Awesomenicity 5th Grade/Year 6 Curriculum Guide

Contents

awesomenicity

G5/Y6 Overview

Number	Addition	Subtraction	Multiplication	Division	Fractions
- Read, write, compare and order whole numbers up to the millions. - Investigate and identify properties of prime, composite, square and triangular numbers. **Note, prime and composite are explored in multiplication.* - Understand and use powers of ten. - Explore real-life situations that use integers and decimals and locate and represent these on a number line. - Round to the nearest 10, 100, 1,000 and beyond. - Round decimals to the nearest tenth, hundredth and whole number. - Use the order of operations (PEMDAS) to write number sentences.	- Choose and apply effective mental and written strategies to solve addition. - Develop mental and written strategies to add decimal amounts. - Use rounding, subtraction or other addition strategies to check answers. - Solve addition word problems using a range of strategies.	- Choose and apply effective mental and written strategies to solve subtraction. - Develop mental and written strategies to subtract decimal amounts. - Use rounding, addition or other subtraction strategies to check answers. - Solve word problems that involve addition and subtraction using a range of strategies.	- Apply times table patterns and strategies to recall multiplication facts. - Investigate multiples, factors and common factors, including prime and composite numbers. - Multiply and divide by 10, 100 and 1,000. - Explore number flexibility and find creative strategies to multiply large numbers. - Develop efficient mental and written strategies to multiply decimals and whole numbers. - Solve word problems involving the multiplication of whole numbers and/or decimals.	- Identify rules of divisibility. - Use multiplication to divide. - Develop efficient mental and written strategies to multiply integers and decimal amounts. - Divide by whole numbers where the results are terminating decimals. - Solve word problems involving multiplying and dividing whole numbers and decimals.	- Identify equivalent fractions. - Find fractions of amounts. - Compare fractions using the lowest common multiple. - Convert improper fractions to mixed numbers and vice versa. - Add and subtract fractions, including mixed numbers and improper fractions. - Investigate the connection between fractions, decimals and percentages. - Convert and order fractions, decimals and percentages. - Investigate and calculate percentage discounts.

Measurement	Shape and Space	Statistics, Probability & Data Handling	Ratio and Proportion	Algebra
- Connect decimals and fractions to measurement. - Read and interpret scales on a range of measuring instruments. - Convert between common units of length, mass and capacity. - Solve problems involving the comparison of length, mass and capacity. - Problem solve using the perimeter and area of compound shapes and triangles. - Connect volume and capacity. - Interpret and use timetables.	- Create simple prisms and pyramids and make real-world connections. - Explore translations, reflections and rotations. - Graph and interpret coordinates using all four quadrants of the Cartesian coordinate system. - Find unknown angles using angles on a straight line, at a point and vertically-opposite angles.	- Use fractions, percentages and decimals to describe probability. - Create experiments using chance and collect, record and display data in the most appropriate graph. - Compare observed frequencies across experiments with expected frequencies. - Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables. - Interpret secondary data.	- Use appropriate ratio and proportion vocabulary. - Identify ratios in collections and make connections to fractions. - Use multiplication and division to identify ratios and solve problems. - Use proportion to manipulate quantities and calculate discounts. - Solve problems involving scale factors.	- Solve problems involving unknown input and output amounts. - Form and solve expressions. - Solve equations where there is one or more unknown amounts. - Create formula from linear patterns. - Identify value pairs. - Solve formulae with two unknowns.

Place Value

Objectives	Awesomenicity Lessons
• Read, write, compare and order whole numbers up to the millions. • Investigate and identify properties of prime, composite, square and triangular numbers. **Note, prime and composite are explored in multiplication.* • Understand and use powers of ten. • Explore real-life situations that use integers and decimals and locate and represent these on a number line. • Round to the nearest 10, 100, 1,000 and beyond. • Round decimals to the nearest tenth, hundredth and whole number. • Use the order of operations (PEMDAS) to write number sentences.	Lesson 1: Let's recap place value and expanding numbers Lesson 2: Let's compare large numbers Lesson 3: Let's round to the nearest 10, 100, 1,000 and 10,000 Lesson 4: Let's order decimals Lesson 5: Let's continue to order decimals Lesson 6: Let's label decimals on a number line Lesson 7: Let's round to the nearest whole number Lesson 8: Let's round to the nearest tenth or hundredth Lesson 9: Let's explore powers of ten Lesson 10: Let's explore square numbers Lesson 11: Let's explore the order of operations Lesson 12: Let's explore negative numbers Lesson 13: Let's explore triangular numbers
Consolidation and assessment.	Lesson 14: Let's solve place value puzzles Lesson 15: Let's show what we know! (Assessment)

Addition & Subtraction

Objectives	Awesomenicity Lessons
• Choose and apply effective mental and written strategies to solve addition and subtraction. • Develop mental and written strategies to add and subtract decimal amounts. • Use rounding, inverse operations or other strategies to check answers. • Solve word problems that involve addition and subtraction using a range of strategies.	Lesson 1: Let's use bump strategy to add mentally Lesson 2: Let's use bump strategy to subtract mentally Lesson 3: Let's apply bump strategy to add and subtract Lesson 4: Let's use split strategy to add decimals Lesson 5: Let's use split strategy to subtract tenths Lesson 6: Let's use compensation strategy to add decimals Lesson 7: Let's use compensation strategy to subtract decimals Lesson 8: Let's add decimals using written methods Lesson 9: Let's use column method to subtract decimals Lesson 10: Let's add and subtract decimals Lesson 11: Let's estimate and budget Lesson 12: Let's use addition & subtraction problem-solving Lesson 13: Let's solve word problems Lesson 14: Let's apply problem solving skills (Escape Room)
Consolidation and assessment.	Lesson 15: Let's show what we know! (Assessment)

Multiplication

Objectives	Awesomenicity Lessons
• Apply times table patterns and strategies to recall multiplication facts. • Investigate multiples, factors and common factors, including prime and composite numbers. • Multiply and divide by 10, 100 and 1,000. • Explore number flexibility and find creative strategies to multiply large numbers. • Develop efficient mental and written strategies to multiply decimals and whole numbers. • Solve word problems involving the multiplication of whole numbers and/or decimals.	Lesson 1: Applying times table strategies Lesson 2: Investigating factors and number flexibility Lesson 3: Identifying factors and multiples Lesson 4: Finding common factors Lesson 5: Multiplying and dividing by 10, 100 and 1,000 Lesson 6: Explore creative ways to multiply Lesson 7: Introduction to grid method Lesson 8: Applying grid method Lesson 9: Introduction to partial product strategy Lesson 10: Apply partial product strategy Lesson 11: Introduction to short multiplication Lesson 12: Solve multiplication word problems Lesson 13: Introduction to multiplying decimals Lesson 14: Multiplying decimals Lesson 15: Solve multiplication word problems (decimal amounts) Lesson 16: Applying multiplication and problem-solving skills
Consolidation and assessment.	Lesson 17: Multiplication Assessment

Division

Objectives	Awesomenicity Lessons
• Identify rules of divisibility. • Use multiplication to divide. • Develop efficient mental and written strategies to multiply integers and decimal amounts. • Divide by whole numbers where the results are terminating decimals. • Solve word problems involving multiplying and dividing whole numbers and decimals.	Lesson 1: Exploring divisibility Lesson 2: Applying inverse operations Lesson 3: Applying problem solving skills Lesson 4: Dividing larger numbers using chunking strategy Lesson 5: Applying chunking strategy to divide larger numbers Lesson 6: Using long division to divide larger numbers Lesson 7: Intro to dividing decimals Lesson 8: Applying long division to divide decimals Lesson 9: Using short division to divide large numbers Lesson 10: Applying short division to problem-solve Lesson 11: Creating and solving division word problems Lesson 12: Use factors to divide Lesson 13: Using long division to divide by 2-digit divisors
Consolidation and assessment.	Lesson 14: Division Assessment

Fractions

Objectives	Awesomenicity Lessons
• Identify equivalent fractions. • Find fractions of amounts. • Compare fractions using the lowest common multiple. • Convert improper fractions to mixed numbers and vice versa. • Add and subtract fractions, including mixed numbers and improper fractions. • Investigate the connection between fractions, decimals and percentages. • Convert and order fractions, decimals and percentages. • Investigate and calculate percentage discounts.	Lesson 1: Identifying fractions Lesson 2: Create equivalent fractions Lesson 3: Simplifying fractions Lesson 4: Identifying equivalent fractions Lesson 5: Comparing fractions Lesson 6: Apply comparing fraction knowledge Lesson 7: Find fractions of amounts Lesson 8: Problem-solve with fractions of amounts Lesson 9: Converting improper fractions into mixed numbers Lesson 10: Adding and subtracting fractions Lesson 11: Adding and subtracting fractions #2 Lesson 12: Connecting fractions to decimals and percentages Lesson 13: Connecting between fractions, decimals and percentages Lesson 14: Converting fractions into decimals Lesson 15: Ordering decimals, fractions and percentages Lesson 16: Calculating discounted prices using percentages Lesson 17: Calculating percentages and problem-solving Lesson 18: Multiplying fractions & mixed numbers by whole numbers Lesson 19: Multiplying fractions Lesson 20: Dividing fractions by integers
Consolidation and assessment.	Lesson 21: Fractions Assessment

Measurement

Objectives	Awesomenicity Lessons
• Connect decimals and fractions to measurement. • Read and interpret scales on a range of measuring instruments. • Convert between common units of length, mass and capacity. • Solve problems involving the comparison of length, mass and capacity. • Problem solve using the perimeter and area of compound shapes and triangles. • Connect volume and capacity. • Interpret and use timetables.	Lesson 1: Identifying different types of measurement Lesson 2: Measuring length with accuracy Lesson 3: Measuring length and converting between units Lesson 4: Identifying scale and exploring capacity Lesson 5: Introduction to mass Lesson 6: Measurement problem-solving Lesson 7: Calculate perimeter of compound shapes Lesson 8: Calculating the area of compound shapes Lesson 9: Calculating the area of triangles Lesson 10: Calculating the area and perimeter of parallelograms Lesson 11: Exploring volume Lesson 12: Applying understanding of volume Lesson 13: Metric Olympics!
Consolidation and assessment.	Lesson 14: Measurement Assessment

Shape and Space

Objectives	Awesomenicity Lessons
• Create simple prisms and pyramids and make real-world connections. • Explore translations, reflections and rotations. • Graph and interpret coordinates using all four quadrants of the Cartesian coordinate system. • Find unknown angles using angles on a straight line, at a point and vertically-opposite angles.	Lesson 1: Identifying and measuring angles Lesson 2: Calculating angles Lesson 3: Classifying triangles and measuring their angles Lesson 4: Making connections between quadrilaterals Lesson 5: Finding missing angles Lesson 6: Investigating circle vocabulary connections Lesson 7: Constructing cuboids from nets Lesson 8: Creating nets and constructing cuboids Lesson 9: Locating and plotting coordinates Lesson 10: Plotting coordinates Lesson 11: Translating shapes on a grid Lesson 12: Reflecting shapes Lesson 13: Making & describing translations
Consolidation and assessment.	Lesson 14: Shape and Space Assessment

Statistics, Probability and Data Handling

Objectives	Awesomenicity Lessons
• Use fractions, percentages and decimals to describe probability. • Create experiments using chance and collect, record and display data in the most appropriate graph. • Compare observed frequencies across experiments with expected frequencies. • Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables. • Interpret secondary data.	Lesson 1: Identifying and measuring angles Lesson 2: Interpreting pie graphs Lesson 3: Drawing pie graphs Lesson 4: Gathering and presenting data Lesson 5: Calculating mean average Lesson 6: Mean, mode, median and range Lesson 7: Exploring timetables Lesson 8: Exploring probability Lesson 9: Using probability to make predictions Lesson 10: Applying probability
Consolidation and assessment.	Lesson 11: Statistics, Probability and Data Assessment

Ratio and Proportion

Objectives	Awesomenicity Lessons
• Use appropriate ratio and proportion vocabulary. • Identify ratios in collections and make connections to fractions. • Use multiplication and division to identify ratios and solve problems. • Use proportion to manipulate quantities and calculate discounts. • Solve problems involving scale factors.	Lesson 1: Intro to ratio vocabulary Lesson 2: Identifying ratio and fractions Lesson 3: Solving ratio problems Lesson 4: Solving proportion problems Lesson 5: Using proportion to manipulate quantities Lesson 6: Introducing scale factor
Consolidation and assessment.	Lesson 7: Ratio and Proportion Assessment

Algebra

Objectives	Awesomenicity Lessons
• Solve problems involving unknown input and output amounts. • Form and solve expressions. • Solve equations where there is one or more unknown amounts. • Create formula from linear patterns. • Identify value pairs. • Solve formulae with two unknowns.	Lesson 1: Exploring input and outputs Lesson 2: Solving 2-step input/output functions Lesson 3: Forming Expressions Lesson 4: Solving Equations Lesson 5: Introduction to applying formulae Lesson 6: Creating formulae from linear patterns Lesson 7: Finding Value Pairs Lesson 8: Solve formulae with two unknowns
Consolidation and assessment.	Lesson 9: Algebra Assessment

awesomenicity

G5/Y6 Checklist

Number

Objectives	✓
Read, write, compare and order whole numbers up to the millions.	
Investigate and identify properties of prime, composite, square and triangular numbers.	
Understand and use powers of ten.	
Explore real-life situations that use integers and decimals and locate and represent these on a number line.	
Round to the nearest 10, 100, 1,000 and beyond.	
Round decimals to the nearest tenth, hundredth and whole number.	
Use the order of operations (PEMDAS) to write number sentences.	

Addition

Objectives	✓
Choose and apply effective mental and written strategies to solve addition.	
Choose and apply effective mental and written strategies to solve addition.	
Develop mental and written strategies to add decimal amounts.	
Use rounding, subtraction or other addition strategies to check answers.	
Solve addition word problems using a range of strategies.	

Subtraction

Objectives	✓
Choose and apply effective mental and written strategies to solve subtraction.	
Develop mental and written strategies to subtract decimal amounts.	
Use rounding, addition or other subtraction strategies to check answers.	
Solve word problems that involve addition and subtraction using a range of strategies.	

awesomenicity

G5/Y6 Checklist

Multiplication

Objectives	✓
Apply times table patterns and strategies to recall multiplication facts.	
Investigate multiples, factors and common factors, including prime and composite numbers.	
Multiply and divide by 10, 100 and 1,000.	
Explore number flexibility and find creative strategies to multiply large numbers.	
Develop efficient mental and written strategies to multiply decimals and whole numbers.	
Solve word problems involving the multiplication of whole numbers and/or decimals.	

Division

Objectives	✓
Identify rules of divisibility.	
Use multiplication to divide.	
Develop efficient mental and written strategies to multiply integers and decimal amounts.	
Divide by whole numbers where the results are terminating decimals.	
Solve word problems involving multiplying and dividing whole numbers and decimals.	

Fractions

Objectives	✓
Identify equivalent fractions.	
Find fractions of amounts.	
Compare fractions using the lowest common multiple.	
Convert improper fractions to mixed numbers and vice versa.	
Add and subtract fractions, including mixed numbers and improper fractions.	
Investigate the connection between fractions, decimals and percentages.	
Convert and order fractions, decimals and percentages.	
Investigate and calculate percentage discounts.	

awesomenicity

G5/Y6 Checklist

Measurement

Objectives	✓
Connect decimals and fractions to measurement.	
Read and interpret scales on a range of measuring instruments.	
Convert between common units of length, mass and capacity.	
Solve problems involving the comparison of length, mass and capacity.	
Problem solve using the perimeter and area of compound shapes and triangles.	
Connect volume and capacity.	

Space and Shape

Objectives	✓
Create simple prisms and pyramids and make real-world connections.	
Explore translations, reflections and rotations.	
Graph and interpret coordinates using all four quadrants of the Cartesian coordinate system.	
Find unknown angles using angles on a straight line, at a point and vertically-opposite angles.	

Statistics, Probability & Data Handling

Objectives	✓
Use fractions, percentages and decimals to describe probability.	
Create experiments using chance and collect, record and display data in the most appropriate graph.	
Compare observed frequencies across experiments with expected frequencies.	
Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables.	
Interpret secondary data.	
Interpret and use timetables.	

awesomenicity

G5/Y6 Checklist

Ratio and Proportion

Objectives	✓
Use appropriate ratio and proportion vocabulary.	
Identify ratios in collections and make connections to fractions.	
Use multiplication and division to identify ratios and solve problems.	
Use proportion to manipulate quantities and calculate discounts.	
Solve problems involving scale factors.	

Algebra

Objectives	✓
Solve problems involving unknown input and output amounts.	
Form and solve expressions.	
Solve equations where there is one or more unknown amounts.	
Create formula from linear patterns.	
Identify value pairs.	
Solve formulae with two unknowns.	

awesomenicity