shapes using models, manipulatives
- Represent shapes using graph paper or unlined paper.

1. Make up riddles. Teacher reads riddles and students draw the correct two- or three-dimensional object. *Quadrant C*

   Examples:
   A. (octagon) I am a two-dimensional shape with 8 sides. Draw me.
   B. (cube) I am a three-dimensional shape with 6 square faces.
   C. (cylinder) I have 2 faces that are circles.
   D. (square) I am a two-dimensional shape with 4 right angles and 4 equal sides.

2. Ask students to bring in objects representing cubes, cylinders, cones, pyramids, rectangular prisms, and spheres. Use them to write a description using angles, faces, curves, lines and vertices. *Quadrant B*

3. Play "Secret in a Box". Divide class into small groups. Give each group a box containing a three-dimensional object. Tell groups to examine their three-dimensional object without letting the other groups see it. Then, have them write a description of the object. When all groups are finished, the teacher collects the descriptions. Groups take turns guessing the secret three-dimensional object in the box. *Quadrant A*

4. Give students a collection of two dimensional and three dimensional objects. Have groups sort their collections and explain their criteria for sorting. Do a gallery-walk to share and discuss observations. *Quadrant A*

5. Create a chart listing vertices, edges and faces for each of the 3D shapes. *Quadrant A*

Resources

PASS Coach: lesson 18 and 19 , **Math Expressions Textbook:** Vol. 2. p. 1007 - 1023 , **S^3 Curriculum** , **OCSD5**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*Winter Break

Assessment

PASS Writing

Week of Mar. 18th - 22nd

Mar. 21st - 22nd

Indicator	CCSS
4-4.3 **Predict** the results of multiple transformations of the same type—translation, reflection, or rotation—on a two-dimensional geometric shape. 4-4.5 **Use** transformation(s) to prove congruency.	Winter Break

Instructional Strategies

For this indicator(4-4.3), it is **essential** for students to:

- Understand the mathematical terminology for translation, reflection, and rotation.
- Explore different ways that those shapes can be placed to create the three-dimensional shape.
- Represent cubes, rectangular prisms, and cylinders and in order to do so must know the properties of each.
- Explore transformations drawing horizontal and vertical lines in order to predict the results of multiple transformations.

For this indicator(4-4.5), it is **essential** for students to:

- Recall congruency as the same size and shape
- Explain that a transformation changes the position of a shape
- Use the terms reflections, rotations, and translations instead of flips, slides, and turns to describe transformations that prove congruency
- Recall the meaning of the types of transformations

Use transformation(s) to prove congruency

1. Design a Bookmark. (repeat for rotation and reflection)

   A. Draw a figure. Cut it out. Trace around it on dot paper. Slide the figure again to make a pattern. (Can use pattern blocks or tangrams)
   B. Slide the figure in one direction on your dot paper. Be careful not to turn the figure when sliding it. Trace it again.
   C. Continue to slide and trace until you have created a row that shows many slides. Color your design. Cut off extra paper around the pattern to form a strip. This is your bookmark. *Quadrant A*

2. Give each student a shape. Trace; then flip shape horizontally or vertically and trace. Have the students describe how the shapes look after flipping and repeat the process predicting the effect. *Quadrant B*

3. Give students various shapes and mirrors. Let them discover and draw the reflections seen. *Quadrant B*

4. Use Navigating Through Geometry in Grades 3 through 5, "Tetrominoes Cover-Up." Students make and verify all possible arrangements of four (4) squares called tetrominoes. Use translations, reflections, and rotations to completely cover a 10 x 12 grid with a variety of tetrominoes. *Quadrant B*

5. Use Navigating Through Geometry in Grades 3 through 5, "Motion Commotion," p. 64. Students manipulate figures

using translations, reflections, and rotations. *Quadrant A*

6. Explain congruency and give examples of congruent figures. *Quadrant A*

7. Review transformations (slides, turns, reflections) and give examples of each. *Quadrant A*

8. Have students trace a pattern block and perform one transformation. Trace the pattern block in its new location. Students use the concrete pattern block to prove congruency of the tracings. *Quadrant A*

9. Use Navigating Through Geometry in Grades 3 through 5, "Tetrominoes Cover-Up," p. 61. Students prove congruency by turning or flipping tetrominoes. *Quadrant A* Winter Bre

10. Instruct students to stand and follow the leader. When you say "Translate" slide to a different position. When you say "rotate" turn. When you say "Reflect" find a partner and mirror their actions.

Resources

PASS Coach: lesson 22 , **Math Expressions Textbook:** Vol. 1 p. 487 and Vol. 2 p. 705 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.com*i

Assessment

inter Break

Week of Mar. 25th - 29th

Mar. 25th - 26th

Indicator	CCSS
4-4.3 **Predict** the results of multiple transformations of the same type—translation, reflection, or rotation—on a two-dimensional geometric shape. 4-4.5 **Use** transformation(s) to prove congruency.	Winter Break

Instructional Strategies

For this indicator(4-4.3), it is **essential** for students to:

- Understand the mathematical terminology for translation, reflection, and rotation.
- Explore different ways that those shapes can be placed to create the three-dimensional shape.
- Represent cubes, rectangular prisms, and cylinders and in order to do so must know the properties of each.
- Explore transformations drawing horizontal and vertical lines in order to predict the results of multiple transformations.

For this indicator(4-4.5), it is **essential** for students to:

- Recall congruency as the same size and shape
- Explain that a transformation changes the position of a shape
- Use the terms reflections, rotations, and translations instead of flips, slides, and turns to describe transformations that prove congruency
- Recall the meaning of the types of transformations

Use transformation(s) to prove congruency

1. Design a Bookmark. (repeat for rotation and reflection)

   A. Draw a figure. Cut it out. Trace around it on dot paper. Slide the figure again to make a pattern. (Can use pattern blocks or tangrams)
   B. Slide the figure in one direction on your dot paper. Be careful not to turn the figure when sliding it. Trace it again.
   C. Continue to slide and trace until you have created a row that shows many slides. Color your design. Cut off extra paper around the pattern to form a strip. This is your bookmark. *Quadrant A*

2. Give each student a shape. Trace; then flip shape horizontally or vertically and trace. Have the students describe how the shapes look after flipping and repeat the process predicting the effect. *Quadrant B*

3. Give students various shapes and mirrors. Let them discover and draw the reflections seen. *Quadrant B*

4. Use Navigating Through Geometry in Grades 3 through 5, "Tetrominoes Cover-Up." Students make and verify all possible arrangements of four (4) squares called tetrominoes. Use translations, reflections, and rotations to completely cover a 10 x 12 grid with a variety of tetrominoes. *Quadrant B*

5. Use Navigating Through Geometry in Grades 3 through 5, "Motion Commotion," p. 64. Students manipulate figures using translations, reflections, and rotations. *Quadrant A*

6. Explain congruency and give examples of congruent figures. *Quadrant A*

7. Review transformations (slides, turns, reflections) and give examples of each. *Quadrant A*

8. Have students trace a pattern block and perform one transformation. Trace the pattern block in its new location. Students use the concrete pattern block to prove congruency of the tracings. *Quadrant A*

9. Use Navigating Through Geometry in Grades 3 through 5, "Tetrominoes Cover-Up," p. 61. Students prove congruency by turning or flipping tetrominoes. *Quadrant A*

10. Instruct students to stand and follow the leader. When you say "Translate" slide to a different position. When you say "rotate" turn. When you say "Reflect" find a partner and mirror their actions.

Resources

PASS Coach: lesson 22 , **Math Expressions Textbook:** Vol. 1 p. 487 and Vol. 2 p. 705 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework**

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , *www.eduplace.comi*

Assessment

PASS Writing

inter Break

Week of Mar. 25th - 29th	
Mar. 27th - 28th	**Fourth Nine Weeks**
Indicator	**CCSS**
4-4.7 **Represent** with ordered pairs of whole numbers the location of points in the first quadrant of a coordinate grid.	
4-4.8 **Illustrate** possible paths from one point to another along vertical and horizontal grid lines in the first quadrant of the coordinate plane.Break	Winter Break

Instructional Strategies

For this indicator(4-4.7), it is **essential** for students to:

- Understand that the first number in the ordered pair indicates how far to move across (horizontal)
- Understand that the second number in the ordered pair indicates how far to move up (vertical).
- Understand the structure of the coordinate grid
- Represent with ordered pairs of whole numbers location of points in the first quadrant of a coordinate grid.

For this indicator(44.8), it is **essential** for students to:

- Explain how to get from one point to another along vertical and horizontal grid lines in the first quadrant of the coordinate plane.
- Create multiple possible paths

1. The teacher will demonstrate on a grid: to find a point, you always move horizontally right or left before moving vertically. Hint: First, go **right** to get the **right** answer. *Quadrant A*

2. Prepare graph paper by labeling x and y axes. Draw a simple design on the paper and label the points alphabetically. Then distribute graph paper to each student. Have them label the axis lines 0 to 10. The teacher calls out an ordered pair that is on the designs. Students locate it and write the letter name the teacher names that point. Continue with each ordered pair. Students check to see if their designs match the teacher's. *Quadrant A*

3. Use geoboards as a grid identifying the left-hand bottom peg as (0, 0). Have students work in pairs. The first partner calls out an ordered pair and the second partner places a piece of clay on the ordered peg that corresponds to the ordered pair then, the students switch roles. Continue for several minutes. *Quadrant A*

4. Use a grid with pictures such as in example #2. Make a transparency for the overhead projector. The teacher calls out a design and students write the ordered pair of each design as called out. Check answers after all are completed. *Quadrant A*

5. Students create geometric shapes by ordered pairs and connecting pairs.

Ex: (2, 4) (4, 4) (4, 2) (2, 2). What shape is made? *Quadrant C*

6. The teacher will demonstrate on a grid how to move horizontally, then vertically to locate the ordered pairs. *Quadrant A*

7. Show how coordinates are used on a map and how they help us find things on a map. *Quadrant A*

8. Play the game "Battleship" (if available) to practice locating points. *Quadrant C*

9. Use the United Streaming Video, Math Mastery: Graph and Statistics – Lesson 9: "Working with Coordinates." (Time: 6:51, Stop after 3:00). This segment focuses on locating ordered pairs. The Teacher Guide (pdf) has activities to provide additional practice for students for Lesson 9 in parts A, B, C, and D.

10. Read The Fly on the Ceiling by Julie Glass and Richard Walz and locate the objects Descartes places in his room. *Quadrant C*

11. Use Navigating Through Geometry in Grades 3 through 5, "X's and O's," p. 40. Play a game similar to tick-tack-toe using symbols x and o on grid A. *Quadrant A*

12. Use Navigating Through Geometry in Grades 3 through 5, "Geo City," p. 90. Apply mapping skills and strategies to the Geo City constructed by the class (location and points). *Quadrant B*

Extensions: Read The Fly on the Ceiling by Julie Glass and Richard Walz and locate on a grid, the objects Descartes places in his room.

13. Give students grid paper. Have them randomly draw two objects in different places (e.g., rabbit, carrot). Have them draw the shortest route from the rabbit to the carrot and describe their path. *Quadrant A*

14. Write directions to tell how to get from the rabbit to the carrot on the shortest path, the longest path, and other paths. *Quadrant C*

15. Use tape to create a grid on the classroom floor. Allow students to draw an ordered pair and plot themselves on the graph. Instruct their classmates to check for accuracy.

Resources

PASS Coach: lesson 21 , **Math Expressions Textbook:** Vol. 2 p. 805 , **S³ Curriculum** , **OCSD5 Teaching and Learning Framework** Break

Websites: www.thinkcentral.com (Standards Practice Worksheets) , www.studyisland.com , www.vmathlive.com , www.learner.org/resources , www.eduplace.com/

Assessment

Winter Break

Week of Mar. 25th - 29th	
Mar. 29th	
Indicator	**CCSS**
Professional Development/Workday	Professional Development/Workday
Instructional Strategies	
Professional Development/Workday	
Resources	
Professional Development/Workday	
Assessment	
Professional Development/Workday	

Week of Apr. 1st - Apr. 12th	
Apr. 1st - Apr. 5th	
Indicator	**CCSS**
Spring Break (Holiday)	Spring Break (Holiday)
Instructional Strategies	
Spring Break (Holiday)	
Resources	
Spring Break (Holiday)	
Assessment	
Spring Break (Holiday)	

Apr. 8th - Apr. 12th	
Indicator	**CCSS**
Standards Review Winter Break	inter Break
Instructional Strategies	
See First, Second, Third Nine, and Fourth Nine Weeks	
Resources	
www.studyisland.com www.ixl.com inter Break	
Assessment	
Winter Break	

Week of Apr. 15th - Apr. 19th	
Apr. 15th - Apr. 19th	
Indicator	**CCSS**
Standards Review Break	inter Break
Instructional Strategies	
See First, Second, Third Nine, and Fourth Nine Weeks	
Resources	
www.studyisland.com www.ixl.com inter Break	
Assessment	
Winter Break	

Week of Apr. 22nd - Apr. 26th	
Apr. 22nd - Apr. 26th	
Indicator	**CCSS**
Standards Review Break	inter Break
Instructional Strategies	
See First, Second, Third Nine, and Fourth Nine Weeks	
Resources	
www.studyisland.com www.ixl.com inter Break	
Assessment	

Winter Break

Week of Apr. 29th - May 3rd	
Apr. 29th - May 3rd	
Indicator	**CCSS**
Standards Review Break	inter Break
Instructional Strategies	
See First, Second, Third Nine, and Fourth Nine Weeks	
Resources	
www.studyisland.com www.ixl.com inter Break	
Assessment	

Winter Break

Week of May 6th - May 10th	
May 6th	
Indicator	**CCSS**
Standards Review Break	inter Break
Instructional Strategies	
See First, Second, Third Nine, and Fourth Nine Weeks	
Resources	
www.studyisland.com www.ixl.com inter Break	
Assessment	

Winter Break

Week of May 6th - May 10th	
May 7th – 10th	
Indicator	**CCSS**
PASS Testing Begins	Winter Break
Instructional Strategies	
PASS Testing Begins	
Resources	
PASS Testing Begins	
Assessment	
Winter Break	

Week of May 13th - May 17th	
May 13th - May 17th	
Indicator	**CCSS**
PASS Testing Begins	Winter Break
Instructional Strategies	
PASS Testing Begins	
Resources	
PASS Testing Begins	
Assessment	
Winter Break	

Week of May 20th - May 24th	
May 20th - May 24th	
Indicator	**CCSS**
Re-Teach Weak Indicators as Identified by Benchmarks	k
Instructional Strategies	
inter Break	
Resources	
Winter Break	
Assessment	
Winter Break	

Week of May 27th - May 31st	
May 27th - May 31st	
Indicator	**CCSS**
Re-Teach Weak Indicators as Identified by Benchmarks	k
Instructional Strategies	
inter Break	
Resources	
Winter Break	
Assessment	
Winter Break	

Week of Jun. 3rd - Jun. 7th	
Jun. 3rd - Jun. 6th	
Indicator	**CCSS**
Re-Teach Weak Indicators as Identified by Benchmarks	k
Instructional Strategies	
inter Break	
Resources	
Winter Break	
Assessment	
Winter Break	

Jun. 7th	
Indicator	**CCSS**
Teacher Workday	Teacher Workday
Instructional Strategies	
Teacher Workday	
Resources	
Teacher Workday	
Assessment	
Teacher Workday	