

**Califon Public School
Curriculum**



Subject: Mathematics	Grade: 7	Unit #: 1	Pacing: 8 weeks
Unit Title: The Number System			

OVERVIEW OF UNIT:

Students will represent integer operations (addition, subtraction, multiplication, & division) with concrete models and connect the actions with the models to standardized algorithms. The students will use the order of operations to solve multi-step problems involving integers. Additionally, the students will represent and use rational numbers in a variety of forms including writing rational numbers as decimals. They will add, subtract, multiply, and divide rational numbers fluently.

Unit References	
Big Ideas	Essential Questions
<ul style="list-style-type: none"> ● Addition, subtraction, multiplication, and division of integers ● Sets and subsets of rational numbers ● Operations with rational numbers 	<ul style="list-style-type: none"> ● How do you add, subtract, multiply, and divide rational numbers? ● How do you solve multi-step problems involving the addition and subtraction of integers? ● How do you convert a rational number to a decimal? ● How do you use different forms of rational numbers and strategically choose tools to solve problems?

Objectives
<ul style="list-style-type: none"> ● Students will be able to evaluate problems involving adding, subtracting, multiplying, and dividing integers. ● Students will be able to evaluate multi-step problems involving adding and subtracting integers. ● Students will be able to convert rational numbers to decimals and decimals to rational numbers. ● Students will be able to evaluate problems involving adding, subtracting, multiplying, and dividing rational numbers.

Assessment**Formative Assessment:**

- Homework assignments
- Quizzes
- Classwork
- Skill worksheets
- Class discussions

Summative Assessment:

- Module Test
- Unit Test
- Performance Task

Benchmark Assessment:

- Link It Benchmark Assessment

Alternative Assessment:

- Performance Task
- Modified Tests (independently developed by teacher)
- Projects

Key Vocabulary

- Difference
- Integers
- Negative number
- Opposites
- Positive number
- Absolute value
- Additive inverse
- Expression model
- Divide
- Dividend
- Divisor
- Operation
- Product
- Quotient
- Additive inverse
- Rational number
- Repeating decimal
- Terminating decimal

Resources & Materials	
<ul style="list-style-type: none"> ● Textbook (Go Math Gr. 7) ● SMARTBoard ● Calculator ● Teacher-made materials ● Task Cards ● Review Games ● Guided Notes 	<ul style="list-style-type: none"> ● Online games ● www.khanacademy.org ● www.ixl.com/math/ ● my.hrw.com (Go Math Resources) ● www.desmos.com ● http://nlvm.usu.edu/ ● https://illuminations.nctm.org/

Technology Infusion	
<p>Teacher Technology:</p> <ul style="list-style-type: none"> ● Google Classroom ● SMARTBoard ● Chromebook ● Google Apps for Education <p>Student Technology:</p> <ul style="list-style-type: none"> ● Google Classroom ● Chromebook ● Google Apps for Education ● Quizzizz ● Blooket ● Kahoot! <p>Activities:</p> <ul style="list-style-type: none"> ● Students will use the Chromebooks to access Google Classroom and Google Apps for Education to write out explanations for how problems were solved and their thinking while working through the problem-solving process. ● Students will use the Chromebooks to access websites like Quizzizz and Kahoot! to practice and review the skills learned throughout the unit. 	
Standard	Standard Description
8.1.8.DA.1	Organize and transform data collected using computational tools to make it usable for a specific purpose.

Interdisciplinary Integration	
<p>Activities:</p> <ul style="list-style-type: none"> Historical Dates - Students will compare negative and positive numbers to historical dates before or after 0 B.C.E. The number of years between two events can be found using the subtraction of rational numbers. <p>Resources:</p> <ul style="list-style-type: none"> Teacher Vision Cross Curricular Theme Map - https://www.teachervision.com/teaching-methods/curriculum-planning/7167.html Engineering Go For It! - http://egfi-k12.org/ US Department of Education STEM - http://www.ed.gov/stem Intel STEM Resource - http://www.intel.com/content/www/us/en/education/k12/stem.html NASA STEM - http://www.nasa.gov/audience/foreducators/expeditions/stem/#.VYrO2flViko PBS STEM - http://www.pbs.org/teachers/stem/#content STEM Works - http://stem-works.com/activities What Every Educator Should Know About Using Google by Shell Education Promoting Literacy in all Subjects by Glencoe - http://www.glencoe.com/sec/teachingtoday/subject/promoting_literacy.phtml International Literacy Association Read Write Think - http://www.readwritethink.org/ 	
Standard	Standard Description
6.2.8.D.2.b	Explain how the development of written language transformed all aspects of life in early river valley civilizations.

21 st Century Life Skills	
<p>Activities:</p> <ul style="list-style-type: none"> Students will work in groups to collaborate, at times taking leadership roles, to communicate project ideas to the whole class. 	
Standard	Standard Description
9.4.8.TL.6	Collaborate to develop and publish work that provides perspectives on a real-world problem.

Careers	
<p>Activities:</p> <ul style="list-style-type: none"> Students will complete the unit 1 performance task which provides the opportunity to apply the concepts from this unit in real-world problem situations. 	
Standard	Standard Description
CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.

Common Core State Standards for Mathematical Practice: Bold all that apply	
MP #	Practice
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics.
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning.

Standards	
Standard #	Standard Description
7.NS.1	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
7.NS.1.a	Describe situations in which opposite quantities combine to make 0. For example, in the first round of a game, Maria scored 20 points. In the second round of the same game, she lost 20 points. What is her score at the end of the second round?
7.NS.1.b	Understand $p + q$ as the number located a distance $ q $ from p , in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
7.NS.1.c	Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
7.NS.1.d	Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
7.NS.2	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
7.NS.2.a	Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
7.NS.2.b	Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, New Jersey Student Learning Standards for Mathematics 50 then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real world contexts.
7.NS.2.c	Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, New Jersey Student Learning Standards for Mathematics 50 then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real world contexts.

7.NS.2.d	Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.
7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

Differentiation			
Special Education	English Language Learners (ELL)	Response to Intervention (RTI)	Enrichment
<ul style="list-style-type: none"> ● Provide modifications & accommodations as listed in the student's IEP ● Position student near helping peer or have quick access to teacher ● Modify or reduce assignments/tasks ● Reduce length of assignment for different mode of delivery ● Increase one-to-one time ● Prioritize tasks ● Use graphic organizers ● Use online resources for skill building ● Provide teacher notes ● Use collaborative grouping strategies such as small groups ● NJDOE resources - http://www.state.nj.us/education/special/ ● Math manipulatives ● Differentiated center activities 	<ul style="list-style-type: none"> ● Provide text-to-speech ● Use of translation dictionary or software ● Provide graphic organizers ● NJDOE resources - http://www.state.nj.us/education/aps/cccs/ELL.htm ● Adapt a Strategy – Adjusting strategies for ESL students - http://www.teachersfirst.com/content/esl/adaptstrat.cfm 	<ul style="list-style-type: none"> ● Tiered interventions following RTI framework ● Effective RTI strategies for teachers - http://www.specialeducationguide.com/pre-k-12/response-to-intervention/effective-rti-strategies-for-teachers/ ● Interventional Central - http://www.interventioncentral.org/ 	<ul style="list-style-type: none"> ● Process should be modified: higher order thinking skills, open-ended thinking, discovery ● Utilize project-based learning for greater depth of knowledge ● Utilize exploratory connections to higher grade concepts ● Contents should be modified: real world problems, audiences, deadlines, evaluations, transformations ● Learning environments should be modified: student-centered learning, independence, openness, complexity, groups varied ● NJDOE resources - http://www.state.nj.us/education/aps/cccs/g_and_t_req.htm

**Califon Public School
Curriculum**



Subject: Mathematics	Grade: 7	Unit #: 2	Pacing: 8 weeks
Unit Title: Ratios and Proportional Relationships			

OVERVIEW OF UNIT:

Students will calculate unit rates from rates. They will represent constant rates of change given a table, verbal description, equation, or graph. Also, they will determine the constant of proportionality in real-world situations. In addition, the students will be introduced to numerous percent problems including percent increase, percent decrease, percent of change, markup, markdown, sales tax, tips, total cost, and simple interest.

Unit References	
Big Ideas	Essential Questions
<ul style="list-style-type: none"> • Rates • Proportionality • Relationships between proportions and percent 	<ul style="list-style-type: none"> • How do you find and use unit rate? • How can you identify and represent proportional relationships? • How can you use graphs to represent and analyze proportional relationships? • How do you use percentages to describe a change? • How can you rewrite expressions to help you solve markup and markdown problems? • How do you use percentages to solve problems?

Objectives

- Students will be able to calculate the unit rate.
- Students will be able to describe scenarios to use unit rate.
- Students will be able to identify and represent proportional relationships.
- Students will be able to analyze proportional relationships.
- Students will be able to interpret change using percentages.
- Students will be able to rewrite expressions to solve markup and markdown problems.
- Students will solve problems involving percentages.

Assessment

Formative Assessment:

- Homework assignments
- Quizzes
- Classwork
- Skill worksheets
- Class discussions

Summative Assessment:

- Module Test
- Unit Test
- Performance Task

Benchmark Assessment:

- Link It Benchmark Assessment

Alternative Assessment:

- Performance Task
- Modified Tests (independently developed by teacher)
- Projects

Key Vocabulary

- | | |
|---------------------|-----------------------------|
| ● Constant | ● Proportional relationship |
| ● Conversion factor | ● Rate of change |
| ● Equivalent ratios | ● Unit rates |
| ● Percent | ● Percent |

- Rate
- Ratio
- Complex fraction
- Constant of proportionality
- Proportion
- Percent decrease
- Percent increase
- Principal
- Simple interest

Resources & Materials

- Textbook (Go Math Gr. 7)
- SMARTBoard
- Calculator
- Teacher-made materials
- Guided notes
- Online games
- www.khanacademy.org
- www.ixl.com/math/
- my.hrw.com (Go Math Resources)
- www.desmos.com
- <http://nlvm.usu.edu/>
- <https://illuminations.nctm.org/>

Technology Infusion

Teacher Technology:

- Google Classroom
- SMARTBoard
- Chromebook
- Google Apps for Education

Student Technology:

- Google Classroom
- Chromebook
- Google Apps for Education
- Quizzizz
- Kahoot!

Activities:

- Students will use the Chromebooks to access Google Classroom and Google Apps for Education to write out explanations for how problems were solved or how math connects to real-life situations.
- Students will use the Chromebooks to access websites like Quizzizz and Kahoot! to practice and review the skills learned throughout the unit.

Standard	Standard Description
8.1.8.DA.1	Organize and transform data collected using computational tools to make it usable for a specific purpose.

Interdisciplinary Integration**Activities:**

- Students are encouraged to practice using the vocabulary as they talk and write about mathematics when completing their classroom assignments and explaining their thought process for the problem of the day assignments.

Resources:

- Teacher Vision Cross Curricular Theme Map - <https://www.teachervision.com/teaching-methods/curriculum-planning/7167.html>
- Engineering Go For It! - <http://egfi-k12.org/>
- US Department of Education STEM - <http://www.ed.gov/stem>
- Intel STEM Resource - <http://www.intel.com/content/www/us/en/education/k12/stem.html>
- NASA STEM - <http://www.nasa.gov/audience/foreducators/expeditions/stem/#.VYrO2flViko>
- PBS STEM - <http://www.pbs.org/teachers/stem/#content>
- STEM Works - <http://stem-works.com/activities>
- [What Every Education Should Know About Using Google](#) by Shell Education
- Promoting Literacy in all Subjects by Glencoe - http://www.glencoe.com/sec/teachingtoday/subject/promoting_literacy.phtml
- International Literacy Association Read Write Think - <http://www.readwritethink.org/>

Standard	Standard Description
ELA-Literacy.RST.6-8.4	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

21st Century Life Skills

Activities:

- Students will work in groups to collaborate, at times taking leadership roles, to communicate project ideas to the whole class.

Standard	Standard Description
9.4.8.TL.6	Collaborate to develop and publish work that provides perspectives on a real-world problem.

Careers

Activities:

- Students complete a better buy activity where they are given a specific amount of money and certain parameters about how the money needs to be spent for a family meal. Using their knowledge about percentages, unit rate, markup, and markdown the students need to choose items to purchase for the meal from grocery store flyers. They will present their meal plan and grocery list to the class and will need to clearly justify the reasoning behind why they made the purchases they made.

Standard	Standard Description
CRP4	Communicate clearly and effectively and with reason.

Common Core State Standards for Mathematical Practice: Bold all that apply

MP #	Practice
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics.
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning.

Standards

Standard #	Standard Description
7.RP.1	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1/2}{1/4}$ miles per hour, equivalently 2 miles per hour.

7.RP.2	Recognize and represent proportional relationships between quantities.
7.RP.2.a	Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
7.RP.2.b	Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
7.RP.2.c	Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p , the relationship between the total cost and the number of items can be expressed as $t = pn$.
7.RP.2.d	Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.
7.RP.3	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error
7.EE.2	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, $a + 0.05a = 1.05a$ means that “increase by 5%” is the same as “multiply by 1.05.”
7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

Differentiation			
Special Education	English Language Learners (ELL)	Response to Intervention (RTI)	Enrichment
<ul style="list-style-type: none"> ● Provide modifications & accommodations as listed in the student’s IEP ● Position student near helping peer or have quick access to teacher ● Modify or reduce assignments/tasks ● Reduce length of assignment for different mode of delivery ● Increase one-to-one time ● Prioritize tasks ● Use graphic organizers ● Use online resources for skill 	<ul style="list-style-type: none"> ● Provide text-to-speech ● Use of translation dictionary or software ● Provide graphic organizers ● NJDOE resources - http://www.state.nj.us/education/aps/cccs/ELL.htm ● Adapt a Strategy – Adjusting strategies for ESL students - 	<ul style="list-style-type: none"> ● Tiered interventions following RTI framework ● Effective RTI strategies for teachers - http://www.specialeducationguide.com/pre-k-12/response-to-intervention/effective-rti-strategies-for-teachers/ ● Interventional Central - http://www.interventioncentral.org/ 	<ul style="list-style-type: none"> ● Process should be modified: higher order thinking skills, open-ended thinking, discovery ● Utilize project-based learning for greater depth of knowledge ● Utilize exploratory connections to higher grade concepts ● Contents should be modified: real world problems, audiences, deadlines, evaluations, transformations ● Learning environments should

<p>building</p> <ul style="list-style-type: none"> ● Provide teacher notes ● Use collaborative grouping strategies such as small groups ● NJDOE resources - http://www.state.nj.us/education/special/ ● Math manipulatives 	<p>http://www.teachersfirst.com/content/esl/adaptivestrat.cfm</p>		<p>be modified: student-centered learning, independence, openness, complexity, groups varied</p> <ul style="list-style-type: none"> ● NJDOE resources - http://www.state.nj.us/education/aps/cccs/g_and_t_req.htm
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**Califon Public School
Curriculum**



Subject: Mathematics	Grade: 7	Unit #: 3	Pacing: 8 weeks
Unit Title: Expressions, Equations, and Inequalities			

OVERVIEW OF UNIT:

This unit will have students writing two-step equations to represent real-world problems, and write a real-world problem to represent an equation. Then they will learn the process to solve two-step equations. Additionally, they will learn how to write and solve two-step inequalities.

Unit References	
Big Ideas	Essential Questions
<ul style="list-style-type: none"> ● Writing and solving two-step equations ● Writing and solving two-step inequalities 	<ul style="list-style-type: none"> ● How do you add, subtract, factor, and multiply algebraic expressions? ● How do you use one-step equations with rational coefficients to solve problems? ● How do you write a two-step equation? ● How do you solve a two-step equation ● How do you write and solve one-step inequalities? ● How do you write a two-step inequality? ● How do you solve a two-step inequality?

Objectives

- Students will be able to solve problems involving adding, subtracting, factoring, and multiplying algebraic expressions
- Students will be able to solve one-step equations with rational coefficients
- Students will be able to interpret written word expressions into two-step equations
- Students will be able to solve two-step equations
- Students will be able to evaluate one-step inequalities
- Students will be able to interpret written word expressions into two-step inequalities
- Students will be able to evaluate two-step inequalities

Assessment

Formative Assessment:

- Homework assignments
- Quizzes
- Classwork
- Skill worksheets
- Class discussions

Summative Assessment:

- Module Test
- Unit Test
- Performance Task

Benchmark Assessment:

- Link It Benchmark Assessment

Alternative Assessment:

- Performance Task
- Modified Tests (independently developed by teacher)
- Projects

Key Vocabulary

- | | |
|-------------------------|---------------|
| ● Algebraic expression | ● Coefficient |
| ● Distributive Property | ● Constant |
| ● Equation | ● Equation |

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|--|--|
| <ul style="list-style-type: none">● Factor● Operation● Solution● Variable | <ul style="list-style-type: none">● Greater than● Inequality● Integers● Less than |
|--|--|

Resources & Materials

- Textbook (Go Math Gr. 7)
- SMARTBoard
- Calculator
- Teacher-made materials
- Guided notes
- Online games
- www.khanacademy.org
- www.ixl.com/math/
- my.hrw.com (Go Math Resources)
- www.desmos.com
- <http://nlvm.usu.edu/>
- <https://illuminations.nctm.org/>

Technology Infusion

Teacher Technology:

- Google Classroom
- SMARTBoard
- Chromebook
- Google Apps for Education

Student Technology:	
<ul style="list-style-type: none"> ● Google Classroom ● Chromebook ● Google Apps for Education ● Quizzizz ● Kahoot! 	
Activities:	
<ul style="list-style-type: none"> ● Students will use the Chromebooks to access Google Classroom and Google Apps for Education to write out explanations for how problems were solved or how math connects to real-life situations. ● Students will use the Chromebooks to access websites like Quizzizz and Kahoot! to practice and review the skills learned throughout the unit. 	
Standard	Standard Description
8.1.8.DA.1	Organize and transform data collected using computational tools to make it usable for a specific purpose.

Interdisciplinary Integration	
Activities:	
<ul style="list-style-type: none"> ● Students create an interactive notebook to help them learn the concepts in this unit. The main idea of each lesson is written on each page, along with important details that support the main idea, such as vocabulary and processes. 	
Resources:	
<ul style="list-style-type: none"> ● Teacher Vision Cross Curricular Theme Map - https://www.teachervision.com/teaching-methods/curriculum-planning/7167.html ● Engineering Go For It! - http://egfi-k12.org/ ● US Department of Education STEM - http://www.ed.gov/stem ● Intel STEM Resource - http://www.intel.com/content/www/us/en/education/k12/stem.html ● NASA STEM - http://www.nasa.gov/audience/foreducators/expeditions/stem/#.VYrO2flViko ● PBS STEM - http://www.pbs.org/teachers/stem/#content ● STEM Works - http://stem-works.com/activities ● What Every Education Should Know About Using Google by Shell Education ● Promoting Literacy in all Subjects by Glencoe - http://www.glencoe.com/sec/teachingtoday/subject/promoting_literacy.phtml ● International Literacy Association Read Write Think - http://www.readwritethink.org/ 	
Standard	Standard Description
ELA-Literacy.RST.6-8.7	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

21 st Century Life Skills	
Activities:	
<ul style="list-style-type: none"> Students will work in groups to collaborate, at times taking leadership roles, to communicate project ideas to the whole class. 	
Standard	Standard Description
9.4.8.TL.6	Collaborate to develop and publish work that provides perspectives on a real-world problem.

Careers	
Activities:	
<ul style="list-style-type: none"> Students will complete the unit 3 performance task which provides the opportunity to apply the concepts from this unit in real-world problem situations. 	
Standard	Standard Description
CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.

Common Core State Standards for Mathematical Practice: Bold all that apply	
MP #	Practice
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics.
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning.

Standards	
Standard #	Standard Description
7.EE.1	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
7.EE.4	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

7.EE.4.a	Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p , q , and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?
7.EE.4.b	Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p , q , and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.

Differentiation			
Special Education	English Language Learners (ELL)	Response to Intervention (RTI)	Enrichment
<ul style="list-style-type: none"> ● Provide modifications & accommodations as listed in the student's IEP ● Position student near helping peer or have quick access to teacher ● Modify or reduce assignments/tasks ● Reduce length of assignment for different mode of delivery ● Increase one-to-one time ● Prioritize tasks ● Use graphic organizers ● Use online resources for skill building ● Provide teacher notes ● Use collaborative grouping strategies such as small groups ● NJDOE resources - http://www.state.nj.us/education/specialed/ ● Math manipulatives 	<ul style="list-style-type: none"> ● Provide text-to-speech ● Use of translation dictionary or software ● Provide graphic organizers ● NJDOE resources - http://www.state.nj.us/education/aps/cccs/ELL.htm ● Adapt a Strategy – Adjusting strategies for ESL students - http://www.teachersfirst.com/content/esl/adaptstrat.cfm 	<ul style="list-style-type: none"> ● Tiered interventions following RTI framework ● Effective RTI strategies for teachers - http://www.specialeducationguide.com/pre-k-12/response-to-intervention/effective-rti-strategies-for-teachers/ ● Interventional Central - http://www.interventioncentral.org/ 	<ul style="list-style-type: none"> ● Process should be modified: higher order thinking skills, open-ended thinking, discovery ● Utilize project-based learning for greater depth of knowledge ● Utilize exploratory connections to higher grade concepts ● Contents should be modified: real world problems, audiences, deadlines, evaluations, transformations ● Learning environments should be modified: student-centered learning, independence, openness, complexity, groups varied ● NJDOE resources - http://www.state.nj.us/education/aps/cccs/g_and_t_req.htm

Califon Public School

Curriculum



Subject: Mathematics	Grade: 7	Unit #: 4	Pacing: 5 weeks
Unit Title: Geometry			

OVERVIEW OF UNIT:

Students will use ratios to determine if two figures are similar, use similar shapes to find unknown measures, and understand the relationship between different types of angle pairs. Additionally, students will write and solve equations using formulas and geometry concepts including finding the circumference of a circle, finding the area of a circle, and finding the area of composite figures.

Unit References	
Big Ideas	Essential Questions
<ul style="list-style-type: none"> • Angle pair relationships • Circumference and area of a circle • Area of composite figures • Volume and surface area of prisms and pyramids 	<ul style="list-style-type: none"> • How can you use scale drawings to solve problems? • How can you draw shapes that satisfy given conditions? • How can you angle relationships to solve problems? • How can you find and use the circumference of a circle? • How do you find the area of a circle? • How do you find the area of composite figures? • How can you find the surface area of a figure made up of cubes and prisms? • How can you find the volume of a figure made up of cubes and prisms?

Objectives

- Students will be able to apply scale drawings to solve problems.
- Students will be able to draw shapes that satisfy given conditions.
- Students will be able to interpret angle relationships to solve problems.
- Students will be able to calculate the circumference of a circle.
- Students will be able to calculate the area of a circle.
- Students will be able to calculate the area of composite figures.
- Students will be able to calculate the surface area of a figure made of cubes and prisms.
- Students will be able to calculate the volume of a figure made up of cubes and prisms.

Assessment

Formative Assessment:

- Homework assignments
- Quizzes
- Classwork
- Skill worksheets
- Class discussions

Summative Assessment:

- Module Test
- Unit Test
- Performance Task

Benchmark Assessment:

- Link It Benchmark Assessment

Alternative Assessment:

- Performance Task
- Modified Tests (independently developed by teacher)
- Projects

Key Vocabulary

- Angle
- Supplementary angles

- | | |
|--|---|
| <ul style="list-style-type: none"> ● Degree ● Dimension ● Length ● Proportion ● Polygon ● Ratio ● Width ● Adjacent angles ● Complementary angles ● Congruent angles ● Cross section ● Intersection ● Scale ● Scale drawing | <ul style="list-style-type: none"> ● Vertical angles ● Area ● Parallelogram ● Perimeter ● Prism ● Rectangle ● Square ● Trapezoid ● Triangle ● Volume ● Circumference ● Composite figure ● Diameter ● Radius |
|--|---|

Resources & Materials

- | | |
|--|--|
| <ul style="list-style-type: none"> ● Textbook (Go Math Gr. 7) ● SMARTBoard ● Calculator ● Teacher-made materials ● Guided notes ● Online games | <ul style="list-style-type: none"> ● www.khanacademy.org ● www.ixl.com/math/ ● my.hrw.com (Go Math Resources) ● www.desmos.com ● http://nlvm.usu.edu/ ● https://illuminations.nctm.org/ |
|--|--|

Technology Infusion

Teacher Technology:

- Google Classroom
- SMARTBoard
- Chromebook
- Google Apps for Education

Student Technology:

- Google Classroom

- Chromebook
- Google Apps for Education
- Quizzizz
- Kahoot!

Activities:

- Students will use the Chromebooks to access Google Classroom and Google Apps for Education to write out explanations for how problems were solved or how math connects to real-life situations.
- Students will use the Chromebooks to access websites like Quizzizz and Kahoot! to practice and review the skills learned throughout the unit.

Standard	Standard Description
8.1.8.DA.1	Organize and transform data collected using computational tools to make it usable for a specific purpose.

Interdisciplinary Integration

Activities:

- Topographical Maps & Cross Sections of Cones - Students will stand over a cone and draw a contour map to represent the height and shape of the “mountain”. They will then draw several concentric circles to represent horizontal cross sections of the cone. This will lead to a discussion about the connection to topographical maps.

Resources:

- Teacher Vision Cross Curricular Theme Map - <https://www.teachervision.com/teaching-methods/curriculum-planning/7167.html>
- Engineering Go For It! - <http://egfi-k12.org/>
- US Department of Education STEM - <http://www.ed.gov/stem>
- Intel STEM Resource - <http://www.intel.com/content/www/us/en/education/k12/stem.html>
- NASA STEM - <http://www.nasa.gov/audience/foreducators/expeditions/stem/#.VYrO2flViko>
- PBS STEM - <http://www.pbs.org/teachers/stem/#content>
- STEM Works - <http://stem-works.com/activities>
- [What Every Education Should Know About Using Google](#) by Shell Education
- Promoting Literacy in all Subjects by Glencoe - http://www.glencoe.com/sec/teachingtoday/subject/promoting_literacy.phtml
- International Literacy Association Read Write Think - <http://www.readwritethink.org/>

Standard	Standard Description
MS-ESS2-2	Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.

21st Century Life Skills

Activities:

- Students will work in groups to collaborate, at times taking leadership roles, to communicate project ideas to the whole class.

Standard	Standard Description
9.4.8.TL.6	Collaborate to develop and publish work that provides perspectives on a real-world problem.

Careers

Activities:

- What If? Activity - If the edge of a cube is a certain length. What happens to the volume if the edge length is doubled? tripled? halved? What if the height and length doubled? What if the height, length, and width all doubled? Students work with partners to predict a rule for these scenarios.

Standard	Standard Description
CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.

Common Core State Standards for Mathematical Practice: Bold all that apply

MP #	Practice
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics.
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning.

Standards

Standard #	Standard Description
7.G.1	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
7.G.2	Draw (with technology, with ruler and protractor, as well as freehand) geometric shapes with given conditions. Focus on constructing

	triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.
7.G.3	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.
7.G.4	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
7.G.5	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
7.G.6	Solve real-world and mathematical problems involving area, volume and surface area of two and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

Differentiation			
Special Education	English Language Learners (ELL)	Response to Intervention (RTI)	Enrichment
<ul style="list-style-type: none"> ● Provide modifications & accommodations as listed in the student's IEP ● Position student near helping peer or have quick access to teacher ● Modify or reduce assignments/tasks ● Reduce length of assignment for different mode of delivery ● Increase one-to-one time ● Prioritize tasks ● Use graphic organizers ● Use online resources for skill building ● Provide teacher notes ● Use collaborative grouping strategies such as small groups ● NJDOE resources - http://www.state.nj.us/education/specialed/ ● Math manipulatives 	<ul style="list-style-type: none"> ● Provide text-to-speech ● Use of translation dictionary or software ● Provide graphic organizers ● NJDOE resources - http://www.state.nj.us/education/aps/cccs/ELL.htm ● Adapt a Strategy – Adjusting strategies for ESL students - http://www.teachersfirst.com/content/esl/adaptstrat.cfm 	<ul style="list-style-type: none"> ● Tiered interventions following RTI framework ● Effective RTI strategies for teachers - http://www.specialeducationguide.com/pre-k-12/response-to-intervention/effective-rti-strategies-for-teachers/ ● Interventional Central - http://www.interventioncentral.org/ 	<ul style="list-style-type: none"> ● Process should be modified: higher order thinking skills, open-ended thinking, discovery ● Utilize project-based learning for greater depth of knowledge ● Utilize exploratory connections to higher grade concepts ● Contents should be modified: real world problems, audiences, deadlines, evaluations, transformations ● Learning environments should be modified: student-centered learning, independence, openness, complexity, groups varied ● NJDOE resources - http://www.state.nj.us/education/aps/cccs/g_and_t_req.htm

**Califon Public School
Curriculum**



Subject: Mathematics	Grade: 7	Unit #: 5	Pacing: 6 weeks
Unit Title: Statistics			

OVERVIEW OF UNIT:

The students will learn how to use a sample to gain information about a population using random and nonrandom sampling, make inferences from dot plots and box plots, and use data about a sample and proportional reasoning to make inferences or predictions about a population. Additionally, students will learn how to compare two sets of data displayed in dot plots or two sets of data displayed in box plots.

Unit References	
Big Ideas	Essential Questions
<ul style="list-style-type: none"> • Ways to analyze data about a population • Making inferences from random samples • Ways to compare two sets of data 	<ul style="list-style-type: none"> • How can you use a sample to gain information about a population? • How can you generate and use random samples to represent a population? • How do you compare two sets of data displayed in dot plots? • How do you compare two sets of data displayed in box plots? • How do you use statistical measures to compare populations?

Objectives

- Students will be able to interpret a sample to gain information about a population.
- Students will be able to generate and use random samples to represent a population.
- Students will be able to compare two sets of data displayed in dot plots.
- Students will be able to compare two sets of data displayed in box plots.
- Students will be able to utilize statistical measures to compare populations.

Assessment**Formative Assessment:**

- Homework assignments
- Quizzes
- Classwork
- Skill worksheets
- Class discussions

Summative Assessment:

- Module Test
- Unit Test
- Performance Task

Benchmark Assessment:

- Link It Benchmark Assessment

Alternative Assessment:

- Performance Task
- Modified Tests (independently developed by teacher)
- Projects

Key Vocabulary

- Box plot
- Data
- Dot plot
- Interquartile range
- Lower quartile
- Upper quartile
- Biased sample
- Population
- Random sample
- Sample

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| <ul style="list-style-type: none">● Median● Spread● Survey | <ul style="list-style-type: none">● Mean● Measure of center● Mean absolute deviation (MAD) |
|--|--|

Resources & Materials

- Textbook (Go Math Gr. 7)
- SMARTBoard
- Calculator
- Teacher-made materials
- Guided notes
- Online games
- www.khanacademy.org
- www.ixl.com/math/
- my.hrw.com (Go Math Resources)
- www.desmos.com
- <http://nlvm.usu.edu/>
- <https://illuminations.nctm.org/>

Technology Infusion

Teacher Technology:

- Google Classroom
- SMARTBoard
- Chromebook
- Google Apps for Education

Student Technology:

- Google Classroom

- Chromebook
- Google Apps for Education
- Quizzizz
- Blooket
- Kahoot!

Activities:

- Students will use the Chromebooks to access Google Classroom and Google Apps for Education to write out explanations for how problems were solved or how math connects to real-life situations.
- Students will use the Chromebooks to access websites like Quizzizz and Kahoot! to practice and review the skills learned throughout the unit.

Standard	Standard Description
8.1.8.DA.1	Organize and transform data collected using computational tools to make it usable for a specific purpose.

Interdisciplinary Integration**Activities:**

- Students will complete a project were they compare and contrast the populations and demographics that affected social, economic, and political opportunities during the Colonial era.

Resources:

- Teacher Vision Cross Curricular Theme Map - <https://www.teachervision.com/teaching-methods/curriculum-planning/7167.html>
- Engineering Go For It! - <http://egfi-k12.org/>
- US Department of Education STEM - <http://www.ed.gov/stem>
- Intel STEM Resource - <http://www.intel.com/content/www/us/en/education/k12/stem.html>
- NASA STEM - <http://www.nasa.gov/audience/foreducators/expeditions/stem/#.VYrO2flViko>
- PBS STEM - <http://www.pbs.org/teachers/stem/#content>
- STEM Works - <http://stem-works.com/activities>
- [What Every Education Should Know About Using Google](#) by Shell Education
- Promoting Literacy in all Subjects by Glencoe - http://www.glencoe.com/sec/teachingtoday/subject/promoting_literacy.phtml
- International Literacy Association Read Write Think - <http://www.readwritethink.org/>

Standard	Standard Description
6.1.8.A.2.c	Explain how demographics (i.e., race, gender, and economic status) affected social, economic, and political opportunities during the Colonial era.

21st Century Life Skills

Activities:

- Students will work in groups to collaborate, at times taking leadership roles, to communicate project ideas to the whole class.

Standard	Standard Description
9.4.8.TL.6	Collaborate to develop and publish work that provides perspectives on a real-world problem.

Careers

Activities:

- Generating Random Samples - Students will simulate multiple random samples to see how much statistical measures vary for different sample sizes of 20. They will use graphing calculators for the sample with a sample size of 200.

Standard	Standard Description
CRP11	Use technology to enhance productivity.

Common Core State Standards for Mathematical Practice: Bold all that apply

MP #	Practice
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics.
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning.

Standards

Standard #	Standard Description
7.RP.2.c	Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p , the relationship between the total cost and the number of items can be expressed as $t = pn$.
7.SP.1	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations

	about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
7.SP.2	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.
7.SP.3	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.
7.SP.4	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.

Differentiation			
Special Education	English Language Learners (ELL)	Response to Intervention (RTI)	Enrichment
<ul style="list-style-type: none"> ● Provide modifications & accommodations as listed in the student's IEP ● Position student near helping peer or have quick access to teacher ● Modify or reduce assignments/tasks ● Reduce length of assignment for different mode of delivery ● Increase one-to-one time ● Prioritize tasks ● Use graphic organizers ● Use online resources for skill building ● Provide teacher notes ● Use collaborative grouping strategies such as small groups 	<ul style="list-style-type: none"> ● Provide text-to-speech ● Use of translation dictionary or software ● Provide graphic organizers ● NJDOE resources - http://www.state.nj.us/education/aps/cccs/ELL.htm ● Adapt a Strategy – Adjusting strategies for ESL students - http://www.teachersfirst.com/content/esl/adaptstrat.cfm 	<ul style="list-style-type: none"> ● Tiered interventions following RTI framework ● Effective RTI strategies for teachers - http://www.specialeducationguide.com/pre-k-12/response-to-intervention/effective-rti-strategies-for-teachers/ ● Interventional Central - http://www.interventioncentral.org/ 	<ul style="list-style-type: none"> ● Process should be modified: higher order thinking skills, open-ended thinking, discovery ● Utilize project-based learning for greater depth of knowledge ● Utilize exploratory connections to higher grade concepts ● Contents should be modified: real world problems, audiences, deadlines, evaluations, transformations ● Learning environments should be modified: student-centered learning, independence, openness, complexity, groups varied ● NJDOE resources -

<ul style="list-style-type: none">● NJDOE resources - http://www.state.nj.us/education/specialed/● Math manipulatives			http://www.state.nj.us/education/aps/cccs/g_and_t_req.htm
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**Califon Public School
Curriculum**



Subject: Mathematics	Grade: 7	Unit #: 6	Pacing: 5 weeks
Unit Title: Probability			

OVERVIEW OF UNIT:

Students will find the probability of a simple event and its complement, find experimental probabilities of simple and compound events, and use experimental probability to make a prediction. In addition, students will find theoretical probability of simple and compound events, compare theoretical and experimental probabilities, use theoretical probability to make a prediction, and use technology to conduct different simulations for simple and compound events.

Unit References	
Big Ideas	Essential Questions
<ul style="list-style-type: none"> ● Experimental probability ● Theoretical probability 	<ul style="list-style-type: none"> ● How can you describe the likelihood of an event? ● How do you find the experimental probability of a simple event? ● How do you find the experimental probability of a compound event? ● How do you make predictions using the experimental probability? ● How can you find the theoretical probability of a simple event? ● How do you find the theoretical probability of a compound event? ● How do you make predictions using theoretical probability? ● How can you use technology simulations to estimate probabilities?

Objectives

- Students will be able to describe the likelihood of an event.
- Students will be able to calculate the experimental probability of a simple event.
- Students will be able to calculate the experimental probability of a simple event.
- Students will be able to calculate the experimental probability of a compound event.
- Students will be able to make predictions using experimental probability.
- Students will be able to calculate the theoretical probability of a simple event.
- Students will be able to calculate the theoretical probability of a compound event.
- Students will be able to make predictions using theoretical probability.
- Students will be able to utilize technology simulations to estimate probabilities.

Assessment

Formative Assessment:

- Homework assignments
- Quizzes
- Classwork
- Skill worksheets
- Class discussions

Summative Assessment:

- Module Test
- Unit Test
- Performance Task

Benchmark Assessment:

- Link It Benchmark Assessment

Alternative Assessment:

- Performance Task
- Modified Tests (independently developed by teacher)
- Projects

Key Vocabulary

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| <ul style="list-style-type: none"> ● Data ● Observation ● Percent ● Ratio ● Complement ● Compound event ● Event ● Experiment | <ul style="list-style-type: none"> ● Experimental probability ● Outcome ● Probability ● Simple event ● Simulation ● Trial ● Theoretical probability |
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Resources & Materials

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|---|--|
| <ul style="list-style-type: none"> ● Textbook (Go Math Gr. 7) ● SMARTBoard ● Calculator ● Graphing calculator ● Teacher-made materials ● Task cards ● Guided notes | <ul style="list-style-type: none"> ● Online games ● www.khanacademy.org ● www.ixl.com/math/ ● my.hrw.com (Go Math Resources) ● www.desmos.com ● http://nlvm.usu.edu/ ● https://illuminations.nctm.org/ |
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Technology Infusion**Teacher Technology:**

- Google Classroom
- SMARTBoard
- Chromebook
- Google Apps for Education

Student Technology:

- Google Classroom
- Chromebook

- Google Apps for Education
- Quizzizz
- Blooket
- Kahoot!

Activities:

- Students will use the Chromebooks to access Google Classroom and Google Apps for Education to write out explanations for how problems were solved or how math connects to real-life situations.
- Students will use the Chromebooks to access websites like Quizzizz and Kahoot! to practice and review the skills learned throughout the unit.

Standard	Standard Description
8.1.8.DA.1	Organize and transform data collected using computational tools to make it usable for a specific purpose.

Interdisciplinary Integration**Activities:**

- Students are encouraged to practice using their unit vocabulary as they talk and write about mathematics. This vocabulary must be incorporated into their written explanations for solutions to their problems.

Resources:

- Teacher Vision Cross Curricular Theme Map - <https://www.teachervision.com/teaching-methods/curriculum-planning/7167.html>
- Engineering Go For It! - <http://egfi-k12.org/>
- US Department of Education STEM - <http://www.ed.gov/stem>
- Intel STEM Resource - <http://www.intel.com/content/www/us/en/education/k12/stem.html>
- NASA STEM - <http://www.nasa.gov/audience/foreducators/expeditions/stem/#.VYrO2flViko>
- PBS STEM - <http://www.pbs.org/teachers/stem/#content>
- STEM Works - <http://stem-works.com/activities>
- [What Every Education Should Know About Using Google](#) by Shell Education
- Promoting Literacy in all Subjects by Glencoe - http://www.glencoe.com/sec/teachingtoday/subject/promoting_literacy.phtml
- International Literacy Association Read Write Think - <http://www.readwritethink.org/>

Standard	Standard Description
ELA-Literacy.RST.6-8.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.

21st Century Life Skills

Activities:

- Students will work in groups to collaborate, at times taking leadership roles, to communicate project ideas to the whole class.

Standard	Standard Description
9.4.8.TL.6	Collaborate to develop and publish work that provides perspectives on a real-world problem.

Careers

Activities:

- Validity of Data - Students will find examples of claims from magazines, newspapers, television, and the Internet. They will note whether any data is given to support the claims. They will have to justify the validity of the claim and be able to support their justification within the class discussion.

Standard	Standard Description
CRP4	Communicate clearly and effectively and with reason.

Common Core State Standards for Mathematical Practice: Bold all that apply

MP #	Practice
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics.
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning.

Standards	
Standard #	Standard Description
7.SP.5	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
7.SP.6	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.
7.SP.7	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.
7.SP.7.a	Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.
7.SP.7.b	Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?
7.SP.8	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
7.SP.8.a	Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
7.SP.8.b	Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event.
7.SP.8.c	Design and use a simulation to generate frequencies for compound events. For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?

Differentiation			
Special Education	English Language Learners (ELL)	Response to Intervention (RTI)	Enrichment
<ul style="list-style-type: none"> ● Provide modifications & accommodations as listed in the student's IEP ● Position student near helping peer or have quick access to teacher ● Modify or reduce assignments/tasks ● Reduce length of assignment for different mode of delivery ● Increase one-to-one time ● Prioritize tasks ● Use graphic organizers ● Use online resources for skill building ● Provide teacher notes ● Use collaborative grouping strategies such as small groups ● NJDOE resources - http://www.state.nj.us/education/specialed/ ● Math manipulatives 	<ul style="list-style-type: none"> ● Provide text-to-speech ● Use of translation dictionary or software ● Provide graphic organizers ● NJDOE resources - http://www.state.nj.us/education/aps/cccs/ELL.htm ● Adapt a Strategy – Adjusting strategies for ESL students - http://www.teachersfirst.com/content/esl/adaptstrat.cfm 	<ul style="list-style-type: none"> ● Tiered interventions following RTI framework ● Effective RTI strategies for teachers - http://www.specialeducationguide.com/pre-k-12/responsive-to-intervention/effective-rti-strategies-for-teachers/ ● Interventional Central - http://www.interventioncentral.org/ 	<ul style="list-style-type: none"> ● Process should be modified: higher order thinking skills, open-ended thinking, discovery ● Utilize project-based learning for greater depth of knowledge ● Utilize exploratory connections to higher grade concepts ● Contents should be modified: real world problems, audiences, deadlines, evaluations, transformations ● Learning environments should be modified: student-centered learning, independence, openness, complexity, groups varied ● NJDOE resources - http://www.state.nj.us/education/aps/cccs/g_and_t_req.htm