MEEA's "Not the Standards" Guides to Missouri Learning Standards - **Math**

GRADE	NS - number sense	NBT - number sense in base 10	NF - number sense and operations in fractions	RA - relationships and algebraic thinking
K – counting #s	# names & count sequence; cardinality;	place value 11-19	na	use +,- within 10;
1	use # up to 120	2 digit #s	na	use +,- within 20 to solve problems; add 3 whole numbers whose sum is <20; meaning of = sign; unknown whole #; subtraction as unknown addend
2	na	3 digit #s	na	odd or even #; count by 2s to 100 find total of rectangular array of up to 5
3	na	use +,- within 1000; x whole # by 10; rounding	fractions as numbers; number line; equivalent fractions	x, / within 100; write/solve 2-step problems; mental computation and estimation to check answers; arithmetic patterns
4	na	arithmetic up to a million; quotients & remainders	convert fractions to decimals	multiplicative comparison multi-step problems; variables and estimation; division with remainders; factors & multiple of whole numbers; composite and prime #; # pattern
5	na	numbers to billions; decimals to 1000ths; powers of 10	interconvert fractions and decimals	translate 2 patterns into sets of ordered pairs; graph on coord plane; id relationship betw 2 patterns; order of operations; solve and justify (why one process over another) multi-step problems w/ variables, whole #s, fractions, decimals
		NBT2 – number sense and operations in base 10	**RP - ratios & proportional relationships**	**EEI – expressions, equations and inequalities**
6 – integers, rational #s	na	division of fractions; common factors and multiples; absolute value	ratio as a comparison of 2 #s; unit rate problems; % problems; convert units	diff between expression & equation (has = or </> symbol); solution sets for equations and inequalities; one step linear equations; graph solution of inequality; show relationships betw dep and indep variables using tables, graphs, equations and their relations to each other
7	na	multiplicative inverse; real world contexts of rational #s	proportions; unit rate; explain x,y coordinates in terms of rate; origin; problems with ratios, rates, % and proportions	simplify equations; factor linear algebraic expressions with rational coefficients; write/solve x+p=q and px=q for rational #s; write/solve px +q=r and p(x+q)=r for rational #s; write/solve/graph px=q >r or px+q <r for rational #s

GRADE	NS - number sense	NBT2	RP	EEI	F - functions
8 – real #s	na	system of real numbers	na	integer exponents; sq roots of perfect sqrs< 625; cube roots of cubes </= 1000; non-perfect sq roots (irrational #); scientific notation; unit rate as slope of a graph	understand functions; interpret y = mx + b as linear function (lf) with parameters are slope (m) and y-intercept (b)

Number Systems

- natural or counting numbers - positive numbers from 1 on up (sometimes 0 is included)
- whole numbers - 0 is definitely included
- integers - negative numbers included
- rational numbers - anything that can be represented by a ratio of integers is included
- real numbers - irrational numbers (like the sq root of 2 or Pi) are included

http://www.meea.org/resources.html

	GM - geometry and measurement	**DS - data and statistics**
K	length, weight; time, "clocks"; days of week; coins; shapes; relative positions of objects in space; attributes of shapes; sort using shapes; draw/model 2-d shapes; compose larger shapes from simple ones w/ manipulatives	classify objects into categories, count them; compare category counts
1	compose/decompose 2-d, 3-d shapes; partition circles, rectangles; order 3,> objects by length; compare lengths of 2 objects using 3rd object; length or distance using objects; hours, half hours using analog and digital clocks; value of coins	collect, organize and represent data with up to 3 categories; conclusions from object or picture graphs, t-charts
2	triangles, quads, pents, hex, circles, cubes; partition rect into rows, columns of same-size squares and count squares; partition circles into 2,3,4 = shares; length in std units; inches, feet, cm, m; use +, - within 100 to solve length problems; whole #s, sums and differences on a number line; nearest 5 min for analog, digital; combos of coins and bills	display data in line plot; picture or bar graph for data with up to 4 categories; solve problems and draw conclusions using graphs
3	rhombuses, rectangles as quads, other quads; partition shapes into = shares, express as fraction; time to nearest minutes, intervals of minutes, +/- minutes; length, liquid volume and weight; operations on units; area using unit squares; label area measurement with sqrd units; tiling a rectangle = l x h; perimeters of polygons	frequency tables, scaled picture graphs, bar graphs; solve 1 or 2-step problem using graphs
4	points, lines, segments, rays, angles, perpendiculars and parallels; classify 2-d shapes by sides and/or angles; lines of symmetry for 2-d figure; angles, protractor; relative sizes of measurement units w/in one system and interconvert; distance, time, liquid volume, weight, money problems; apply area & perimeter formulas for rectangles	freq table, line plot to display data; analyze data in freq table, line plot, bar graph or picture graph
5	hierarchy of attributes; volume measured in cubic units; axes as scaled perpendicular number lines intersecting at 0; id points by ordered pairs, first is x, second is y;	line graph (x and y-axes) for data set; median
		DSP - data, statistics and probabilities
6	area of polygons; V=l x w x h or V = Bh; signs of numbers in ordered pairs in 4 quads of coordinate plane; reflection; nets to represent and find 3-d figures	statistics; center, spread and overall shape; dot plots, histograms and box plots for data; circle graphs; n; attribute measured, how and units used; mean, median, interquartile range (middle 50%) and deviation
7	scale drawings; 2-d sections of pyramids, prisms, cones & cylinders; circumference, radius, diameter, the area and Pi, apply formulas for circumference and area; area of triangles, quads, other polygons and volume and surface of prisms, pyramids and cylinders	sampling, randomization, freq, probability of simple events; predict outcomes; model theoretical prob; compare theoretical and experimental prob; uniform prob model; dev prob model observing frequencies; sample space of compound event; simulation to generate freq for compound events
8	angle, betweeness, collinearity and distance preserved under rigid transformation; 2 congruent figures dilations, translations, rotations and reflections; sum of interior angles; relation betw interior and exterior angles; angles when parallel lines cut by transverse; use similar figures to solve problems; Pythagorean theorem; surface area and volume of pyramids, cones and spheres	scatter plots of bivariate data to investigate association; trend lines for bivariate data; parameters of linear model to solve problems; relative frequencies for rows or columns to describe possible associations