

Curriculum Guide

Foundational Mathematics Skills for STEM Scholars Hub, Aligned with NGSS Standards

Lesson #	Lesson Title	Common Core Standard	Objective	Concept	Practical Application in Everyday Life	Grade Level	Suggested Days to Teach
1	Exploring Shapes	2.G.A.1	Identify and describe basic 2D and 3D shapes.	Properties of Shapes	Recognizing shapes in buildings, objects, and design	1st–2nd grade	2 days
2	Understanding Place Value	1.NBT.A.1	Understand the place value of digits in a number.	Base-Ten Number System	Organizing and understanding numbers in money and measurement	2nd–3rd grade	2 days
3	Addition and Subtraction of Whole Numbers	2.NBT.B.5	Add and subtract within 100.	Addition and Subtraction of Numbers	Managing personal expenses, budgeting, or shopping	2nd–3rd grade	3 days
4	Introduction to Fractions	3.NF.A.1	Understand and recognize fractions as parts of a whole.	Basic Fractions	Dividing objects like pizza into equal parts	3rd–4th grade	3 days
5	Comparing Fractions	3.NF.A.3	Compare fractions with the same denominator.	Comparing Fractions	Comparing ingredients or portions for recipes	3rd–4th grade	2 days
6	Counting Money	2.MD.C.8	Count coins and bills and determine the total value.	Money Counting	Calculating prices and budgeting for shopping	2nd–3rd grade	2 days
7	Multiplying Whole Numbers	3.OA.A.3	Multiply multi-digit whole numbers.	Multiplication	Applying multiplication in scaling recipes or	4th–5th grade	3 days

					area calculation		
8	Division of Whole Numbers	4.NBT.B.6	Divide multi-digit numbers by 1-digit numbers.	Division Strategies	Dividing a budget among multiple expenses or people	4th–5th grade	3 days
9	Understanding Fractions on a Number Line	3.NF.A.2	Represent fractions on a number line.	Fractions and Number Lines	Measuring distances or portions on a number line	3rd–4th grade	2 days
10	Decimal Place Value	5.NBT.A.3	Understand decimal place value up to thousandths.	Decimal System	Using decimal places in money, measurement, and calculations	4th–5th grade	3 days
11	Multi-Digit Multiplication	4.NBT.B.5	Multiply multi-digit numbers by 2-digit numbers.	Multi-Digit Multiplication	Calculating larger quantities for projects or groupings	4th–5th grade	3 days
12	Measuring Lengths and Heights	2.MD.A.1	Measure and estimate lengths using appropriate tools.	Measurement	Measuring furniture, rooms, or objects for space planning	2nd–3rd grade	2 days
13	Adding and Subtracting Decimals	5.NBT.B.7	Add and subtract decimals up to thousandths.	Decimal Operations	Handling money transactions, measurement conversions	5th grade	3 days
14	Geometry – Angles	4.G.A.1	Recognize and measure angles.	Angles and Their Types	Measuring corners and angles in real-world objects	4th–5th grade	2 days
15	Area of Rectangles	3.MD.C.6	Find the area of rectangles.	Area Calculation	Measuring land, gardening, or home improvement projects	3rd–4th grade	3 days
16	Volume of	5.MD.C.5	Calculate the	Volume Measurement	Applying volume	5th–	3 days

	Rectangular Prisms		volume of rectangular prisms.		to calculate space, containers, or packaging	6th grade	
17	Probability and Chance	6.SP.A.1	Understand probability and statistics.	Probability and Data	Analyzing weather patterns, sports statistics, etc.	6th grade	3 days
18	Constructing and Analyzing Graphs	5.MD.B.2	Create and analyze data graphs.	Data Representation	Using graphs for surveys, budgets, or temperature trends	5th–6th grade	3 days
19	Introduction to Ratios	6.RP.A.1	Understand and explain ratios and proportional relationships.	Ratios and Proportions	Scaling recipes or planning group assignments	6th grade	3 days
20	Solving for Missing Angles	4.G.A.2	Solve for missing angles in shapes.	Angle Relationships	Measuring angles in everyday structures like roads or furniture	4th–5th grade	3 days
21	Adding and Subtracting Fractions	5.NF.A.1	Add and subtract fractions with like denominators.	Fraction Addition/Subtraction	Dividing and sharing resources, such as portions in cooking	5th grade	3 days
22	Introduction to Exponents	6.EE.A.3	Use exponents to simplify and solve problems.	Exponents	Applying scientific notation or scaling calculations	6th–7th grade	3 days
23	Dividing Fractions	6.NS.A.1	Divide fractions by whole numbers and vice versa.	Fraction Division	Dividing portions, resources, or quantities fairly	6th–7th grade	3 days
24	Solving Word Problems with Decimals	5.NBT.B.6	Solve word problems involving decimal operations.	Word Problems with Decimals	Budgeting, measuring materials, or dividing costs	5th–6th grade	3 days
25	Solving	6.EE.A.2	Solve basic	Basic Algebra	Solving for	6th–	3 days

	Algebraic Expressions		algebraic expressions with one variable.		unknowns in everyday scenarios (e.g., shopping)	7th grade	
26	Scientific Notation	7.NS.A.1	Work with large numbers and express them in scientific notation.	Scientific Notation	Working with large quantities in science or engineering	7th–8th grade	3 days
27	Probability in Everyday Life	6.SP.B.5	Use probability to make predictions and solve problems.	Real-life Applications of Probability	Estimating chances of events in daily life (e.g., weather)	6th–7th grade	3 days
28	Solving Systems of Equations	8.EE.C.8	Solve systems of linear equations.	Systems of Equations	Solving for multiple unknowns in engineering or budgeting	8th grade	4 days
29	Graphing Linear Functions	8.F.A.1	Understand and analyze linear relationships.	Linear Functions	Graphing trends, financial planning, or temperature over time	8th grade	4 days
30	Pythagorean Theorem	8.G.B.6	Apply the Pythagorean Theorem to solve for unknown sides in a right triangle.	Pythagorean Theorem	Determining distances, structural engineering, or construction projects	8th grade	4 days

Note: The Common Core State Standards (CCSS) were used in this curriculum guide for math, providing a consistent framework for teaching math across the United States. The standards are designed to prepare students for success in college, career, and life by focusing on the development of deep understanding of mathematical concepts.

Reference:

- Common Core State Standards Initiative: www.corestandards.org

www.stemscholarshub.net for STEM Scholars Hub

John Mark L. Barbado, MAEd

STEM Educator

Founder of www.stemscholarshub.net