

Math Readiness at ACCESS

How to Use This Infographic:

This “Math Readiness” infographic is designed to help families be aware of the concepts and skills children should know to be ready for different math levels. We suggest using it as a checklist to identify areas for practice over the summer and throughout the year.

To be Ready for Level 3:

- recognize even and odd numbers
- memorize addition and subtraction facts to $10 + 10$
- understand place value from 1s to 100s (name them, use models)
- compare three-digit numbers
- add and subtract three-digit numbers
- use repeated addition to find total number of objects in an array
- sort basic shapes by features
- partition shapes into halves, thirds, and fourths
- read and create bar graphs, picture graphs, line plots
- use rulers to measure using centimeters or inches
- tell and write time with an analog clock

To be Ready for Level 4:

all of the above, plus:

- demonstrate understanding of place value up to 1000s
- memorize multiplication and division facts to 10×10
- demonstrate multiplication as repeated addition (i.e. with arrays or area models)
- name and draw unit fractions (fractions with numerator of 1)
- find area and perimeter of rectangles
- identify polygons, including quadrilaterals, triangles, etc.

To be Ready for Level 5:

all of the above, plus:

- demonstrate understanding of place value for tenths and hundredths
- convert between decimals and fractions for tenths and hundredths
- find equivalent fractions (ex: $\frac{1}{2} = \frac{3}{6}$)
- add and subtract fractions with common denominators (ex: $\frac{5}{11} + \frac{3}{11}$)
- multiply fractions by whole numbers
- multiply two- and three-digit numbers together
- divide two- and three-digit numbers by one-digit numbers
- identify factors and multiples within 100
- solve multi-step area and perimeter problems (i.e. find missing length when perimeter is known)
- describe parallel and perpendicular lines, acute and obtuse angles, reflective symmetry

To be Ready for Level 6:

all of the above, plus:

- use powers of 10 to describe place value
- identify equivalent decimals, percents, and basic fractions (i.e. $\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{5}$)
- add, subtract, multiply and divide decimals to hundredths place
- multiply fractions by fractions
- divide by two-digit numbers
- recognize different notation for multiplication (ex: $4 \cdot 5$, $4 \cdot 5$, $4(5)$, $4(x)$, $4x$)
- graph positive points on the coordinate plane
- find the volume of rectangular prisms

To be Ready for Compacted Math:

all of the above, plus:

- identify prime numbers up to 100
- find greatest common factors and least common multiples
- simplify fractions (ex: $\frac{4}{12} = \frac{1}{3}$)
- divide with fractions
- use ratios describe real world situations (part-to-whole and part-to-part)
- calculate unit rates
- understand and order integers (i.e. negative numbers)
- graph in all 4 quadrants of coordinate plane
- write and evaluate expressions with exponents
- use order of operations (i.e. PEMDAS)
- apply the distributive property
- simplify expressions by combining like terms
- write expressions and equations with variables for unknown quantities
- solve and check one-variable equations
- find mean, median, mode
- find area of triangles and parallelograms
- find volume of prisms with whole or fractional edge lengths

To be Ready for Algebra:

all of the above, plus:

- use proportional relationships to solve problems
- solve multi-step problems with positive and negative rational numbers
- apply the distributive property with numbers and variables
- write and solve one-variable inequalities
- solve, check, and graph linear equations
- identify and interpret slope and y-intercept ($y = mx + b$)
- translate between representations of two-variable linear relationships (equation, table, graph, situation)
- have experience with laws of exponents and scientific notation
- convert between fractions, decimals, and percents

To be Ready for Geometry:

complete algebra, plus:

- apply the pythagorean theorem as distance formula
- multiply and factor binomials