Fifth Grade Kansas College & Career Readiness Standards for MATH

Record keeping of implementation: PINK

PINK= WEEKLY (Once or Twice/Week)

BLUE=DAILY (3 or MORE X/Week)

ALL OTHERS=Dates Listed

Operation	Operations and Algebraic Thinking: Numerical Expressions																								
OA1	Use p	arent	heses	, bracl	kets, d	or bra	ces in	nume	rical e	xpres	sions,	and e	valuat	e exp	ressio	ns wit	h the	se syr	nbols.						
dates>														_											
OA2	Write	simp	e exp	ressio	ns tha	at reco	ord ca	lculati	ons w	ith nu	mbers	, and	interp	ret nu	meric	al exp	ressic	ons wit	thout	evalua	ating t	hem.			
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Operation	s and	Algeb	oraic T	hinkin	ig: Pa	ttern A	Analy	sis																	
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0.4.2	Gener	ale in	wo nu of oor	roonor	al pati adina		from	two y		ttorno	aenung	y appo aronh		rdaraa	l noire			linoto	nlana	iy ten	IIS. FU		uereu	pairs	
UA3		sung			laing				wo pa		, anu	grapn I		luerec	i pairs	on a			piane.						
Number a	nd On	oratio	nc in	Paco I	Ton: D	lace V	lalua (System	<u> </u>																
Nullibel a	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of																								
NBT1	what	it ren	resent	ts in tl	he nla	ce to	its lef	ta algit ft		o piac		000110	0 10 0				ic i op					ico ng		,	
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	Explai	n pat	terns	in the	numb	ber of	zeros	of the	e prod	uct w	hen m	ultiph	/ing a	numb	er bv	power	rs of 1	0. an	d exp	ain pa	tterns	s in th	e plac	emen	t of
NBT2	the d	ecima	l poin	t wher	n a de	cimal	is mu	ltiplied	l or di	vided	bv a r	ower	of 10	. Use v	whole	-numb	er ex	oonen	ts to	denot	e pow	ers of	10.		
dates>											<u>- </u>													1	
NBT3	Read	write	and	comp	are de	cimal	s to t	housar	hdths.																
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NBT3a	Read	and w	rite d	ecima	ls to t	house	andthe	s usinc	base	-ten n	umera	als, nu	mber	names	s. and	expai	nded f	form							<u> </u>
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NBT3b	Comp	are t	vo de	cimals	to th	ousan	dths	based	on me	aning	s of t	he dia	its in	each r	blace.	usina	>, =,	and <	symb	ols to	recor	d the	result	s of	
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NBT4	Use p	lace v	, alue ι	Inders	tandii	ng to i	round	decim	hals to	any	blace														
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Number a	nd Op	eratio	ns in l	Base 1	Ten: O	perati	ions w	vith de	cimals	s up to	hund	Iredth	s												
NBT5	Fluent	tlv mi	ultiply	multi-	diait	whole	numb	oers us	sina th	ie stai	ndard	algori	thm.												
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	Find v	vhole-	-numh	er auc	tient	s of w	hole r	humbe	rs wit	hun t	o four	-diait	divide	nds a	nd tw	o-diait	t divis	ors u	sina s	trateo	lies ha	ised o	n nlac	e valu	
	the n	roneri	ties of	oner:	tione	h io o and/	or the	a ralat	ionchi	n hoti	veen i	multin	licatio	n and	divició	on Illu	etrate	and	onig o ovnlai	n tha	calcul	ation k	n piac Ny rieji		,
NRTE		ione	rectar	nauler	arrav	, and/ e and	l/or a	rea mo	ndale			nurup	ncacio				Stratt		chpiai		carcun		5y u3ii	.9	
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	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, propertie																								
	Add,	subtra	act, m	ultiply	/, and	divide	e deci	mals to	o huno	dredtr	ns, usi	ng cor	ncrete	mode	els or (drawii	ngs an	d stra	itegies	s base	d on l	place v	value,	prope	erties
	of op	eratio	ns, an	nd/or 1	the re	ation	ship b	etwee	n add	ition a	ind su	btract	ion; r	elate t	he sti	rategy	/ to a	writte	en met	hod a	nd ex	plain t	he rea	asonir	ıg
NBT7	used.																								
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Number a	nd Op	eratio	ns-Fra	action	s: Ad	dina a	nd su	btract	ina wi	th eau	ivaler	nt frac	tions											<u> </u>	
	Add a	and su	lbtrac ⁻	t fract	tions v	vith u	nlike (denom	inator	s (inc	luding	mixed	d num	bers)	by rep	placing	g give	n frac [.]	tions v	with e	quival	ent fra	action	is in s	uch a
NF1	wav a	is to i	oroduo	ce an o	eauiva	lent s	sum o	r diffe	rence	of fra	ctions	with	like de	enomir	nators										
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	Solvo	word	nrohl	ome ir	avolvir	na ada	dition	and e	uhtrac	tion o	f frac	tions	oforri	na to	the ca	mow	holo	includ	ina ca	505 O	Funlik	o dona	mina	tore a	
	Solve	woru				iy aut		anu su			1 11 au					inc w	ione,		ing ca	363 0				.015, 6	[,] .y.,
NF2	by us	ing vi	<u>suai tr</u>	action	n moa	eis or	equa	<u>tions t</u>	o repr	esent	tne p	Probler	n. Use	benc	nmark		lons a	<u>ina nu</u>	mber	sense			S		
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Number a	mber and Operations-Fractions: Multiplying and dividing fractions																								
NF3	Interp	oret a	fracti	<u>on as</u>	divisio	on of t	the nu	imerat	or by	the d	enom	inator	<u>(a/b</u>	= a ÷	<u>b). So</u>	lve w	ord pr	oblem	<u>is invo</u>	lving	divisio	<u>n of v</u>	vhole	numb	ers
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NF4	Apply	and	exten	<u>d prev</u>	<u>ious u</u>	nders	tandi	<u>ngs of</u>	multi	olicati	on to	multip	<u>ly a f</u> i	<u>actior</u>	<u>ı or w</u>	hole r	umbe	<u>r by a</u>	fract	ion.		-	-		
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	Interr	oret tl	ne pro	duct ((a/b)	_ q as	s a pa	rts of	a part	ition o	of a in	to b e	qual p	arts:	equiva	lently	. as tl	he res	ult of	a seq	uence	of op	eratio	ons a .	_ a ÷
NF4a	b		•		. ,	•	•		•		•		• •		•	-				•		•			- ·
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							<u> </u>					I													
	Find t	he ar	ea of a	a rect	angle	with f	ractio	onal sid	le leng	gths b	y tilin	g it w	ith un	t squa	ares o	fthe	approj	priate	unit f	ractio	n side	lengt	hs, an	d sho	w
	that 1	he ar	ea is t	the sa	me as	would	d be f	ound b	oy mu	ltiplyir	ng the	side l	ength	s. Mul	tiply f	ractic	nal sid	de len	gths t	o find	areas	of re	ctang	les, ar	າd
NF4b	repre	sent f	ractio	n prod	ducts	as rec	tang	ular are	eas.																
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	Intorr	rot n	ultiali	ootion		olina	(rooiz	ina) h																	·
	men	лесп	luicipii		1 as su	anny		<u>ing), c</u>	<u>'y.</u>			1	1				1	1		1	r	1	1	1	
uates>	Comr	aring	tha ci	ze of	anro		l o the		f one	facto	r on ti	l he has	is of t	ha ciz	a of t	he ot	her fa	ctor v	withou	l it norl	formin	a the	indica	ted	L
	multi	aliooti	010 31 02		a prot			312G U		acto				.115 312						ic peri		y uie	nuica	licu	
NF5a	muiti	JICati		1			1	1			1						1	1	1	1	1		1	1	
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	Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results																								
	multi	olicati	on by	whole	e numl	oers g	reate	r than	1 as a	a fami	liar ca	se); e	explain	ing wł	וא mul	ltiplyir	ng a g	iven n	umbe	r by a	fract	ion les	s thar	1 res	sults
	in a p	roduc	t sma	ller th	an the	e givei	n num	ber; a	nd rel	ating	the pr	inciple	e of fr	action	equiv	alenc	e a/b	= (n_	<u>a)/(n</u>	_b) to	the e	effect	of mu	ltiplyi	ng
NF5b	a/b b	y 1.				-				-															-
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NF6	Solve	real	world p	proble	ms in	volving	g mult	tiplicat	tion of	f fract	ions a	nd mi	ixed n	umber	s,					_					
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NF7	Apply	and	extend	d prev	ious u	nders	tandir	igs of	divisi	on to	divide	unit f	fractio	ns by	whole	num	bers a	nd wh	ole nu	Imber	<u>s by ι</u>	init fra	octions	s.1	-
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NF7a	Interp	pret d	ivision	ofau	<u>unit fr</u>	action	<u>ı by a</u>	non-z	ero w	hole n	umbe	r, and	comp	ute si	uch qu	otien	ts.								
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NF7b	Interp	pret d	ivision	ofay	whole	numb	er by	<u>a unit</u>	fract	on, ar	nd con	npute	such	quotie	ents.										
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NF7c	Solve	real	world p	proble	ms in	volvin	g divis	sion of	unit	fractic	ons by	non-	zero w	<u>hole r</u>	numbe	ers and	d divis	ion of	whole	<u>e num</u>	bers I	oy unit	t fract	ions,	
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Measuren	leasurement and Data: Unit Conversion																								
	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use																								
MD1	these	conv	rersion	is in se	olving	multi	<u>-step,</u>	real w	vorld p	proble	ms.														
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Measuren	nent a	nd Da	ta: Wo	orking	with L	Data				into in	fract		<u> </u>	· / 1 /	2 1 //	1 70						- for 1	inia au		
	маке	a line	ριοτ τ	to aisp	Diay a	oata s	set of	meas	ureme	ents in	Tract	ions c	or a un	IT (17	2, 1/4	i, 1/0). Use	opera	ations	on tra	action	IS TOP 1	inis gr	ade to	2
MD2	solve	prob	ems ir		ng into	ormati	on pro	esente	ea in ii	ne pio	its.										-	<u> </u>			
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weasuren	nent a	na Da	ta: voi	ume																					
MD3	Reco	gnize	volum	e as a	n attr	ibute	of sol	id figu	ires ar	nd unc	lersta	nd co	ncepts	s of vo	olume	meas	ureme	ent.							
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MD3a	A cub	oe wit	h side	lengt	h 1 ur	nit, cal	led a	"unit o	cube,"	' is sai	id to h	ave "	one ci	ubic u	nit" of	[:] volur	ne, ar	nd can	be us	ed to	meas	sure vo	olume.		
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MD3b	A soli	d figu	ire wh	ich ca	n be p	backed	d with	out ga	aps or	overla	aps us	ing n	unit c	ubes i	s said	to ha	ve a v	volume	e of n	cubic	units.	-	-		
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MD4	Meas	ure vo	olumes	s by co	ountin	g unit	cube	s, usir	ng cub	ic cm,	, cubic	: in, c	ubic ft	, and	impro	vised	units.								
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MD5	Relat	e volu	me to	the c	perat	ions o	f mult	tiplicat	tion ar	nd add	lition a	and so	olve re	al wo	rld and	d mat	hemat	ical p	roblen	ns invo	olving	volum	ne.		
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	Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold															ne									
	same	as wo				nuiup	nying	the et	ige iei	iguis,	equiv	alenti	у бу г	nuicipi	ying t	ne ne	ignt b	y the	area c	or the	base.	Repre	sent	uneer	oiu
MD5a	whole	e-num	ber pr	οαυςτ	s as v	oiume	es,								1		1								
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	Apply	' the f	formul	as V=	l_w_h	andV	=b_h	for ree	ctangi	ular pr	isms t	to finc	l volur	nes o	f right	: recta	ngula	r prisn	ns wit	h who	le- nu	mber	edge	length	າs in
MD5b	the c	ontex	t of so	olving	real w	orld a	ind m	athem	atical	proble	ems.														
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	Reco	nize	volum	e as a	dditiv	e. Find	d volu	mes o	f solic	l fiaur	es cor	npose	d of t	wo no	n-ove	erlappi	na ria	ht rec	tanqu	lar pri	sms b	v addi	na th	e volu	imes
MD5c	of the	e non-	-overla	appina	parts	. appl	vina t	his te	chniau	ie to s	solve	real w	orld p	roblen	าร.				3			,			
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Geometry	: Grap	hina	points	on th	e coor	rdinate	e plan	e																	
/	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to																								
	coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand															tand									
	that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to trave															travel									
	in the	direc	tion o	f the	secon	d axis	with	the c	onven	tion t	hat th	ne nam	nes of	the t	NO ax	es and	the c	coordi	nates	corre	spond	(e.a.	x-axi	s and	X-
G1	coord	linate	v-avi	s and	v-coo	rdinat	م) (م								no un				lacoo	001100	pona	(0.9.,	X uXi	Juna	^
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	Repre	sent	real w	orld a	nd ma	them	atical	proble	ems by	/ gran	hina r	oints	in the	first	quadr	I ant of	the c	oordir	ate n	lane a	and in	l terpre		<u>I</u> rdinat	e
C 2	value	e of n	ointe i	in the	conte	vt of	tha ci	ituatio	n by	grup	· ····9 P			in oc	quuu			ooran		iano, c		corpro		amac	5
datas >	value	3 01 P							11. 																
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Geometry	Lindo	silyili	<u>y iwo-</u>	ottrib	utoo h	olong	es ling to		ogon	oftu	<u>a</u> dir	nonoio	nol fi		oloo h	olong	to all	aubaa	togor	ico of	that (otogo			
G3	Under	Staric			utes t	beiong	ling tu		.egory		/0- uir			jures					legor			Jatego	лу Г	——	
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