



Bridge to Lower School Mathematics 3-5

Teacher: Demetrius Sajous-Brady

Session 1 (June 29-July 17) or 2 (July 20-August 7)

dmilesbrady@gmail.com

MWF 1-2pm (CDT)

2-3pm (EDT)

Office: MWF 12-1pm (CDT)

1-2pm (EDT)

Course description: Scholars will explore beginning/intermediate/advanced concepts within the domains of real number system, algebraic thinking and operations, geometry and measurement, while using a variety of analog and digital resources including DeltaMath, Desmos, NCTM Illuminations, and Nearpod. Upon completion, scholars will be confident in their abilities to apply their knowledge to classroom environments and typical standardized tests (ISEE, NWEA MAP, ITBS, HSPT, and other similar elementary entrance or gifted program exams).

Responsibilities and requirements: access to a computer or tablet capable of accessing Google Classroom, Desmos (app and/or website), and Nearpod (app and/or website) and ability to access/create necessary accounts on websites. Scholars should be open to be active, respectful, and thoughtful participants.

Required text: Theresa R. Fitzgerald, *Math Dictionary for Kids*

Referenced texts (used in support of course objectives):

Mitsumasa Anno, *Anno's Counting Book*
Mitsumasa Anno, *Anno's Mysterious Multiplying Jar*
Elinor Pinczes, *One Hundred Hungry Ants*
Demi, *One Grain of Rice*
Elinor Pinczes, *A Remainder of One*
Elinor Pinczes, *Inchworm and a Half*
Maranke Rinck & Martijn van der Linden, *Tangram Cat*
Marilyn Burns, *The Greedy Triangle*
Dr. Julie Glass and Richard Walz, *The Fly on the Ceiling*
Rolf Myller, *How Big is a Foot?*



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Week 1: The Real Number System/Operations and Algebraic Thinking

Note: (A) indicates analog learning; (D) indicates digital activity

	Concept Area (s)	Activity	Resources/Materials
Session 1	Problem-Solving	Using problem-solving strategies (identifying necessary elements, working with patterns, creating organizational structures)	“The Farmer” and other brain busters (A) Google Classroom (D)
Inter-session			Word problems; review “Numbers” document (A) Nearpod (D)
Session 2	Place Value and Operations; number series	Palindromes introduction; Using various ways to express numbers and patterns	“Palindromes” (A) TBD (D)
Inter-session			Pattern problems; review “Operations” document (A) Nearpod (D)
Session 3	Order of operations	Learning the order of operations and its extensions and applications	“Factorization and Exponents” document (A) Google Classroom (D)
Inter-session			Nearpod (D)



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Week 2: Geometry

Note: (A) indicates analog learning; (D) indicates digital activity

	Concept Area (s)	Activity	Resources/Materials
Session 1	2-dimensional concepts	Understanding the basics of Cartesian geometry: points, segments, lines, rays, and polygons	Points and Lines (A) Google Classroom (D)
Inter-session			Read “Tangram Cat” document (A); work on tangram puzzles
Session 2	3-dimensional concepts	Moving into the properties of the third dimension; classifying figures and measuring them	Polyhedrons (A) NCTM Illuminations (D)
Inter-session			Creating nets; home measurements (A) Nearpod (D)
Session 3	Congruency, similarity, symmetry, and transformations	Learning about symmetry in the natural world	“Looking at Lines of Symmetry” document (A) Smashmaths.com.au exercises (D)



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Inter-session			Home-based data collection (A)
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Week 3: Statistics and Probability

Note: (A) indicates analog learning; (D) indicates digital activity

	Concept Area (s)	Activity	Resources/Materials
Session 1	data display and interpretation	Understanding how data can be used to inform and obscure; Wheels of Fortune	Making Spinners (A) Nearpod (D)
Inter-session			"Permutations and Combinations" document
Session 2	Combinations and permutations	Understanding real-world uses of combinatorics	Anno's <i>Mysterious Multiplying Jar</i> (A) Calculator.net (D)
Inter-session			Home organization (A) Nearpod (D)
Session 3	Independent and dependent events	Understanding how odds and probability work in games	Rolling dice and flipping coins; (A) Nearpod (D)



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Inter-session			Skills practice (A)
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