Archdiocese of Newark Catholic Schools



Curriculum Mapping

Curriculum mapping is a process that helps schools and districts/dioceses determine the "agreed-upon" learning for all students. Curriculum mapping was undertaken in the Archdiocese of Newark in order to ensure that a consistent, clearly articulated curriculum infused with Gospel values is being provided to all students in our schools. The curriculum maps for the Catholic schools of the Archdiocese of Newark identify the content to be taught and skills to be mastered at each grade level.

The expertise and experience of the educators within our schools is the main source for determining the content and skills students will be expected to master. The Archdiocesan curriculum maps are developed through a collaborative process which involves individual teacher contributions, small group sessions and larger group meetings. Relevant educational standards, including those proposed by content area experts, the New Jersey Core Curriculum Content Standards, and the Common Core State Standards, are used as a resource in the curriculum mapping process. The resulting consensus maps reflect the collective thinking of classroom teachers based on their observation of student learning and their knowledge of educational practice and research. The Archdiocesan curriculum maps include teacher generated ideas for the infusion of Gospel values and faith connection activities.

While the curriculum maps clearly articulate the expected learning for all students, individual teachers have the flexibility to teach the content and skills in their own manner by:

- utilizing their own particular strengths and teaching style
- addressing the varying learning needs of their students
- determining the order in which the content and skills are presented within a marking period
- including additional content and skills once students have met the learning expectations identified in the curriculum map

Administrators at all levels will maintain the responsibility to ensure that teachers are following the curriculum maps and that appropriate teaching is being conducted. This will be done through a combination of classroom observations, faculty meetings, professional development opportunities and teacher evaluations, as well as by using various measurement tools, including but not limited to in-class and standardized testing. The Archdiocesan curriculum maps will help ensure the academic excellence that is integral to the mission of our Catholic schools and will provide educators and parents with a clear understanding of the learning expectations at each grade level.

First Trimester: September-Novem	ber			
Standards	Content	Skills	Assessment	Gospel Values and Faith Connections
 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. a. Describe situations in which opposite quantities combine to make zero. 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 zero (additive inverses). Interpret sums of rational numbers by describing real world contexts. 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. d. Apply properties of operations as strategies to add and subtract rational numbers. 	Integers	Compare and order integers Add, subtract, multiply and divide with integers. Identify the absolute value of a number. Graph integers on a number line. Solve word problems using integers.	Student learning will be assessed on a continual basis using various types of formal and informal assessments. A list of possible assessment methods is provided below: Tests Quizzes Thumbs-up/down Individual Response Boards Oral assessment Observation Show of hands Independent work Extension of knowledge Projects Web-based math programs Homework review Group work Games Self-assessment	Gospel values should be evident in the classroom environment and referenced and reinforced throughout the curriculum. Gospel Values Community Compassion Faith in God Forgiveness Hope Justice Love Peace Respect For Life Service Simplicity Truth Included in this column are some suggestions for making faith connections within the Math classroom. These suggestions were submitted by teachers.

First Trimester:	September-November
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First Trimester: September-Novem		G. 41	T .	
Standards	Content	Skills	Assessment	Gospel Values and Faith
				Connections
7.NS.2 Apply and extend previous	Rational	Identify and define rational	Class discussion	Display student-created
understandings of multiplication,	Numbers	numbers.	Manipulatives	faith messages using Math
division, and fractions to multiply and divide rational numbers.		Recognize perfect squares	-	terms and concepts
a. Understand that multiplication is		and square roots	Class participation	
extended from fractions to rational		incorporating estimation.	Portfolio	Develop word problems
numbers by requiring that			Rubrics	involving social justice
operations continue to satisfy the		Review and/or apply rational		issues. Example:
properties of operations,		number concept (basic decimal and fraction	Graphic organizers	In trying to bring in the
particularly the distributive		concepts).		concept of social justice, we discuss the Parish Lunch
property, leading to products such		concepts).		
as $(-1)(-1) = 1$ and the rules for multiplying signed numbers.				Program for the homeless. The students are asked to
Interpret products of rational				
numbers by describing real world				create a monthly budget for a food pantry that serves
contexts.				about 30 to 40 people a day.
b. Understand that integers can be				In creating a budget, they
divided, provided that the divisor				must use store circulars to
is not zero, and every quotient of				find the better buy for the
integers (with non-zero divisor) is				groceries and other
a rational number. If p and q are				necessities. Once the budget
integers, then $-(p/q) = (-p)/q =$				is established and weekly
p/(-q). Interpret quotients of rational numbers by describing				grocery list is created, the
real world contexts.				students are to present their
c. Apply properties of operations as				information as a circle
strategies to multiply and divide				graph using percentages.
rational numbers.				
d. Convert a rational number to a				
decimal using long division; know				
that the decimal form of a rational				
number terminates in zero or				
eventually repeats.				

First Trimester: September-November

Standards	Content	Skills	Assessment	Gospel Values and Faith Connections
7.NS.3 Solve real world mathematical problems involving rational numbers using the four operations.	Expressions	Translate verbal expressions to algebraic expressions and vice versa.		
7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.		Simplify and evaluate numerical and algebraic expressions.		
7.EE.S1. Apply the rule for Order of Operations to solve numerical and algebraic equations and to simplify and evaluate expressions.				
7.EE.2 Understand that rewriting an expression in different forms may enhance the interpretation of the problem and how the quantities in it are related. Example: $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05."	Equations	Identify inverse operations. Translate verbal statements to algebraic equations and vice versa. Apply properties of equality to solve one and two step		
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.	Properties	Identify and apply properties to algebraic expressions and equations.		

First Trimester: September-November

Standards	Content	Skills	Assessment	Gospel Values and Faith Connections
7.EE.4a 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.	Order of Operations	State the steps in the Order of Operations and apply to expressions. Recognize and correctly use grouping symbols.		
7.NS.S1 Represent numbers in scientific notation and use them in calculations and problem situations.7.NS.S2. Apply the laws of exponents to the solution of problems. Extend the Order of Operations to include positive integer exponents and square roots.	Powers and Exponents	Identify base and exponents. Use powers to describe repeated multiplication. Apply the Laws of Exponents.		
7.NS.S3. Compare and order fractions, decimals, and percents efficiently and find their approximate locations on a number line.	Scientific Notation	Evaluate expressions containing negative and zero exponents. Convert numbers in scientific notation to standard form and standard form to scientific notation. Use scientific notation in calculations and problem situations.		

First Trimester: September-November

Standards	Content	Skills	Assessment	Gospel Values and Faith Connections
	Factorization	List and apply divisibility rules. Identify prime and composite numbers. Find prime factorization of composite numbers (monomials) using factor trees or division ladders. Define and identify factors		Connections
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.	*Measures of Central Tendency *Content to be covered in either the 1 st or 2 nd trimester	Define and calculate mean, median, mode, range, and outlier. Explain which measure of central tendency best describes the data.		Data, Statistics, & Graphs Have students do research to gather statistics about homelessness, poverty rates, etc. Create graphs to present the statistics. Find out about programs that address these needs in your local community and ways students can support these programs.

Second Trimester: December-February

Second Trimester: December-Febru	, ·		T .	
Standards	Content	Skills	Assessment	Gospel Values and Faith
				Connections
7.NS.1 Apply and extend previous	Fractions and	Perform all operations with	Student learning will be	Gospel values should be
understandings of addition and	Decimals	fractions, mixed numbers,	assessed on a continual	evident in the classroom
subtraction to add and subtract rational		and decimals.	basis using various types of	environment and referenced
numbers; represent addition and subtraction on a horizontal or vertical			formal and informal	and reinforced throughout
number line diagram.		Compare and order	assessments. A list of	the curriculum.
		fractions, mixed numbers,	possible assessment	
7.NS.2 Apply and extend previous		and decimals.	methods is provided below:	Gospel Values
understandings of multiplication,			Tests	Community
division, and fractions to multiply and divide rational numbers.		Plot fractions, mixed	Quizzes	Compassion
		numbers, and decimals on a		Faith in God
7.NS.S3 Compare and order fractions,		number line.	Thumbs-up/down	Forgiveness
decimals, and percents efficiently and find their approximate locations on a			Individual Response	Норе
number line.			Boards	-
number me.	Conversions		Oral assessment	Justice
7.NS.2d Convert a rational number to a	Conversions	Convert among fractions,		Love
decimal using long division; know that		decimals, and percent.	Observation	Peace
the decimal form of a rational number			Show of hands	Respect For Life
terminates in zero or eventually repeats.			Indomondant words	Service
7.EE.3 Solve multi-step real-life and			Independent work	Simplicity
mathematical problems posed with			Extension of knowledge	1 7
positive and negative rational numbers			Projects	Truth
in any form (whole numbers, fractions,				
and decimals), using tools strategically. Apply properties of operations to			Web-based math programs	Included in this column are
calculate with numbers in any form;			Homework review	some suggestions for
convert between forms as appropriate;			Group work	making faith connections
and assess the reasonableness of				within the Math classroom.
answers using mental computation and			Games	These suggestions were
estimation strategies.				submitted by teachers.
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Grade 7

Second Trimester: December-Febru Standards	Content	Skills	Assessment	Gospel Values and Faith
Standards	Content	SKIIIS	Assessment	Connections
7.DD 1.C	D (I D (XXX **	0.10	
7.RP.1 Compute unit rates associated	Ratios, Rates,	Write a ratio to represent the	Self-assessment	Connecting to Church and
with ratios of fractions, including ratios	Proportion and	relationship between two	Class discussion	Parish
of lengths, areas and other quantities measured in like or different units.	Percent	quantities.		When doing problems
measured in like of different units.			Manipulatives	involving percents, or
7.RP.2 Recognize and represent		Define rate and proportion.	Class participation	measurement use places and
proportional relationships between			1 1	things that are part of the
quantities.		Find the missing value in a	Portfolio	parish or connected to the
a) Identify the constant of		proportion using cross	Rubrics	Catholic faith.
proportionality (unit rate) in tables,		products and common		
graphs, equations, diagrams, and		multiplier.	Graphic organizers	Scale Drawings –Make
verbal descriptions of proportional		1		models of the church or
relationships.		Compare like items using		parish center.
_		unit rate.		
b) Represent proportional relationships by equations.				
relationships by equations.		Calculate missing		Build a manger using scale
7.RP.3 Use proportional relationships to		dimensions in similar		figures and proportions
solve multi-step ratio and percent		figures using proportions.		inguies una proportions
problems. Examples: Simple interest,		inguies using proportions.		
tax, markups and markdowns, gratuities		Apply proportions to scale		
and commissions, fees, percent of		drawings in word problems.		
change (increase and decrease), percent		drawings in word problems.		
error.		Determine percent of		
		-		
7.G.1 Solve problems involving scale		change.		
drawings of geometric figures, including		Evenues freetiens and seties		
computing actual lengths and areas from		Express fractions and ratios		
a scale drawing and reproducing a		in simplest form.		
drawing at a different scale.				

Second Trimester: December-February

Standards	Content	Skills	Assessment	Gospel Values and Faith
				Connections
	Simple and	Calculate interest earned		Problem Solving
	*Compound	and account balances.		Suggestions
	Interest			When doing problems
	*Optional	Calculate sales tax, tips,		involving scale use places
		commission, mark-ups and		and things that are part of
		discounts.		our Catholic faith such as
				the Sistine chapel or Vatican
		Calculate simple and		City or holy places in
		compound interest.		Jerusalem.
				When doing problems
				involving percent of
				increase or decrease relate it
7 EE 4h Salva word problems leading to	Inequalities	Write algebraic inequalities		to statistics in the Catholic
7.EE.4b Solve word problems leading to inequalities of the form		from words and vice versa.		Church.
px + q > r or $px + q < r$, where p, q ,		110111 (1014) 4114 (100 (0154)		
and r are specific rational numbers.		Graph inequalities on a		When doing problems
Graph the solution set of the inequality		number line.		involving the environment
and interpret it in the context of the				or science highlight how we
problem.		Solve one and two step		can use math to be stewards
		inequalities using the		of God's creation.
		properties of equality.		or double of calcon.
		rr		

Second Trimester: December-February

Standards	Content	Skills	Assessment	Gospel Values and Faith
7.G.2 Draw (freehand, with ruler and protractor, and with technology) 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.	Plane Geometry	Identify various types of lines and angles. Identify geometric objects by description of its properties or attributes. Classify and draw quadrilaterals and triangles by sides and angles. Identify parts of a circle.		Connections
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.		Construct congruent angles, bisectors, parallel, and perpendicular lines. Calculate area and perimeter		
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.		of polygons. Calculate area and circumference of circles.		
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.				

Second Trimester: December-February

Standards	Content	Skills	Assessment	Gospel Values and Faith Connections
	Measurement	Convert between units within the metric system.		
		Convert between units within the customary system.		
		Measure objects to the nearest 16 th of an inch.		
		Measure objects to the nearest millimeter.		
		Choose the most reasonable unit of measure.		

Third Semester: March-June

Standards
Content
Skills
Assessment
Connections

b) Develop a probability model
(which may not be uniform) by
Class discussion

Manipulatives

Portfolio

Rubrics

Class participation

Graphic organizers

7.SP.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.

observing frequencies in data generated from a chance process.

- 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.
- 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
- c) Design and use a simulation to generate frequencies for compound events.

event.

Standards	Content	Skills	Assessment	Gospel Values and Faith
				Connections
7.G.3 Describe the two-dimensional	Three	Draw and identify 3D		
figures that result from slicing three- dimensional figures, as in plane sections	Dimensional Figures	objects and their properties.		
of right rectangular prisms and right rectangular pyramids.		Calculate volume and		
7.G.6 Solve real world and		surface area of 3D figures.		
mathematical problems involving area,		Identify a 3D shape from its		
volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons,		net.		
cubes, and right prisms.	Triangles &	Classify triangles according		
7.G.2 Draw (freehand, with ruler and protractor, and with technology)	Pythagorean Theorem	to their sides and angles.		
geometric shapes with given conditions.		Identify the sides and		
Focus on constructing triangles from		hypotenuse of a right		
three measures of angles or sides, noticing when the conditions determine		triangle.		
a unique triangle, more than one		Use the Pythagorean		
triangle, or no triangle.		Theorem to find the missing		
		side of a right triangle.		
	Transformations	Identify geometric		
	11 ansioi mations	transformations: translation,		
		reflection, and rotation.		
		Totalon, and Totalon.		
		Demonstrate geometric		
		transformations of figures		
		on a coordinate plane.		

Third Semester: March-June

Third Semester: March-June							
Standards	Content	Skills	Assessment	Gospel Values and Faith			
7.SP.1 Understand that statistics can be	Coordinate Plane Statistics	Identify parts of the coordinate plane. Plot points on a coordinate plane. Plot linear equations using tables and point slope form. Create a survey and sample		Connections			
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.	Staustics	Gather and record date. Use data to form 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.							

Third Semester: March-June Standards	Content	Skills	Assessment	Gospel Values and Faith
Standards	Content		rissessificate	Connections
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. 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.	Graphs	Use fractions to calculate percent of a circle graph. Construct a circle graph. Use circle graphs to demonstrate fractions and percents. Create appropriate graphs based on data. Label graphs correctly and completely.		Graphs Create bar graphs showing the average monthly precipitation and line graphs showing the average monthly temperature in various biomes. Discuss diversity in God's creation. Circle Graph of the Liturgical Year Determine length of days of each liturgical season. Calculate percentage of year of each season; rename as fractions and decimals. Calculate degrees of central angle representing each season. Construct the circle graph. Color the seasons correctly