Course Title	IAA Math 7

INNOVATIVE ARTS ACADEMY

Course Overview	This 7th-grade mathematics course, often utilizing materials like the HMH *Into Math* program, is structured to help students master rigorous standards and build the necessary skills for perseverance when tackling challenging, real-world problems.

Unit Title	Unit Title	Unit Title	Unit Title
Rational Numbers	**Ratios & Proportional Relationships**	**Expressions & Equations**	**Geometry**

Time Frame	28 - 35 Days	Time Frame	28 - 35 Days	Time Frame	38 - 45 Days	Time Frame	33 - 40 Days
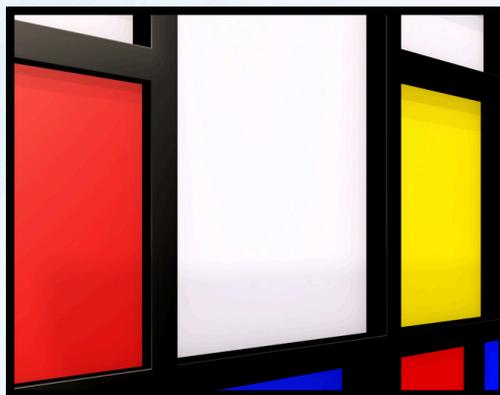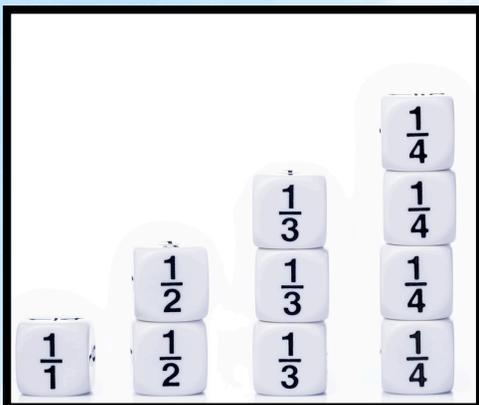
Focus of the Unit

Rational Numbers focuses on applying and extending previous understandings of operations to add, subtract, multiply, and divide rational numbers in real-world and mathematical problems This includes representing operations on a number line and understanding the decimal form of rational numbers.

Focus of the Unit

Ratios and Proportional Relationships Focuses on demonstrating an understanding of proportional relationships and using them to analyze, recognize, represent, and solve real-world and mathematical problems. This includes computing unit rates, identifying the constant of proportionality, representing relationships by equations, and using proportional relationships to solve multi-step ratio and percent problems

Focus of the Unit

Focuses on solving real-world and mathematical problems using numerical and algebraic expressions, equations, and inequalities. This involves constructing simple equations and inequalities to represent quantities and determining the reasonableness of answers.

Focus of the Unit

Geometry focuses on demonstrating an understanding of geometric figures and their properties, as well as solving real-world and mathematical problems involving angle measure, circumference, area, surface area, and volume. This includes problems with scale drawings, properties of triangles and angles, cross sections of 3D figures, and calculating measures of 2D and 3D objects.

Course Title	7th Grade Math

INNOVATIVE
ARTS ACADEMY

Course Overview	This 7th-grade mathematics course, often utilizing materials like the HMH *Into Math* program1, is structured to help students master rigorous standards and build the necessary skills for perseverance when tackling challenging, real-world problems.

Unit Title
Statistics & Probability

Time Frame	18 - 25 Days

Focus of the Unit

The focus is on using random sampling to draw inferences about a population3. This involves determining if a sample is random3 and using data from random samples to make predictions or estimates about the larger population4. It also includes using statistical measures to compare two numerical data distributions4, utilizing measures of center and variability to draw informal comparative inferences

Unit Title	Rational Numbers
Time Frame	28 - 35 Days

INNOVATIVE ARTS ACADEMY

Essential Question(s)

What types of numbers exist on a number line?
How do I solve real world and mathematical problems involving rational numbers?
How do the rules and properties of addition, subtraction, multiplication and division help us compute rational numbers ?

Focus of the Unit

Rational Numbers focuses on applying and extending previous understandings of operations to add, subtract, multiply, and divide rational numbers in real-world and mathematical problems This includes representing operations on a number line and understanding the decimal form of rational numbers.

Standards

M07.A-N.1.1 Solve real-world and mathematical problems involving the four operations with rational numbers.

M07.A-N.1.1.1 Apply properties of operations to add and subtract rational numbers, including real-world contexts.
Represent addition and subtraction on a horizontal or vertical number line. Apply properties of operations to multiply and divide rational numbers, including real-world contexts; demonstrate that the decimal form of a rational number terminates or eventually repeats.

Learning Targets

I can add and subtract rational numbers
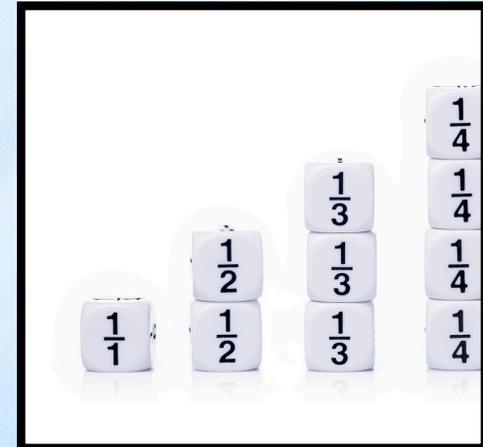
Learning Targets

I can multiply and divide rational numbers

Learning Targets

I can pply properties of operations as strategies to add, subtract, multiply, and divide rational numbers

Learning Targets

I can solve multi-step real-world and mathematical problems posed with rational numbers in any form (whole numbers, fractions, and decimals)

Resources	HMH Math Workbook, ixl, Flocabulary, Kahoot, Digital Escape Rooms and projects

Unit Title	Ratios & Proportional Relationships
Time Frame	28 - 35 Days

INNOVATIVE ARTS ACADEMY

Essential Question(s)

How do rates and proportions help you describe and solve real-life problems?
What are proportional relationships?
What are slope and rate of change?

Focus of the Unit

This focuses on demonstrating an understanding of proportional relationships and using them to analyze, recognize, represent, and solve real-world and mathematical problems. This includes computing unit rates, identifying the constant of proportionality, representing relationships by equations, and using proportional relationships to solve multi-step ratio and percent problems

Standards

M07.A-R.1.1 Analyze, recognize, and represent proportional relationships and use them to solve real-world and mathematical problems.

Learning Targets

I can determine whether a relationship between two quantities is proportional by examining tables or graphs

Learning Targets

I can identify and compute the constant of proportionality (unit rate) in proportional relationships shown in tables, graphs, equations, diagrams, and verbal descriptions, including those involving fractions

Learning Targets

I can represent proportional relationships using tables, graphs, and equations of the form y = kx

Learning Targets

I can use proportional relationships to solve multi-step real-world problems involving ratios, rates, percents, and scale drawings
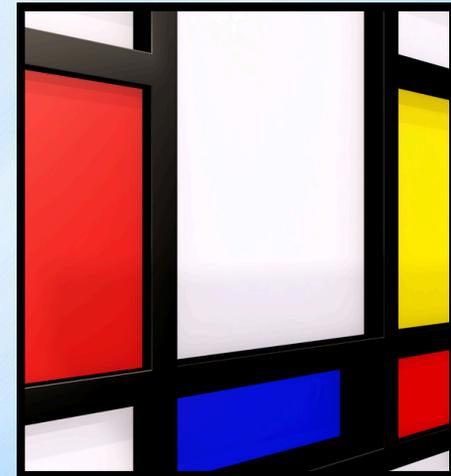
Resources

HMH Math Workbook, ixl, Flocabulary, Kahoot, Digital Escape Rooms and projects

Unit Title	**Expressions & Equations**
Time Frame	38 - 45 Days

INNOVATIVE ARTS ACADEMY

Essential Question(s)

How can relationships be modeled symbolically?
How do I create, solve, and interpret one-variable equations or inequalities in real-world and mathematical problems?
How can real-world problems be solved algebraically?

Focus of the Unit

This unit focuses on solving real-world and mathematical problems using numerical and algebraic expressions, equations, and inequalities. This involves constructing simple equations and inequalities to represent quantities and determining the reasonableness of answers.

Standards

M07.B-E.1.1 Use properties of operations to generate equivalent expressions.

Learning Targets

I can apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients to generate equivalent expressions

Learning Targets

I can use variables to represent quantities in real-world or mathematical problems and construct and solve simple equations of the form $px + q = r$ and $p(x + q) = r$ involving rational numbers

Learning Targets

I can use variables to represent quantities in real-world or mathematical problems and construct and solve simple inequalities of the form $px + q > r$ or $px + q < r$

Learning Targets

I can solve multi-step real-world and mathematical problems posed with positive and negative rational numbers in any form and determine the reasonableness of the answer(s)

Resources HMH Math Workbook, ixl, Flocabulary, Kahoot, Digital Escape Rooms and projects

Unit Title	Geometry
Time Frame	33 - 40 Days

INNOVATIVE
ARTS ACADEMY

Essential Question(s)

How can models and formulas help us find measurements of 2D and 3D shapes?
How do the properties of angles and geometric figures help us solve problems?
How is geometry used to solve problems in the real world?

Focus of the Unit

Geometry focuses on demonstrating an understanding of geometric figures and their properties, as well as solving real-world and mathematical problems involving angle measure, circumference, area, surface area, and volume. This includes problems with scale drawings, properties of triangles and angles, cross sections of 3D figures, and calculating measures of 2D and 3D objects.

Standards

M07.C-G.1.1.1 - M7.C-G1.2-3 Solve problems involving scale drawings of geometric figures, including finding length and area. Identify or describe the properties of all types of triangles based on angle and side measures. Use and apply the triangle inequality theorem.
M07.C-G.2.1 Identify, use, and describe properties of angles and their measures.
M07.C-G.2.2 Determine circumference, area,

Learning Targets

I can draw geometric shapes with given conditions and describe the properties of triangles based on angle and side measures

Learning Targets

I can find the area and circumference of a circle and solve problems involving area and circumference

Learning Targets

I can solve real-world and mathematical problems involving the area, volume, and surface area of two- and three-dimensional objects.

Learning Targets

I can solve problems involving scale drawings of geometric figures

Resources	HMH Math Workbook, ixl. Flocabulary, Kahoot, Digital Escape Rooms and projects

Unit Title	Statistice & Probability
Time Frame	18 - 25 Days

INNOVATIVE ARTS ACADEMY

Essential Question(s)

How can data from a random sample help us make inferences about a population?
How do I determine the likelihood of an outcome occurring?
How can data or probability models help us make predictions about chance events?

Focus of the Unit

The focus is on using random sampling to draw inferences about a population3. This involves determining if a sample is random3 and using data from random samples to make predictions or estimates about the larger population4. It also includes using statistical measures to compare two numerical data distributions4, utilizing measures of center and variability to draw informal comparative inferences

Standards

M07.D-S.1.1.1 Determine whether a sample is a random sample given a real-world situation.
M07.D-S.2.1 Use statistical measures to compare two numerical data distributions.

Learning Targets

I can use data from a random sample to draw inferences about a population and determine whether a sample is a random sample given a real-world situation

Learning Targets

I can compare two numerical data distributions using measures of center and variability

Learning Targets

I can understand the likelihood of a chance event and find experimental and theoretical probabilities for simple events

Learning Targets

I can find probabilities of compound events using representations and simulations, and use probability to make predictions about outcomes

Resources

HMH Math Workbook, ixl, Flocabulary, Kahoot, Digital Escape Rooms and projects