

RevealMATH

See. Touch. Learn.

BRING MATH TO LIFE WITH AUGMENTED REALITY

McGraw Hill, in partnership with Verizon, created McGraw Hill AR, a FREE augmented reality app that blends trusted educational content with innovative technology to make learning more engaging and meaningful across subjects.

With math, McGraw Hill AR help students visualize abstract concepts and see math in the world around them. From ski slopes to fireworks, from race cars to desert islands, students can experience the fun in learning math and realize it's not just about numbers and equations.

These engaging, bite-size experiences provide a great complement to your Reveal Math curriculum. Each activity is standards-aligned and offers a consistent approach:

- Observe: Watch a narrated animation that introduces the concept
- **Explore**: Interact with 3D objects to deepen understanding
- **Evaluate**: Apply knowledge via interactive questions

Lesson Plans & Worksheets

Create a free account on Verizon Innovative Learning HQ to access the lesson plans (<u>verizon.com/learning</u>). There are also student worksheets that correlate to the activities, as well as enrichment and extension activities.

How to Access McGraw Hill AR

McGraw Hill AR offers two FREE experiences. The augmented reality app is available for tablets and smartphones and can be downloaded from the <u>App Store</u>, <u>Google Play</u> or by scanning the QR code here.



The **3D web-based experience** is available for Chromebooks, laptops, and desktops at **mharonline.com**.



Math Topics in McGraw Hill AR

- Coordinate Plane
- Cross Sections
- Division with Remainders (coming soon)
- Equivalent Fractions*
- Game Theory
- Graph Theory
- Growth Functions
- LCM
- Nets
- Parallel and Skew Lines
- Pythagorean Theorem in 3D
- Quadratic Functions
- Ratios
- Reflections
- Rotations
- Solving Equations
- Slope



McGraw Hill AR can be used in direct support of lessons noted below. However, please see the Content Progression Chart for an exploration of how to use the app for other grade levels with modifications.

Use the links below to go directly to the app and web activities, along with their accompanying lesson plans.

- The app link works only on a phone or tablet with the app installed
- The web link works only on a laptop or Chromebook (does not work on mobile devices)
- The lesson plan link may prompt you to create a free account at verizon.com/learning if you don't already have one.

McGraw Hill AR	Reveal Math Lesson
Division with Remainders App Web Lesson Coming soon!	 G3: Unite 3: Multiplication and Division; Lesson 4: Understand Equal Sharing G4: Unit 7: Division Strategies with Multi-Digit Dividends and 1-Digit Divisors; Lesson 3: Find Equal Shares G4: Unit 7: Division Strategies with Multi-Digit Dividends and 1-Digit Divisors; Lesson 7: Make Sense of a Remainder
Equivalent Fractions <u>App Web Lesson</u>	G4: Unit 8: Fraction Equivalence, Lesson 1: Equivalent Fractions
Add/Subtract Fractions App Web Lesson Coming soon!	 G5: Unit 9: Add and Subtract Fractions; Lesson 3: Add Fractions with Unlike Denominators G5: Unit 9: Add and Subtract Fractions; Lesson 5: Subtract Fractions with Unlike Denominators
Coordinate Plane <u>App Web Lesson</u>	G5 : Unit 13: Geometry, Lesson 3: Rep. Problems on a Coordinate Plane
Ratios App Web Lesson	G6 : Module 1: Ratios and Rates Lesson 2: Tables of Equivalent Ratios
LCM App Web Lesson	G6 : Module 5: Numerical & Algebraic Exp. Lesson 5: Factors & Multiples
Solve Equations App Web Lesson	G7 : Module 6: Write and Solve Equations Lesson 1: Write and Solve One-Step Equations Alg 1 : Module 2: Equations in One Variable Lesson 2: Solving One-Step Equations
Slope <u>App</u> <u>Web</u> <u>Lesson</u>	 G8: Module 4: Linear Relationships and Slope, Lesson 2: Slope of a Line G8: Module 4: Linear Relationships and Slope, Lesson 3: Similar Triangles and Slope Alg 1: Module 4: Linear and Nonlinear Functions, Lesson 2: Rate of Change & Slope
Pythagorean Theorem in 3D <u>App Web Lesson</u>	G8 : Module 7: Triangles and the Pythagorean Theorem, Lesson 3: The Pythagorean



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McGraw Hill AR	Reveal Math Lesson
Reflections App Web Lesson	G8: Module 8: Transformations, Lesson 2: ReflectionsGeom: Module 2: Angles and Geometric Figures, Lesson 4: Transformations in the PlaneGeom: Module 4: Transformations and Symmetry, Lesson 1: Reflections
Growth Functions App Web Lesson	Alg 1: Module 9: Exponential Functions, Lesson 1: Exponential Functions Alg 2: Module 7: Exponential Functions, Lesson 5: Modeling Data
Nets <u>App</u> <u>Web</u> <u>Lesson</u>	Geom: Module 2: Angles and Geometric Figures, Lesson 6: 2-D Representations
Parallel & Skew Lines App Web Lesson	Geom : Module 3: Logical Arguments & Line Relationships, Lesson 7: Parallel Lines & Transversals
Cross Sections App Web Lesson	Geom: Module 11: Measurement, Lesson 5: Cross Sections and Solids of Revolution
Rotations App Web Lesson	Geom: Module 11: Measurement, Lesson 5: Cross Sections and Solids of Revolution
Quadratic Functions App Web Lesson	Alg 2: Module 3: Quadratic Functions, Lesson 1: Graphing Quadratic Functions
Graph Theory App Web Lesson	Not covered in Reveal Math, but could be covered in Algebra 2
Game Theory App Web Lesson	Not covered in Reveal Math, but could be covered in Algebra 2



McGraw Hill AR Content Progressions Across Reveal Math

Instructions altered for lower grade bands

Original instructions can be used for these grade bands

These grade bands may be too advanced for this activity The activity may be too advanced for these grade bands

McGraw Hill AR	Description	Reveal Math K-2	Reveal Math 3-5	Reveal Math 6-8	Reveal Algebra	Reveal Geometry	Reveal Algebra 2
Division with Remainders	Divide two-digit numbers by one- digit numbers and identify remainders.	Modification : Play carnival games and share winnings with your friends!	√	✓			
Equivalent Fractions	Identify equivalent fractions.	Modification: Go on a treasure hunt for shapes.	√	√	✓	✓	
Add/Subtract Fractions	Add and subtract fractions with unlike denominators.	Modification : Add and subtract shapes with different sizes.	√	√			
Coordinate Plane	Travel from one point to another on the coordinate plane.	Modification: Help the dog find his bone.	√	✓			
Ratios	Understand and use ratios.	Modification: Use recipes to make foods.	Modification: Use recipes to make foods.	✓	✓	✓	√
LCM	Find the LCM of a set of numbers.	Modification: Get the cars to complete laps at the same time.	Modification: Get the cars to complete laps at the same time.	✓	✓	✓	✓
Solve Equations	Solve one-step equations.	Modification:Make the balance level.	Modification: Make the balance level.	√	✓	✓	√
Slope	Find the slope of a line.	Modification: Help the skateboarder land successfully.	Modification: Help the skateboarder land successfully.	√	✓	√	√
Pythagorean Theorem in 3D	Use Pythagorean Theorem with 3-D figures.			√	✓	✓	√



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Reflections	Apply reflections to two- dimensional figures in the coordinate plane.	Modification: Can you recreate the picture?	Modification: Can you recreate the picture?	√	√	✓	√
Growth Functions	Travel from one point to another on the coordinate plane.	Modification: Predict how many bunnies will come out of the hat.	Modification: Predict how many bunnies will come out of the hat.	Modification: Predict how many bunnies will come out of the hat.	√	✓	✓
Nets	Determine the best model to represent a sequence.	Modification: Open (or unfold) the 3D object	Modification: Open (or unfold) the 3D object	√	√	✓	✓
Parallel & Skew Lines	Identify parallel, perpendicular, and skew lines in 3-D figures.	Modification: Explore edges of 3D objects.	Modification: Explore edges of 3D objects.	√	✓	✓	✓
Cross Sections	Identify cross sections.	Modification: Slice objects to create shapes.	Modification: Slice objects to create shapes.	√	✓	✓	✓
Rotations	Identify shapes formed by rotations.	Modification: Rotate shapes to form objects.	Modification: Rotate shapes to form objects.	√	✓	✓	✓
Graph Theory	Identify and find Euler Paths.	Modification: Can you create the correct path?	Modification: Can you create the correct path?	√	✓	✓	✓
Game Theory	Adjust the price of gas based on market fluctuations.			√	✓	✓	✓
Quadratic Functions	Identify the maximum of a quadratic function.			√	✓	✓	✓