Please Do Not Reproduce Or Distribute Without Permission Charlene Tate Nichols Contributions SUBJECT AREA CONNECTION: Math Date December 30, 2014 AUTHOR Charlene Tate Nichols CONTRIBUTORS Ethadeth Achembershow Social and Intellectual Habits 3rd Grade Content Standard Social and Intellectual Habits Social and Intellectual Habits Social and Intellectual Habits CSS.Math.Practice.MPI Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and pan a solution pathway rather than simply unplicing into problem in solution pathway tather than simply unplicing into problem studies, and graphs or draw lograms of important factures and relationships, graph data, and sach for requiring relationships, and they social correspondences between equations, verbal descriptions, tables, and graphs or draw lograms of important factures and relationships, graph data, and sach for requiring and colume noter to gain insign contract solution sciences to there to solving complex problems units, graph data, and sach for they conting tude sciences or relation within they nound an assolution pathway tate or than simply insign logical problem in they consider they on sign correct and evaluate their hore process. CSS.Math.Practice.MPI Make sense of problems and persevere in solving them. Mathematically proficient students and solving complex problems units, graph data, and sach facturescient fo			October 201	<u> 4 Draft</u> – <u>S</u> t	tandards for K-3 Soci	ial, Emotior	nal, and Intellectual H	abits					
SUBJECT AREA CONNECTION: Math Date December 30, 2014 AUTHOR: Charlene Tate Nichols CONTRIBUTORS Flinzbeth Accentement Social and Intellectual Habits Self-Avareneess SWP 1,3 Self-Avareness SWP 1,3 Self-Avarenesself-Avar				***Please Do Not Reproduce Or Distribute Without Permission*** Charlene Tate Nicho Ann Marie Spinelli									
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	Charlene Tate Nichols Mary Santilli Ann Marie Spinelli Kathleen St. Onge								
SUBJECT ARE		: Math	DATE: December 30, 2014	AUTHOR:	Charlene Tate Nichols	CONTRIBUTORS:	Elizabeth Aschenbrenner		
Domain:			3	Brd Grade Cont	ent Standard				
Social and Intellect	ual Habits								
CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others.									
Mathematically pro statements to explo them to others, and proficient students is. Elementary stude or made formal unt and ask useful ques CCSS.Math.Practice	ficient students u ore the truth of th I respond to the a are also able to co ents can construct il later grades. Lat tions to clarify or e.MP6 Attend to p	nderstand and use stated assump eir conjectures. They are able to a rguments of others. They reason ompare the effectiveness of two p t arguments using concrete refere ter, students learn to determine d improve the arguments. orecision.	ations, definitions, and previously establi- analyze situations by breaking them into inductively about data, making plausible plausible arguments, distinguish correct l ents such as objects, drawings, diagrams, omains to which an argument applies. So	shed results in cases, and can arguments tha logic or reasoni and actions. So tudents at all g	constructing arguments. The recognize and use countere it take into account the con- ng from that which is flawe- uch arguments can make se rades can listen or read the	ey make conjectures examples. They justifitext from which the of d, and—if there is a finse and be correct, of arguments of others	s and build a logical progression of y their conclusions, communicate data arose. Mathematically flaw in an argument—explain what it even though they are not generalized s, decide whether they make sense,		
Mathematically pro choose, including us calculate accurately other. By the time t	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.								
CCSS.Math.Practice	.MP7 Look for an	nd make use of structure.							
CCSS.Wath.Practice.WP7 Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers <i>x</i> and <i>y</i> .									
Develop a spositive stitude toward searching s	Sense of self as a learner SMP 1,3,5	Sense of self as a learner can be	e supported through the following stand	lards:					
CCSS.Math.Practice	CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.								
Mathematically pro	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make								
conjectures about t	he form and mea	ning of the solution and plan a sol	ution pathway rather than simply jumpin	ng into a solutio	on attempt. They consider a	inalogous problems,	and try special cases and simpler		
forms of the origina	l problem in orde	r to gain insight into its solution.	They monitor and evaluate their progres	s and change c	ourse if necessary. Older stu	udents might, depend	ding on the context of the problem,		
transform algebraic	expressions or ch	hange the viewing window on the	ir graphing calculator to get the informat	tion they need.	Mathematically proficient s	students can explain	correspondences between		

equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

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SUBJECT AREA CONNECTION:	Math	DATE: December 30, 2014	AUTHOR:	Charlene Tate Nichols	CONTRIBUTORS:	Elizabeth Aschenbrenner			
Domain:		:	3rd Grade Conter	nt Standard					
Social and Intellectual Habits									
CCSS.Math.Practice.MP3 Construct v	iable arguments and critique the	reasoning of others.							
Mathematically proficient students up	nderstand and use stated assumpt	tions, definitions, and previously establi	shed results in cc	onstructing arguments. The	ey make conjectures	and build a logical progression of			
statements to explore the truth of the	eir conjectures. They are able to a	nalyze situations by breaking them into	cases, and can re	ecognize and use countere	xamples. They justify	their conclusions, communicate			
them to others, and respond to the a	guments of others. They reason in	nductively about data, making plausible	arguments that	take into account the cont	ext from which the c	data arose. Mathematically			
proficient students are also able to co	mpare the effectiveness of two pl	lausible arguments, distinguish correct l	ogic or reasoning	g from that which is flawed	, and—if there is a f	law in an argument—explain what it			
IS. Elementary students can construct	arguments using concrete referen	nts such as objects, drawings, diagrams,	and actions. Suc	ch arguments can make ser	ise and be correct, e	decide whether they make sense			
or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense,									
CCSS.Math.Practice.MP5 Use appropriate tools strategically.									
Mathematically proficient students co	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a								
spreadsneet, a computer algebra syst	em, a statistical package, or dynar	mic geometry software. Proficient stude	ints are sufficient	tiy familiar with tools appro	opriate for their grad	de or course to make sound			
functions and solutions generated us	Jois might be helpful, recognizing	both the insight to be gained and their	a estimation and	other mathematical know	ledge When making	mathematical models, they know			
that technology can enable them to y	isualize the results of varving assu	umptions, explore consequences, and co	pmpare prediction	ns with data. Mathematica	illy proficient studen	ts at various grade levels are able to			
identify relevant external mathematic	cal resources, such as digital conte	ent located on a website, and use them	to pose or solve r	problems. They are able to	use technological to	pols to explore and deepen their			
understanding of concepts.	, .				0				
Curiosity and	Curiosity and initiative can be su	upported through the following standa	r ds:						
initiative									
SMP 1, 7									
CCSS.Math.Practice.MP1 Make sense	of problems and persevere in so	olving them.							
Mathematically proficient students st	art by explaining to themselves th	te meaning of a problem and looking for	entry points to i	its solution. They analyze g	ivens, constraints, re	elationships, and goals. They make			
conjectures about the form and mean	ling of the solution and plan a solu	ution pathway rather than simply jumply	ng into a solution	n attempt. They consider a	nalogous problems, a	and try special cases and simpler			
transform algebraic expressions or ch	to gain insight into its solution. I	r graphing calculator to get the informa	s and change COU	Asthematically proficient of	uents mignt, depend	ang on the context of the problem,			
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them to others, and respond to the a	rguments of others. They reason in	inductively about data, making plausit	le arguments th	at take into account the con-	text from which the	data arose. Mathema	atically		
proficient students are also able to co	ompare the effectiveness of two pl	plausible arguments, distinguish correc	t logic or reason	ing from that which is flawe	d, and—if there is a f	flaw in an argument-	 explain what it 		
is. Elementary students can construct	t arguments using concrete referen	ents such as objects, drawings, diagram	ns, and actions. S	such arguments can make se	nse and be correct, e	even though they are	not generalized		
or made formal until later grades. Lat	er, students learn to determine do	omains to which an argument applies.	Students at all §	grades can listen or read the	arguments of others	s, decide whether the	y make sense,		
and ask useful questions to clarify or	sk useful questions to clarify or improve the arguments.								
CSS.Math.Practice.MP7 Look for and make use of structure.									
Mathematically proficient students lo	1athematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may								
sort a collection of shapes according	to how many sides the shapes hav	ve. Later, students will see 7 × 8 equals	the well remem	the pred $7 \times 5 + 7 \times 3$, in prepared 7	aration for learning a	bout the distributive	property. In the		
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solving problems. They also can step	back for an overview and shift per	rspective. They can see complicated the	nings, such as son	me algebraic expressions, as	single objects or as k	being composed of se	everal objects.		
For example, they can see 5 - $3(x - y)^2$	as 5 minus a positive number time	nes a square and use that to realize that	at its value canno	ot be more than 5 for any rea	al numbers <i>x</i> and <i>y</i> .				
Cooperation	Cooperation during learning exp	periences can be supported through t	he following sta	ndards:					
during learning									
experiences									
SMP 3, 6									
CCSS.Math.Practice.MP3 Construct	<i>iable arguments and critique the</i>	e reasoning of others.							
Mathematically proficient students u	nderstand and use stated assumpt	ptions, definitions, and previously esta	olished results in	constructing arguments. Th	ey make conjectures	s and build a logical p	progression of		
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them to others, and respond to the a	rguments of others. They reason in	inductively about data, making plausik	le arguments th	at take into account the con-	text from which the	data arose. Mathema	atically		
proficient students are also able to co	proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it								
is. Elementary students can construct	arguments using concrete referen	ents such as objects, drawings, diagram	is, and actions. S	such arguments can make se	nse and be correct, e	even though they are	not generalized		
or made formal until later grades. La	er, students learn to determine do	omains to which an argument applies.	Students at all g	grades can listen or read the	arguments of others	s, decide whether the	ey make sense,		
and ask useful questions to clarify or	improve the arguments.								

CCSS.Math.Practice.MP6 Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

		October 2014	Draft – Standards for K-3 Soc	cial, Emotion	nal, and Intellectual H	labits	
			Please Do Not Reproduce Or Distr	ribute Without	Permission	Charlene Tate Nichols Mary Sa Ann Marie Spinelli Kathlee	antilli an St. Onge
SUBJECT AR	EA CONNECTION:	Math	DATE: December 30, 2014	AUTHOR:	Charlene Tate Nichols	CONTRIBUTORS: Elizabeth Aschenbrenner	ii St. Olige
Domain: Social a Habits	nd Intellectual			3rd Grade Cont	ent Standard		
Identify and understand emotions of self and others	Identifying and Understanding Emotions	Identifying and understanding er	motions can be supported through the	following stan	dards:		
	Empathy SMP 3	Empathy can be supported throu	ugh the following standards:				
CCSS.Math.Practi	ce.MP3 Construct v	iable arguments and critique the	reasoning of others.				
statements to exp them to others, an proficient student is. Elementary stu or made formal un and ask useful que	lore the truth of the nd respond to the all s are also able to co dents can construct ntil later grades. Lat estions to clarify or	ir conjectures. They are able to ar guments of others. They reason ir mpare the effectiveness of two pl arguments using concrete referer er, students learn to determine dc mprove the arguments.	nalyze situations, una previously estudi nductively about data, making plausible lausible arguments, distinguish correct nts such as objects, drawings, diagrams omains to which an argument applies. S	cases, and can e arguments tha logic or reasoni , and actions. S itudents at all g	recognize and use countere at take into account the cont ng from that which is flawed uch arguments can make sel rades can listen or read the	examples. They justify their conclusions, communitext from which the data arose. Mathematically d, and—if there is a flaw in an argument—explainense and be correct, even though they are not get arguments of others, decide whether they make	nicate in what it ineralized e sense,
Develop positive	Social	Social Awareness and Interperso	onal Skills can be supported through th	e following sta	ndards:		
interpersonal	Awareness and						
relationships	Interpersonal						
	SKIIIS						
CCSS.Math.Practi	Ce.MP3 Construct v	iable arguments and critique the	reasoning of others.				
Mathematically pr statements to exp them to others, an proficient student is. Elementary stu or made formal un and ask useful que	roficient students un lore the truth of the nd respond to the an s are also able to co dents can construct ntil later grades. Lat estions to clarify or i	iderstand and use stated assumpt ir conjectures. They are able to an guments of others. They reason ir mpare the effectiveness of two pl arguments using concrete referer er, students learn to determine do mprove the arguments.	tions, definitions, and previously establi nalyze situations by breaking them into nductively about data, making plausible lausible arguments, distinguish correct nts such as objects, drawings, diagrams omains to which an argument applies. S	ished results in cases, and can arguments tha logic or reasoni , and actions. S tudents at all g	constructing arguments. The recognize and use countere at take into account the cont ng from that which is flawed uch arguments can make se rades can listen or read the	ney make conjectures and build a logical progress examples. They justify their conclusions, commun itext from which the data arose. Mathematically d, and—if there is a flaw in an argument—explain ense and be correct, even though they are not gen arguments of others, decide whether they make	ion of nicate n what it neralized e sense,
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		October 2014 Draft – Standards for K-3 Social, Emotional, and Intellectual Habits
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SUBJECT AR	EA CONNECTION	Math DATE: December 30, 2014 AUTHOR: Charlene Tate Nichols CONTRIBUTORS: Elizabeth Aschenbrenner
Domain:		3rd Grade Content Standard
Social and Intellec	ctual Habits	
	Responsible decision making and social problem solving	Responsible decision making and social problem solving can be supported through the following standards:
	Conflict Resolution SMP 1	Conflict Resolution can be supported through the following standards:
CCSS.Math.Practic	ce.MP1 Make sens	e of problems and persevere in solving them.
forms of the origin transform algebra equations, verbal objects or pictures make sense?" The	nal problem in orden ic expressions or cl descriptions, tables s to help conceptua ey can understand t	r to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, iange the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between , and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete lize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this he approaches of others to solving complex problems and identify correspondences between different approaches.
Executive Function	Working Memory and Meta-cognition SMP 1, 3, 5, 6, 7	 3.OA.A.3-Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. 3.OA.B.5-Apply properties of operations as strategies to multiply and divide.² <i>Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)</i> 3.OA.C.7-Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. 3.OA.D.8-Solve two-step word problems using the four operations. 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.
		 3.0A.D.9-Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends. 3.NBT.A.2-Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

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SUBJECT AREA CONNECTION:	Math	DATE: December 30, 2014	AUTHOR:	Charlene Tate Nichols	CONTRIBUTORS:	Elizabeth Aschenbrenr	ner
Domain: Social and Intellectual Habits		3	rd Grade Cont	ent Standard			
CSS.Math.Practice.MP1 Make sense	of problems and persevere in s	olving them.					
Mathematically proficient students sta conjectures about the form and meani forms of the original problem in order transform algebraic expressions or cha equations, verbal descriptions, tables, objects or pictures to help conceptuali make sense?" They can understand the	rt by explaining to themselves t ng of the solution and plan a so to gain insight into its solution. nge the viewing window on the and graphs or draw diagrams of ze and solve a problem. Mather e approaches of others to solvin	the meaning of a problem and looking for dution pathway rather than simply jumpin They monitor and evaluate their progress eir graphing calculator to get the informat f important features and relationships, gr matically proficient students check their a ng complex problems and identify corresp	entry points to and change control of the solution on they need. aph data, and nswers to pro- ondences betw	o its solution. They analyze g on attempt. They consider a ourse if necessary. Older stu Mathematically proficient s search for regularity or trend olems using a different meth veen different approaches.	givens, constraints, ro nalogous problems, idents might, depend students can explain ds. Younger students nod, and they continu	elationships, and go and try special case ding on the context correspondences bo might rely on using ually ask themselve	bals. They make as and simpler of the problem, etween g concrete s, "Does this
CSS.Math.Practice.MP3 Construct via	able arguments and critique the	e reasoning of others.					
statements to explore the truth of the statements to explore the truth of the proficient students are also able to cor s. Elementary students can construct a pr made formal until later grades. Late and ask useful questions to clarify or in	r conjectures. They are able to a guments of others. They reason npare the effectiveness of two p arguments using concrete refere r, students learn to determine o nprove the arguments.	analyze situations, und previously establish inductively about data, making plausible plausible arguments, distinguish correct le ents such as objects, drawings, diagrams, domains to which an argument applies. St	cases, and can arguments tha ogic or reasoni and actions. S udents at all g	recognize and use countere at take into account the cont ng from that which is flawed uch arguments can make ser rades can listen or read the	examples. They justify text from which the o d, and—if there is a f nse and be correct, e arguments of others	y their conclusions, data arose. Mathem law in an argument even though they ar , decide whether th	communicate natically emot generalized ney make sense,
CCSS.Math.Practice.MP5 Use appropr	iate tools strategically.						
Mathematically proficient students conspreadsheet, a computer algebra syste decisions about when each of these to functions and solutions generated using that technology can enable them to vision dentify relevant external mathematica understanding of concepts.	nsider the available tools when m, a statistical package, or dyna ols might be helpful, recognizin og a graphing calculator. They de sualize the results of varying ass al resources, such as digital cont	solving a mathematical problem. These to amic geometry software. Proficient stude g both the insight to be gained and their l etect possible errors by strategically using sumptions, explore consequences, and co tent located on a website, and use them t	ools might incl nts are sufficie imitations. For estimation ar mpare predict o pose or solv	ude pencil and paper, concre ently familiar with tools appro- r example, mathematically p ed other mathematical know ions with data. Mathematicat e problems. They are able to	ete models, a ruler, a opriate for their grac roficient high school dedge. When making ally proficient studen o use technological to	protractor, a calcu de or course to mak students analyze g mathematical moo ts at various grade pols to explore and	llator, a ke sound raphs of dels, they know levels are able to deepen their
CCSS.Math.Practice.MP6 Attend to pr	ecision.						
Mathematically proficient students try choose, including using the equal sign calculate accurately and efficiently, exp other. By the time they reach high scho	to communicate precisely to ot consistently and appropriately. press numerical answers with a pol they have learned to examin	thers. They try to use clear definitions in o They are careful about specifying units of degree of precision appropriate for the p ne claims and make explicit use of definiti	liscussion with measure, and roblem contex ons.	others and in their own rea labeling axes to clarify the c t. In the elementary grades,	soning. They state th correspondence with students give carefu	ne meaning of the s quantities in a pro Illy formulated expl	ymbols they blem. They anations to each

October 2014 Draft – Standards for K-3 Social, Emotional, and Intellectual Habits

	<u>October 2014</u>	<u> Draft</u> – <u>Standards for K-3 Soc</u> i	ial, Emotion	al, and Intellectual H	abits						
		Please Do Not Reproduce Or Distri	ibute Without F	ermission		Charlene Tate Nichols Mary Santilli					
SUBJECT AREA CONNECTION:	Math	DATE: December 30, 2014	AUTHOR:	Charlene Tate Nichols	CONTRIBUTORS:	Elizabeth Aschenbrenner					
Domain:		3	Brd Grade Cont	ent Standard							
Social and Intellectual Habits											
CCSS.Math.Practice.MP7 Look for an	d make use of structure.										
Mathematically proficient students lo	ok closely to discern a pattern or	structure. Young students, for example,	might notice th	at three and seven more is	the same amount as	s seven and three more, or they may					
sort a collection of shapes according t	to how many sides the shapes hav	/e. Later, students will see 7 × 8 equals th	he well remem	pered $7 \times 5 + 7 \times 3$, in prepa	aration for learning a	bout the distributive property. In the					
expression $x^2 + 9x + 14$, older student	s can see the 14 as 2×7 and the 9	3 as 2 + 7. They recognize the significance	e of an existing	line in a geometric figure a	nd can use the strate	egy of drawing an auxiliary line for					
solving problems. They also can step I	Dack for an overview and shift per	spective. They can see complicated thing	gs, such as som	e algebraic expressions, as	single objects or as t	being composed of several objects.					
For example, they can see $5 - 3(x - y)$		les a square and use that to realize that i	its value cannot	be more than 5 for any rea	ai numbers x and y.						
Cognitive	Cognitive Flexibility can be supp	orted through the following standards:	:								
Flexibility											
SMP 1, 2, 3, 4, 5, 7											
	• 3.OA.A.3 -Use multiplication	and division within 100 to solve word pr	roblems in situa	tions involving equal group	os, arrays, and measu	rement quantities, e.g., by using					
	drawings and equations with	drawings and equations with a symbol for the unknown number to represent the problem.									
	• 3.OA.B.5 -Apply properties of	3.OA.B.5 -Apply properties of operations as strategies to multiply and divide. ² Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication between the found by $2 \times 5 = 45$ then $45 \times 2 = 20$ on by $5 \times 2 = 40$.									
	$and 8 \times 2 = 16 \text{ one can find}$	$\begin{array}{l} De \ Journa \ Dy \ 3 \times 5 = 15, \ (nen \ 15 \times 2 = 30, \\ 8 \times 7 \ as \ 8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 \end{array}$	$01 Dy 5 \times 2 = 10$ + 16 - 56 (Dist	7, LITEN 3 × 10 = 30. (ASSOCIO	nive property of mun	$ipication.) Knowing that 8 \times 5 = 40$					
	• 3 OA D 8- Solve two-step wo	$(3 \times 7 \times 3 \times 3 \times 3 \times 2) = (3 \times 3) \times (3 \times 2) = 40$	Penresent these	noblems using equations	with a letter standin	g for the unknown quantity Assess					
	the reasonableness of answe	ers using mental computation and estimation	ation strategies	including rounding.	with a letter standin	g for the unknown quantity. Assess					
	3.NF.A.3-Explain equivalence	e of fractions in special cases, and compa	are fractions by	reasoning about their size							
	• 3.NF.A.3A -Understand two f	fractions as equivalent (equal) if they are	the same size,	or the same point on a nur	nber line.						
	• 3.NF.A.3B-Recognize and ge	nerate simple equivalent fractions, e.g.,	1/2 = 2/4, 4/6 =	2/3. Explain why the fract	ions are equivalent, e	e.g., by using a visual fraction model.					
	• 3.NF.A.3C-Express whole nu	mbers as fractions, and recognize fractio	ons that are equ	ivalent to whole numbers.	Examples: Express 3	in the form $3 = 3/1$; recognize that					
	6/1 = 6; locate 4/4 and 1 at t	he same point of a number line diagram									
	• 3.NF.A.3D-Compare two frac	ctions with the same numerator or the sa	ame denominat	or by reasoning about thei	r size. Recognize tha	comparisons are valid only when					
	the two fractions refer to the	e same whole. Record the results of com	parisons with t	he symbols >, =, or <, and j	ustify the conclusions	s, e.g., by using a visual fraction					
	model.										
CCSS.Math.Practice.MP1 Make sense	e of problems and persevere in sc	olving them.		·· · · · ·							
Mathematically proficient students st	art by explaining to themselves the	ie meaning of a problem and looking for	entry points to	its solution. They analyze	givens, constraints, r	elationships, and goals. They make					
conjectures about the form and mean	ing of the solution and plan a solution at	ution pathway rather than simply jumpin	ng into a solutio	in attempt. They consider a	inalogous problems,	and try special cases and simpler					
transform algebraic expressions or ch	a to gain insight into its solution. I	r graphing calculator to get the informat	ion they need	Mathematically proficient	students might, depend	correspondences between					
equations, verbal descriptions, tables	and graphs or draw diagrams of	important features and relationships or	anh data and s	earch for regularity or tren	ds. Younger students	s might rely on using concrete					
objects or pictures to help conceptual	lize and solve a problem. Mathem	natically proficient students check their a	answers to prob	lems using a different met	hod, and they contin	ually ask themselves, "Does this					

make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

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SUBJECT AREA CONNECTION: _	Math	<mark>DATE:</mark> _	December 30, 2014	<mark>AUTHOR:</mark>	Charlene Tate Nichols	CONTRIBUTORS:	Elizabeth Aschenbrenn	er
Domain:			31	d Grade Cont	ent Standard			

Social and Intellectual Habits

3rd Grade Content Standard

CCSS.Math.Practice.MP2 Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

CCSS.Math.Practice.MP4 Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

CCSS.Math.Practice.MP5 Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

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SUBJECT AREA	CONNECTION:	Math	Math DATE: December 30, 2014 AUTHOR: Charlene Tate Nichols CONTRIBUTORS							
Domain:					Brd Grade Cont	ent Standard				
Social and Intellectual Habits										
CCSS.Math.Practice.	MP7 Look for an	d make use of structure.								
Mathematically prof	icient students lo	ok closely to discern a pattern or struct	e. Yo	ung students, for example	might notice t	hat three and seven more is	the same amount as	s seven and three m	nore, or they may	
sort a collection of sl	hapes according t	o how many sides the shapes have. Late	, stuc	dents will see 7 × 8 equals t	he well remem	bered $7 \times 5 + 7 \times 3$, in prepar	ration for learning a	bout the distributiv	e property. In the	
expression $x^2 + 9x + 2$	expression $x^2 + 9x + 14$, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for									
solving problems. Th	ey also can step l	back for an overview and shift perspection	. The	ey can see complicated thir	igs, such as son	ne algebraic expressions, as	single objects or as l	being composed of s	several objects.	
For example, they ca	For example, they can see 5 - 3(x - y) ² as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.									
S	elf-regulation	Self-regulation of impulses and emotion	al re	action can be supported t	hrough the foll	owing standards:				
0	f impulses and									
e	motional									
re	eaction									
S	MP 1, 3									
CCSS.Math.Practice.	MP1 Make sense	e of problems and persevere in solving	em.							
Mathematically prof	icient students st	art by explaining to themselves the mea	ing o	f a problem and looking fo	r entry points t	o its solution. They analyze g	givens, constraints, r	elationships, and go	oals. They make	
conjectures about th	e form and mear	ning of the solution and plan a solution p	thwa	ly rather than simply jumpi	ng into a soluti	on attempt. They consider a	nalogous problems,	and try special case	es and simpler	
forms of the original	problem in order	r to gain insight into its solution. They m	nitor	and evaluate their progres	s and change c	ourse if necessary. Older stu	idents might, depen	ding on the context	of the problem,	
transform algebraic of	expressions or ch	ange the viewing window on their graph	ng ca	Iculator to get the informa	tion they need.	. Mathematically proficient s	tudents can explain	correspondences b	etween	
equations, verbal de	scriptions, tables	, and graphs or draw diagrams of import	nt fe	atures and relationships, g	raph data, and	search for regularity or trend	ds. Younger students	s might rely on using	g concrete	
objects or pictures to	o help conceptual	lize and solve a problem. Mathematicall	profi	cient students check their	answers to pro	blems using a different meth	nod, and they contin	ually ask themselve	s, "Does this	
make sense?" They o	an understand th	ne approaches of others to solving comp	x prc	oblems and identify corresp	ondences betv	ween different approaches.				

and and a family O.C. stall. Exactly and the different should be hits

CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

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SUBJECT AR	EA CONNECTION:	Math	DATE:	December 30, 2014	AUTHOR:	Charlene Tate Nichols	CONTRIBUTORS:	Elizabeth Aschenbrenr	er
Domain: 3rd Grade Content Standard									
Social and Intellectual Habits									
	Managing	Managing attention and behavio	r can be suppo	orted through the followi	ng standards:				
	attention and								
	behavior								
	SMP 1, 6								

October 2014 Draft - Standards for K-3 Social Emotional and Intellectual Habits

CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

CCSS.Math.Practice.MP6 Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Logic and	Critical and	Critical and analytical thinking can be supported through the following standards:
Reasoning	analytical	
SMP ALL	thinking	
	SMP 1, 3	

CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

		October 2014	<u> 1 Draft</u> – <u>St</u>	<u>tandards for K-3 Soc</u>	<u>ial, Emotior</u>	<u>nal, and Intellectual H</u>	<u>abits</u>		
			Please D	Do Not Reproduce Or Distri	ibute Without I	Permission		Charlene Tate Nichols Ann Marie Spinelli	Mary Santilli Kathleen St. Onge
SUBJECT AF	REA CONNECTION	:Math	<mark>DATE:</mark>	December 30, 2014	AUTHOR:	Charlene Tate Nichols	CONTRIBUTORS:	Elizabeth Aschenbrenr	ner
Domain: Social and Intelle	actual Habits			3	rd Grade Cont	ent Standard			
CCSS Math Pract	tice MP3 Construct	viable arguments and critique the	reasoning of	othors					
Mathematically p	proficient students u	inderstand and use stated assume	tions. definitio	ons, and previously establis	shed results in	constructing arguments. Th	ev make coniectures	and build a logical	progression of
statements to ex	plore the truth of th	eir conjectures. They are able to a	analyze situatio	ons by breaking them into	cases, and can	recognize and use countere	examples. They justif	y their conclusions,	communicate
them to others, a	and respond to the a	rguments of others. They reason	inductively abo	out data, making plausible	arguments tha	t take into account the con	text from which the	data arose. Mathem	natically
proficient studen	nts are also able to co	ompare the effectiveness of two	plausible argum	nents, distinguish correct l	ogic or reasoni	ng from that which is flawed	d, and—if there is a f	flaw in an argument	-explain what it
is. Elementary sti	udents can construc	t arguments using concrete reference ter students learn to determine of	ents such as obj Iomains to whi	jects, drawings, diagrams,	and actions. Si Judents at all g	ich arguments can make se rades can listen or read the	arguments of others	even though they ar	e not generalized
and ask useful qu	uestions to clarify or	improve the arguments.		en un argument applies. Si		dues can insten of read the	anguments of others		icy make sense,
Logic and	Applying known	Applying known information to	new experien	ces can be supported thro	ugh the follow	ving standards:			
Reasoning	information to	· · · · · · · · · · · · · · · · · · ·	nen experien						
SMP ALL	new experiences								
		• 3.OA.A.2-Interpret whole-n	umber quotien	ts of whole numbers, e.g.,	interpret 56 ÷	8 as the number of objects	in each share when	56 objects are parti	tioned equally
		into 8 shares, or as a number	er of shares wh	en 56 objects are partition	ied into equal :	shares of 8 objects each. Fo	r example, describe d	a context in which a	number of
		 3 MD C 7-Belate area to the 	onerations of	multiplication and addition	n				
		 3.MD.C.7.A-Find the area or 	f a rectangle wi	ith whole-number side len	gths by tiling it	, and show that the area is t	the same as would b	e found by multiplyi	ing the side
		lengths.	5						0
		• 3.MD.C.7.B-Multiply side le	ngths to find ar	reas of rectangles with wh	ole-number sid	e lengths in the context of s	solving real world an	d mathematical pro	blems, and
		represent whole-number p	oducts as recta	angular areas in mathema	tical reasoning.				
		• 3.WD.C.7.C-Use tilling to sho	e property in m	e case that the area of a re athematical reasoning	ectangle with w	nole-number side lengths a	a and $b + c$ is the sum	$a \text{ of } a \times b \text{ and } a \times c.$	Use area models
		• 3.MD.C.7.D -Recognize area	as additive. Fin	nd areas of rectilinear figu	es by decompo	osing them into non-overlag	ping rectangles and	adding the areas of	the non-
		overlapping parts, applying	this technique	to solve real world proble	ms.			-	
		• 3.G.A.1-Understand that sh	apes in differer	nt categories (e.g., rhombu	ises, rectangles	s, and others) may share att	ributes (e.g., having	four sides), and that	t the shared
		attributes can define a large	er category (e.g	s., quadrilaterals). Recogni	ze rhombuses,	rectangles, and squares as	examples of quadrila	iterals, and draw exa	amples of
		• 3 G A 2-Partition shapes int	elong to any of	ual areas Express the are	a of each nart a	as a unit fraction of the who	le For <i>evample</i> par	tition a shane into A	narts with equal
		area, and describe the area	of each part as	s 1/4 of the area of the sho	ipe.		ic. For example, put		pures with equal
E /20 /4 E									

	Please Do Not Reproduce Or Distribute Without Permission							Mary Santilli Kathloon St. Ongo
SUBJECT AREA CONNECTION:	Math	DATE:	December 30, 2014	AUTHOR:	Charlene Tate Nichols	CONTRIBUTORS:	Elizabeth Aschenbrenn	er
Domain:			3	ord Grade Cont	ent Standard			
omain: Ordial and Intellectual Habits CSS.Math.Practice.MP1 Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. The onjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and si porms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the pransform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between quations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concret bigets or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does nake sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. CSS.Math.Practice.MP2 Reason abstractly and quantitatively. Mathematically proficient students make sense of quantities and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their efferents—and the ability to <i>contextualize</i> to pause as needed during the manipulation process in order to probe into the referents for the symbols involved.								
CCSS.Math.Practice.MP1 Make sense	of problems and persevere in s	solving them.						
Mathematically proficient students st	art by explaining to themselves	the meaning of	a problem and looking for	entry points to) its solution. They analyze {	givens, constraints, r	elationships, and goa	als. They make
conjectures about the form and mean	ing of the solution and plan a so	olution pathway	rather than simply jumpir	ng into a solutio	on attempt. They consider a	analogous problems,	and try special cases	and simpler
forms of the original problem in order	to gain insight into its solution.	They monitor a	nd evaluate their progress	s and change co	ourse if necessary. Older stu	udents might, depend	ding on the context of	of the problem,
transform algebraic expressions or cha	ange the viewing window on the	eir graphing calc	ulator to get the informat	ion they need.	Mathematically proficient s	students can explain	correspondences be	tween
equations, verbal descriptions, tables,	and graphs or draw diagrams o	f important feat	tures and relationships, gr	aph data, and s	search for regularity or tren	ds. Younger students	s might rely on using	concrete
objects or pictures to help conceptual	ize and solve a problem. Mathe	matically profici	ent students check their a	inswers to prot	lems using a different metr	hod, and they contin	ually ask themselves	, "Does this
make sense? They can understand th	e approaches of others to solvir	ig complex proc	liems and identify corresp	ondences betw	leen different approaches.			
CCSS.Math.Practice.MP2 Reason abs	ractly and quantitatively.							
Mathematically proficient students m	ake sense of quantities and thei	r relationships i	n problem situations. They	y bring two cor	nplementary abilities to bea	ar on problems involv	ving quantitative rela	ationships: the
ability to decontextualize—to abstract	a given situation and represent	it symbolically	and manipulate the repre	senting symbo	is as if they have a life of the	eir own, without nec	essarily attending to	their
referents—and the ability to contextu	alize, to pause as needed during	the manipulati	on process in order to pro	be into the ref	erents for the symbols invo	lved. Quantitative re	asoning entails habit	ts of creating a
coherent representation of the proble	m at hand; considering the unit	s involved; atter	nding to the meaning of q	uantities, not j	ust how to compute them; a	and knowing and flex	(ibly using different p	properties of
operations and objects.								
CCSS.Math.Practice.MP3 Construct vi	able arguments and critique th	e reasoning of o	others.					
Mathematically proficient students ur	derstand and use stated assum	ptions, definitio	ns, and previously establis	shed results in	constructing arguments. Th	ey make conjectures	and build a logical p	progression of
statements to explore the truth of the	ir conjectures. They are able to	analyze situatio	ns by breaking them into	cases, and can	recognize and use countere	examples. They justif	y their conclusions, a	communicate
them to others, and respond to the ar	guments of others. They reason	inductively abo	ut data, making plausible	arguments that	t take into account the con	text from which the	data arose. Mathem	atically
proficient students are also able to co	mpare the effectiveness of two	plausible argum	ents, distinguish correct le	ogic or reasoni	ng from that which is flawer	d, and—if there is a f	law in an argument-	–explain what it
is. Elementary students can construct	arguments using concrete refer	ents such as obj	ects, drawings, diagrams,	and actions. Su	uch arguments can make se	nse and be correct, e	even though they are	a not generalized
or made formal until later grades. Late	er, students learn to determine	domains to whic	ch an argument applies. St	udents at all g	rades can listen or read the	arguments of others	, decide whether the	ey make sense,
and ask useful questions to clarify or i	mprove the arguments.							

October 2014 Draft – Standards for K-3 Social, Emotional, and Intellectual Habits

CCSS.Math.Practice.MP4 Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

	October 2014	Draft – St	tandards for K-3 Soc	ial, Emotior	al, and Intellectual H	abits		
		Please L	Do Not Reproduce Or Distr	ibute Without F	Permission		Charlene Tate Nichols Ann Marie Spinelli	Mary Santilli Kathleen St. Onge
SUBJECT AREA CONNECTION:	Math	<mark>DATE:</mark>	December 30, 2014	AUTHOR:	Charlene Tate Nichols	CONTRIBUTORS:	Elizabeth Aschenbrenne	3r
Domain: Social and Intellectual Habits			3	ard Grade Cont	ent Standard			
CCSS.Math.Practice.MP5 Use approp Mathematically proficient students co spreadsheet, a computer algebra syste decisions about when each of these to functions and solutions generated usi that technology can enable them to vi identify relevant external mathematic understanding of concepts.	riate tools strategically. Insider the available tools when so em, a statistical package, or dynar pols might be helpful, recognizing ng a graphing calculator. They det sualize the results of varying assu al resources, such as digital conte	olving a mathen nic geometry both the insig ect possible e mptions, expl nt located on	ematical problem. These to software. Proficient stude ght to be gained and their errors by strategically using ore consequences, and co a website, and use them t	ools might incluents are sufficie limitations. For g estimation an ompare predicti to pose or solve	ide pencil and paper, concru ntly familiar with tools appr example, mathematically p d other mathematical know ons with data. Mathematica problems. They are able to	ete models, a ruler, a ropriate for their grad proficient high school vledge. When making ally proficient studer o use technological to	a protractor, a calcula de or course to make I students analyze gra g mathematical mode ats at various grade le cols to explore and d	ator, a sound aphs of els, they know evels are able to leepen their
CCSS.Math.Practice.MP6 Attend to p Mathematically proficient students tru choose, including using the equal sign calculate accurately and efficiently, ex other. By the time they reach high sch	recision. y to communicate precisely to oth consistently and appropriately. T press numerical answers with a d ool they have learned to examine	ers. They try t hey are carefu egree of preci- claims and m	to use clear definitions in o ul about specifying units o ision appropriate for the p nake explicit use of definiti	discussion with f measure, and problem contex ions.	others and in their own rea labeling axes to clarify the o t. In the elementary grades,	asoning. They state th correspondence with , students give carefu	he meaning of the sy n quantities in a prob ully formulated expla	mbols they lem. They inations to each
CCSS.Math.Practice.MP7 Look for and Mathematically proficient students loo sort a collection of shapes according t expression $x^2 + 9x + 14$, older students solving problems. They also can step b For example, they can see $5 - 3(x - y)^2$	d make use of structure. ok closely to discern a pattern or s o how many sides the shapes hav s can see the 14 as 2 × 7 and the 9 back for an overview and shift per as 5 minus a positive number time	structure. You e. Later, stude as 2 + 7. They spective. They es a square ar	ing students, for example, ents will see 7 × 8 equals t y recognize the significanc y can see complicated thin nd use that to realize that	might notice the well remem he well remem e of an existing gs, such as som its value cannot	hat three and seven more is bered $7 \times 5 + 7 \times 3$, in prepa line in a geometric figure a le algebraic expressions, as to be more than 5 for any rea	the same amount as aration for learning a nd can use the strate single objects or as b al numbers x and y.	s seven and three mo bout the distributive egy of drawing an au peing composed of so	ore, or they may property. In the xiliary line for everal objects.
CCSS.Math.Practice.MP8 Look for and Mathematically proficient students no repeating the same calculations over a (1, 2) with slope 3, middle school stud might lead them to the general formu They continually evaluate the reasona	d express regularity in repeated r otice if calculations are repeated, a and over again, and conclude they ents might abstract the equation la for the sum of a geometric seri bleness of their intermediate resu	easoning. and look both have a repea (y - 2)/(x - 1) = es. As they wo ults.	for general methods and ating decimal. By paying at = 3. Noticing the regularity ork to solve a problem, ma	for shortcuts. L tention to the o in the way terr thematically pr	Ipper elementary students calculation of slope as they ns cancel when expanding oficient students maintain	might notice when d repeatedly check wh (x - 1)(x + 1), (x - 1)(x oversight of the proc	ividing 25 by 11 that tether points are on $x^2 + x + 1$), and $(x - 1)(x - 1)(x - 1)$	they are the line through $x^3 + x^2 + x + 1$) to the details.
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October 2014 Draft – Standards for K-3 Social, Emotional, and Intellectual Habits

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SUBJECT AREA CONNECTION	Math	DATE:	December 30, 2014	AUTHOR:	Charlene Tate Nichols	CONTRIBUTORS:	Elizabeth Aschenbrenner

Domain:		3rd Grade Content Standard
Social and Intelle	ctual Habits	
Logic and	Reasoning and	Reasoning and problem solving can be supported through the following standards:
Reasoning	problem solving	
SMP ALL	!	
	1	3.0A.D.8
		Solve two-step word problems using the four operations. 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.
		3.OA.D.9
		Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4
		times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.
		Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and
		avbibiting restangles with the same perimeter and different areas or with the same area and different perimeters.
		exhibiting rectangles with the same permeter and unreferr aleas of with the same alea and unreferr permeters.

CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

CCSS.Math.Practice.MP2 Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

Charlene Tate Nichols Mary Santilli

Ann Marie Spinelli

Kathleen St. Onge

****Please Do Not Reproduce Or Distribute Without Permission*** Charlene Tate Nichols Maries Spanille SUBJECT AREA CONNECTION: Math pare December 30, 2014 AUTHOR Charlene Tate Nichols ConTRIBUTORS Social and Intellectual Habits 3rd Grade Content Standard Contrained Content Standard Social and Intellectual Habits 3rd Grade Content Standard Contrained Content Standard CSS.Math.Practice.MP3 Construct vable arguments and critique the reasoning of others. Marine Standard Social and Intellectual Habits Contrained Content Standard Statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into Cases, and can recognize and use counter examples. They justify their conclusions, community students can construct arguments using concrete referents such as ablepts of Analyze, situations by breaking them into Cases, and can recognize and use count the context from which the data arcse. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish of care casoning from that which is flawed, and — if there is a flaw in an argument—explain or adde formal until later grades. Later, students here the arguments. CCSS.Math.Parctice.MP4 Model with mathematics. Mathematically proficient students on apply by the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addite equation to describe how one quantity of interest depends on another. Mathematically proficient students		<u>October 2014</u>	LDraft – Standards for K-3 Soci	ial, Emotior	nal, and Intellectual H	<u>abits</u>	
SUBJECT AREA CONNECTION: Math DATE December 30, 2014 AUTHOR Charlene Tate Nichols CONTRIBUTORS Einstein Aschenbernner Social and Intellectual Habits ard Grade Content Standard Sta			***Please Do Not Reproduce Or Distri	bute Without	Permission***		Charlene Tate Nichols Mary Santilli Ann Marie Spinelli Kathleen St. Onge
Domain: Ordal and Intellectual Habits Social and Intellectual Habits CCSS. Math.Practice. MP3 Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progressi statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into case, and can recognize and use counterexamples. They justify their conclusions, communit them to others, and respond to the arguments of thers. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students can construct arguments sing concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not gen or made formal until later grades. Later, students leann to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make and ask useful questions to clarify or improve the arguments. CCSS. Math.Practice.MP4 Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an additi use grades as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically proficient students who can apply what they know are comfortable making assumptions to simplify a complicated situation, realizing that these may need revision later. They are able to dentify important quantitis in a practical situation and map therit relationships is mathe	SUBJECT AREA CONNECTION:	Cocher 2014 Draft - Standards for K-3 Social. Emotional, and Intellectual Habits "**Rease Do Not Reproduce Or Distribute Without Permission*** Math pare December 30, 2014 AUTHOR Charlene Tate Nichs ONTRIBUTORS The Pecember 30, 2014 AUTHOR Charlene Tate Nichs ONTRIBUTORS Pare Accounter Control of the arguments and critique the reasoning of others. proficient students understand and use stated assumptions, definitions, and previously established results in constructuring arguments. They make conjectures and build a logic plore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They instead there is a faw in an argument state are also able to compare the effectiveness of two plausible arguments that take into account the context from which the data arcse. Math tar are also able, state, student selemine domains to which an argument applies. Students at all grades can listen or read, the arguments of others, decide whether usations to clarify or improve the arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments make sense and be correct, even though they uselitated integrations and responds to the arguments. Students at all grades can listen or read, the arguments, divide whether usations in a child they ado and in the mathematics learn to determine domains to which an argument applies. Students at all grades can listen or read, the arguments, divide students and pay what they know are confortable mine or analyze a problem in the community. By high school, a student might apply proportional reasoning to make sense and poly what they know are confortable mine or analyze a problem in the community. By high school, a student might apply proportional reasoning to make sense and poly what they know are confortable mine on a stude and were the results made sense, possibly improving the model of the sense are validable to draw condusions. They routinely interpret their mathematical resting f	Elizabeth Aschenbrenner				
Domain: Orderade Content Standard Social and Intellectual Habits CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established regults in constructing arguments. They make conjectures and build a logical progress. Item to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, disriguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain is. Elementary students can construct arguments use dosciets, drawings, diagrams, and actions. Such arguments see snee and be correct, even though they are not gen or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make and ask useful questions to clarify or improve the arguments. CCSS.Math.Practice.MP4 Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addit equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a achool event or analyze a problem in the community. By high school, a student might use geome solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students understand and ther realising that these m							
Social and intellectual Habits CCSS.Math.Practice.MPA Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progressis statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, commun them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into a cocurt the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain is. Elementary students can construct arguments to determine domains to which an argument applies. Students are also allo to compare the arguments. CCSS.Math.Practice.MPA Model with mathematics Mathematically proficient students can papy the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addit equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student making assumg and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to draw conclusions. They routinely interpret their mathematical results in the cortex of the students an apply the mathematical results in the cortex of the students are apply what they know are comfortable making assumg and approximations to simplify a complicated situation and preferionships mathematically proficient students who can apply what they know are comfortable making assumg and approximations to	Domain:						
Description Description <thdescription< th=""> <thdescription< th=""></thdescription<></thdescription<>							
CCSS.Math.Practice.MP4 Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addit equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geome solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assump and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the co of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. CCSS.Math.Practice.MP5 Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematically proficient students at various grade levels	CCSS.Math.Practice.MP3 Construct vi Mathematically proficient students un statements to explore the truth of the them to others, and respond to the ar proficient students are also able to con is. Elementary students can construct or made formal until later grades. Late and ask useful questions to clarify or in	able arguments and critique the derstand and use stated assump in conjectures. They are able to a guments of others. They reason i mpare the effectiveness of two p arguments using concrete refere r, students learn to determine do mprove the arguments.	e reasoning of others. Ations, definitions, and previously establis analyze situations by breaking them into inductively about data, making plausible plausible arguments, distinguish correct lo ents such as objects, drawings, diagrams, omains to which an argument applies. St	shed results in cases, and can arguments that ogic or reasoni and actions. So udents at all g	constructing arguments. The recognize and use countere at take into account the con- ng from that which is flawed uch arguments can make se rades can listen or read the	ey make conjectures examples. They justif text from which the d, and—if there is a nse and be correct, a arguments of others	s and build a logical progression of y their conclusions, communicate data arose. Mathematically flaw in an argument—explain what it even though they are not generalized s, decide whether they make sense,
CCSS.Math.Practice.MP5 Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen the understanding of concepts.	CCSS.Math.Practice.MP4 Model with Mathematically proficient students car equation to describe a situation. In mi- solve a design problem or use a function and approximations to simplify a comp tools as diagrams, two-way tables, gra of the situation and reflect on whethe	mathematics. In apply the mathematics they kn ddle grades, a student might app on to describe how one quantity plicated situation, realizing that t phs, flowcharts and formulas. Th r the results make sense, possibly	ow to solve problems arising in everyday oly proportional reasoning to plan a schoo of interest depends on another. Mathen hese may need revision later. They are a ney can analyze those relationships math y improving the model if it has not serve	v life, society, a ol event or ana natically profic ble to identify ematically to d d its purpose.	and the workplace. In early a alyze a problem in the comm ient students who can apply important quantities in a pr raw conclusions. They routi	grades, this might be nunity. By high schoo y what they know are actical situation and nely interpret their i	as simple as writing an addition of, a student might use geometry to e comfortable making assumptions map their relationships using such mathematical results in the context
	CCSS.Math.Practice.MP5 Use appropr Mathematically proficient students co spreadsheet, a computer algebra syste decisions about when each of these to functions and solutions generated usin that technology can enable them to vis identify relevant external mathematics understanding of concepts.	iate tools strategically. Insider the available tools when s im, a statistical package, or dyna ols might be helpful, recognizing ag a graphing calculator. They de sualize the results of varying assu al resources, such as digital conte	solving a mathematical problem. These to mic geometry software. Proficient stude g both the insight to be gained and their I tect possible errors by strategically using umptions, explore consequences, and con- ent located on a website, and use them t	ools might inclunts are sufficient initations. For estimation and mpare prediction opose or solver	ude pencil and paper, concr intly familiar with tools appr r example, mathematically p id other mathematical know ions with data. Mathematica e problems. They are able to	ete models, a ruler, a ropriate for their gra proficient high schoo vledge. When making ally proficient studer o use technological to	a protractor, a calculator, a de or course to make sound I students analyze graphs of g mathematical models, they know hts at various grade levels are able to ools to explore and deepen their
CCSS.Math.Practice.MP6 Attend to precision. Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols the choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. The calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.	CCSS.Math.Practice.MP6 Attend to pr Mathematically proficient students try choose, including using the equal sign calculate accurately and efficiently, ex other. By the time they reach high sch	ecision. to communicate precisely to oth consistently and appropriately. T press numerical answers with a c pool they have learned to examine	hers. They try to use clear definitions in c They are careful about specifying units of degree of precision appropriate for the p e claims and make explicit use of definition	liscussion with measure, and roblem contex ons.	others and in their own rea labeling axes to clarify the t. In the elementary grades,	asoning. They state t correspondence with students give carefu	he meaning of the symbols they n quantities in a problem. They ully formulated explanations to each

		October 201	<u> 4 Draft</u> – <u>St</u>	andards for K-3 Soc	cial, Emotior	nal, and Intellectual H	<u>abits</u>		
			Please D	o Not Reproduce Or Dist	ribute Without I	Permission		Charlene Tate Nichols Ann Marie Spinelli	Mary Santilli Kathleen St. Onge
SUBJECT AR	EA CONNECTION:	Math	<mark>DATE:</mark>	December 30, 2014	AUTHOR:	Charlene Tate Nichols	_ CONTRIBUTORS:	Elizabeth Aschenbrenn	er
Domain:				:	Brd Grade Cont	ent Standard			
Social and Intelled		d make was of structure							
CCSS.Math.Practic	ce.IVIP/ LOOK for an	la make use of structure.	r ctructure Vou	ng students, for evenue	might notice th	ast three and cover more is	the come omount of	cover and three m	are arthourmout
sort a collection or expression $x^2 + 9x$ solving problems.	f shapes according + 14, older student They also can step	to how many sides the shapes have a set of the shapes have a set the 14 as 2 × 7 and the back for an overview and shift p	ave. Later, stude 9 as 2 + 7. They erspective. They	rts will see 7 × 8 equals to recognize the significant can see complicated this	the well remem ce of an existing ngs, such as som	bered 7 \times 5 + 7 \times 3, in prepa line in a geometric figure a ne algebraic expressions, as	ination for learning a nd can use the strate single objects or as b	bout the distributive egy of drawing an au being composed of s	e property. In the exiliary line for everal objects.
For example, they	can see 5 - 3(x - y) ²	as 5 minus a positive number ti	mes a square an	d use that to realize that	its value canno	t be more than 5 for any rea	al numbers x and y.		
CCSS.Math.Practi	ce.MP8 Look for an	d express regularity in repeated	l reasoning.						
Mathematically pr repeating the sam (1, 2) with slope 3 might lead them t They continually e	oficient students ne e calculations over , middle school stud o the general formu valuate the reasona	otice if calculations are repeated and over again, and conclude th dents might abstract the equatio ula for the sum of a geometric se ableness of their intermediate re	l, and look both ey have a repea n (y - 2)/(x - 1) = ries. As they wo esults.	for general methods and ting decimal. By paying a 3. Noticing the regularity ork to solve a problem, ma	for shortcuts. U ttention to the y in the way ter athematically pr	Upper elementary students calculation of slope as they ms cancel when expanding roficient students maintain	might notice when d repeatedly check wh (x - 1)(x + 1), (x - 1)(x) oversight of the proc	ividing 25 by 11 that bether points are on $x^2 + x + 1$), and $(x - 1)(x - 1)(x - 1)(x - 1)(x - 1)(x - 1))$	they are the line through $(x^3 + x^2 + x + 1)$ to the details.
Symbolic	Symbolic	Symbolic representation can b	<mark>e supported thr</mark>	ough the following stand	dards:				
Representation	representation								
SMP									
1, 2, 4, 5, 7		3 NE Λ 2-Understand a frac	tion as a number	ar on the number line: re	present fraction	s on a number line diagram			
		 3.NF.A.2.A-Represent a fra 	ction 1/b on a n	umber line diagram by de	efining the inter	val from 0 to 1 as the whole	e and partitioning it i	nto <i>b</i> equal parts. Re	ecognize that
		each part has size 1/b and	that the endpoin	nt of the part based at 0 l	ocates the num	ber 1/b on the number line			
		• 3.NF.A.2.B -Represent a fra	ction <i>a/b</i> on a n	umber line diagram by m	arking off a leng	gths 1/b from 0. Recognize t	hat the resulting inte	erval has size <i>a/b</i> and	d that its
		endpoint locates the numb	er <i>a/b</i> on the nu	umber line.	no intorvals in r	ninutas. Salva ward problar	me involving addition	and cultraction of	timo intorvals in
		• 5.WD.A.1 -Tell and write the minutes, e.g., by represent	ing the problem	on a number line diagra	m.	initiates. Solve word problet	ins involving addition		
		• 3.MD.B.3- Draw a scaled pie	cture graph and	a scaled bar graph to rep	resent a data se	et with several categories. S	olve one- and two-st	ep "how many more	e" and "how
		many less" problems using	information pre	esented in scaled bar grap	ohs. <i>For exampl</i>	e, draw a bar graph in whicl	h each square in the	bar graph might rep	resent 5 pets.
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October 2014 Draft $-$ Standards for K-3 Social, Emotional, and Intellectual Habits									
Please Do Not Reproduce Or Distribute Without Permission						Charlene Tate Nichols Ann Marie Spinelli	Mary Santilli Kathleen St. Onge		
SUBJECT AREA CONNECTION:	Math	DATE:	December 30, 2014	AUTHOR:	Charlene Tate Nichols		Elizabeth Aschenbrenn	er	
Domain:		3rd Grade Content Standard							
Social and Intellectual Habits									
CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.									
Mathematically proficient students st	art by explaining to themselves the me	aning of a	a problem and looking for e	entry points to	its solution. They analyze g	ivens, constraints, r	elationships, and go	als. They make	

conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

CCSS.Math.Practice.MP2 Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

CCSS.Math.Practice.MP4 Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

CCSS.Math.Practice.MP5 Use appropriate tools strategically.

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	October 2014	<u>Draft</u> – <u>Standards for K-3 Soci</u>	<u>al, Emotior</u>	<u>hai, and intellectual H</u>	abits		
		Please Do Not Reproduce Or Distril	oute Without I	Permission		Charlene Tate Nichols Ann Marie Spinelli	Mary Santilli Kathleen St. Onge
SUBJECT AREA CONNECTION:	Math	DATE: December 30, 2014	AUTHOR:	Charlene Tate Nichols	CONTRIBUTORS:	Elizabeth Aschenbrenr	ner
Domain:		3r	d Grade Cont	ent Standard			
Social and Intellectual Habits							
CCSS.Math.Practice.MP7 Look for an	d make use of structure.						
Mathematically proficient students lo	ok closely to discern a pattern or s ¹	tructure. Young students, for example, J	night notice t	hat three and seven more is	the same amount a	s seven and three m	nore, or they may
sort a collection of shapes according t	to how many sides the shapes have	. Later, students will see 7 × 8 equals th	e well remem	bered $7 \times 5 + 7 \times 3$, in prepa	ration for learning a	bout the distributiv	e property. In the
expression $x^2 + 9x + 14$, older student	s can see the 14 as 2 × 7 and the 9	as 2 + 7. They recognize the significance	of an existing	gline in a geometric figure a	nd can use the strate	egy of drawing an au	uxiliary line for
solving problems. They also can step	back for an overview and shift pers	pective. They can see complicated thing	s, such as som	ne algebraic expressions, as	single objects or as l	being composed of s	several objects.
For example, they can see $5 - 3(x - y)^2$	as 5 minus a positive number time	s a square and use that to realize that it	s value canno	t be more than 5 for any rea	al numbers <i>x</i> and <i>y</i> .		
Pretend or	Pretend or symbolic play can be s	upported through the following stand	ards:				
symbolic play							
CCSS.Math.Practice.MP1 Make sense	of problems and persevere in sol	ving them.					
Noth an attack what is an total and a t	ant hu avalaining to the measure the	meaning of a nuclease and looking for		, ita aalutian Thau analura (ivene constrainte r	alationahina and aa	

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Standards for K.2. Casial Emotional and Intellectual Habits

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

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SUBJECT AREA CONNECTION:	Math	<mark>DATE:</mark>	December 30, 2014	<mark>AUTHOR:</mark>	Charlene Tate Nichols	CONTRIBUTORS:	Ann Marie Spinelli Elizabeth Aschenbrenn	Kathleen St. Onge er
Domain:			3	rd Grade Cont	ent Standard			
Social and Intellectual Habits								
CCSS.Math.Practice.MP5 Use appropriate to	ols strategically.							
Mathematically proficient students consider	the available tools when s	solving a mathe	matical problem. These to	ols might inclu	ude pencil and paper, concre	ete models, a ruler, a	a protractor, a calcu	lator, a
spreadsheet, a computer algebra system, a st	atistical package, or dyna	mic geometry s	software. Proficient stude	nts are sufficie	ntly familiar with tools appr	opriate for their grad	de or course to mak	e sound
decisions about when each of these tools mig	<pre>sht be helpful, recognizing</pre>	g both the insigl	ht to be gained and their I	imitations. For	example, mathematically p	roficient high schoo	l students analyze gi	raphs of
functions and solutions generated using a gra	phing calculator. They de	etect possible er	rors by strategically using	estimation an	d other mathematical know	ledge. When making	g mathematical mod	lels, they know
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identify relevant external mathematical reso	urces, such as digital cont	ent located on a	a website, and use them t	o pose or solve	e problems. They are able to	o use technological to	ools to explore and o	deepen their

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understanding of concepts.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers *x* and *y*.