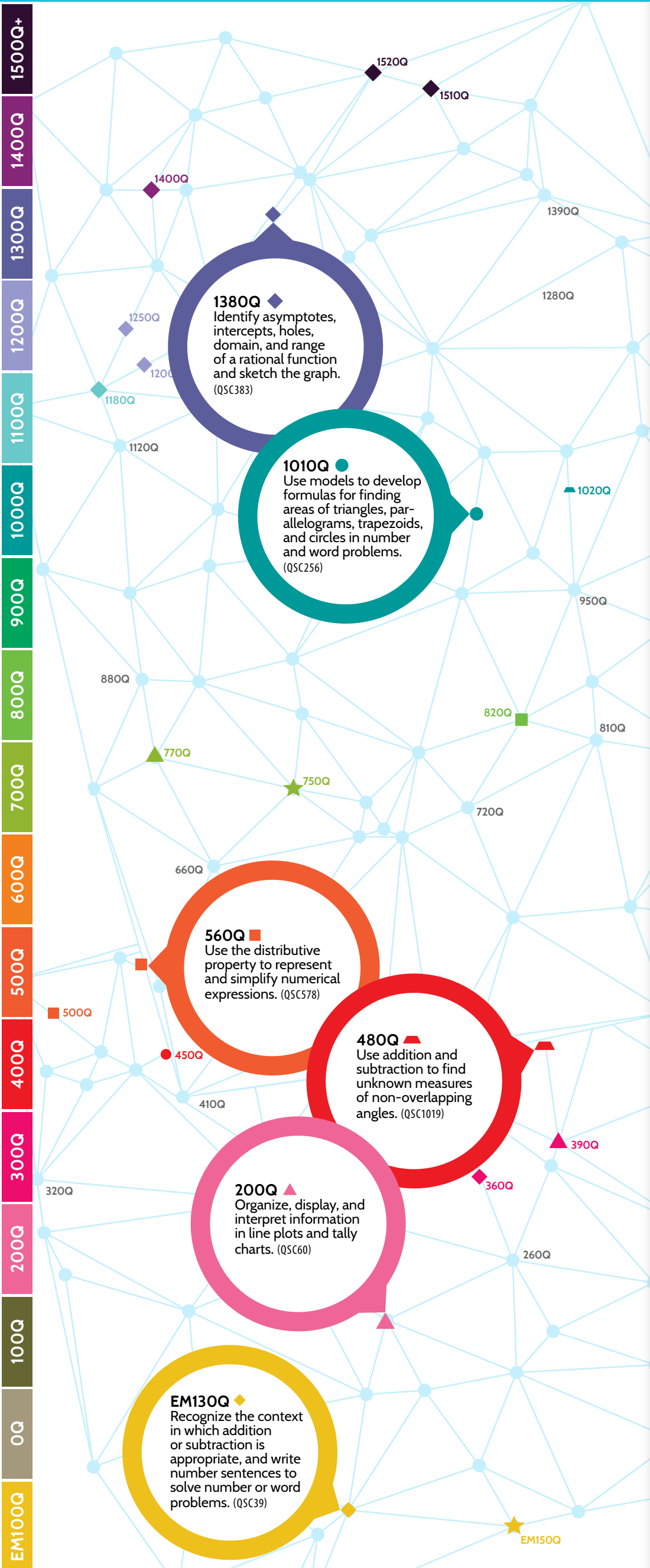# QUANTILE FRAMEWORK® FOR MATHEMATICS

QUANTILE

Linking Assessment With Mathematics Instruction

QUANTILE SKILLS & CONCEPTS (QSCS) ORGANIZED BY QUANTILE MEASURE

Quantile measure scale (left axis, top to bottom): 1500Q+, 1400Q, 1300Q, 1200Q, 1100Q, 1000Q, 900Q, 800Q, 700Q, 600Q, 500Q, 400Q, 300Q, 200Q, 100Q, 0Q, EM100Q

1380Q Identify asymptotes, intercepts, holes, domain, and range of a rational function and sketch the graph. (QSC383)

1010Q Use models to develop formulas for finding areas of triangles, parallelograms, trapezoids, and circles in number and word problems. (QSC256)

560Q Use the distributive property to represent and simplify numerical expressions. (QSC578)

480Q Use addition and subtraction to find unknown measures of non-overlapping angles. (QSC1019)

200Q Organize, display, and interpret information in line plots and tally charts. (QSC60)

EM130Q Recognize the context in which addition or subtraction is appropriate, and write number sentences to solve number or word problems. (QSC39)

Node labels in graph: 1520Q, 1510Q, 1400Q, 1390Q, 1280Q, 1250Q, 1200Q, 1180Q, 1120Q, 1020Q, 950Q, 880Q, 820Q, 810Q, 770Q, 750Q, 720Q, 660Q, 500Q, 450Q, 410Q, 390Q, 360Q, 320Q, 260Q, EM150Q

EXEMPLARS FROM OVER 500 QUANTILE SKILLS & CONCEPTS

Quantile Measure	Sample Quantile Skills & Concepts
1520Q	Identify continuous and discontinuous functions and locate points of discontinuity.
1510Q	Graph tangent, cotangent, secant, and cosecant functions and identify the domain, range, period and asymptotes of the function.
1400Q	Use the definition of a hyperbola to identify characteristics, write an equation and graph the relation.
1380Q	Identify asymptotes, intercepts, holes, domain and range of a rational function and sketch the graph.
1250Q	Identify the undefined values of rational algebraic expressions.
1200Q	Identify and interpret zeros of a quadratic function using factoring in algebraic and word problems.
1180Q	Use and interpret function notation in number and word problems; determine a value of the function given an element of the domain.
1020Q	Define and identify complementary and supplementary angles.
1010Q	Use models to develop formulas for finding areas of triangles, parallelograms, trapezoids and circles in number and word problems.
820Q	Rewrite or simplify algebraic expressions including the use of the commutative, associative and distributive properties, and inverses and identities, in number and word problems.
770Q	Organize, display and interpret information in stem-and-leaf plots.
750Q	Describe the effect of operations on size and order of numbers.
560Q	Use the distributive property to represent and simplify numerical expressions.
530Q	Estimate and compute products of whole numbers with multi-digit factors.
500Q	Use order of operations including parentheses and other grouping symbols to simplify numerical expressions.
480Q	Use addition and subtraction to find unknown measures of non-overlapping angles.
450Q	Determine the area of rectangles, squares, and composite figures using nonstandard units, grids and standard units in number and word problems.
390Q	Organize, display and interpret information in tables and graphs (frequency tables, pictographs and line plots).
360Q	Write addition and subtraction sentences that represent a number or word problem; solve.
200Q	Organize, display and interpret information in line plots and tally charts.
EM130Q	Recognize the context in which addition or subtraction is appropriate, and write number sentences to solve number or word problems.
EM150Q	Describe, compare and order objects using mathematical vocabulary.

GLOSSARY

Emerging Mathematician (EM): A code that comes before a Quantile measure below zero for material and student measures at early levels.

Quantile Skill and Concept (QSC): The description of a skill and its Quantile measure.

For more information and free tools, visit the *Lexile*® & *Quantile*® Hub at Hub.Lexile.com.

Legend: ◆ ALGEBRA & ALGEBRAIC THINKING ★ NUMBER SENSE ■ NUMERICAL OPERATIONS ● MEASUREMENT ▰ GEOMETRY ▲ DATA ANALYSIS, STATISTICS & PROBABILITY