# Grade 4/Year 5
# Scope and Sequence

## Contents



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# G4/Y5 Overview

| Number | Addition | Subtraction | Multiplication | Division |
|---|---|---|---|---|
| - Read, write, and order whole numbers beyond the hundred thousands using base ten numerals, number names, and expanded form.<br>- Recognise that the place value system can extend beyond hundredths.<br>- Compare, order and represent decimals to at least the hundredths.<br>- Round numbers to the nearest 10, 100 and 1,000. | - Develop effective mental strategies for manipulating and adding numbers with and without regrouping (exchanging).<br>- Utilise effective written strategies for adding large numbers with and without regrouping.<br>- Add decimals to at least the hundredths with and without regrouping.<br>- Use rounding and other strategies to check for reasonableness of answers.<br>- Solve addition word problems using a range of strategies. | - Develop effective mental strategies for manipulating and subtracting numbers with and without regrouping.<br>- Gain a conceptual understanding of the process of regrouping (exchanging).<br>- Utilise effective written strategies to subtract large numbers with and without regrouping.<br>- Subtract decimal amounts to at least the hundredths with and without regrouping.<br>- Use addition, rounding and other strategies to check for reasonableness of answers.<br>- Solve word problems involving addition and subtraction using a range of strategies. | - Investigate multiples and make connections between multiples and factors.<br>- Investigate factors, including finding common factors.<br>- Use multiplication vocabulary.<br>- Use place value to multiply by multiples of 10, 100 and 1,000.<br>- Multiply by multiples of 10 using flexible thinking.<br>- Develop and apply mental and written strategies to multiply larger numbers.<br>- Solve one and multi-step word problems involving multiplication. | - Use division vocabulary.<br>- Explore equal groups and division involving remainders.<br>- Use inverse operations to divide and verify answers.<br>- Divide by 10, 100 and 1,000 using place value.<br>- Develop and apply mental and written strategies to divide.<br>- Use multiplication and a range of division strategies to solve word problems. |

| Fractions | Measurement | Shape and Space | Statistics, Probability & Data Handling |
|---|---|---|---|
| - Connect fractions to real life scenarios.<br>- Use fraction vocabulary.<br>- Identify equivalent fractions.<br>- Compare fractions with unlike denominators using lowest common multiples.<br>- Simplify fractions.<br>- Calculate fractions of amounts.<br>- Add and subtract fractions with unlike denominators (including mixed numbers & improper fractions).<br>- Convert improper fractions into mixed numbers.<br>- Make connections between fractions, decimals and percentages. | - Identify and choose appropriate units of measurement.<br>- Measure and convert units of distance, such as mm, cm, m and km.<br>- Calculate the perimeter and area of compound shapes.<br>- Measure and convert units of capacity.<br>- Measure and convert units of mass.<br>- Find and read the scale of various measuring instruments. | - Connect 3D objects with their nets and 2D representations.<br>- Describe locations using a grid reference system.<br>- Employ directional language and use landmarks to describe routes.<br>- Describe translations, reflections and rotations of 2D shapes.<br>- Identify line and rotational symmetries.<br>- Use enlargement transformation with 2D shapes and describe and compare the properties of the enlarged result with the original.<br>- Estimate, measure and compare lines and angles using geometric vocabulary and a protractor. | - Pose questions and collect data by observation or survey.<br>- Choose appropriate scales and construct appropriate displays, graphs, dot plots and tables to represent data.<br>- Use fractions, percentages and/or scales to describe outcomes of chance experiments involving equally likely outcomes.<br>- Recognise that probabilities range from 0 to 1<br>- Describe and interpret different data sets in context.<br>- Use mode, mean, median and range as a way of summarising data. |

# Place Value

| Objectives | Awesomenicity Lessons |
| --- | --- |
| • Read, write, and order whole numbers beyond the hundred thousands using base ten numerals, number names, and expanded form.<br>• Recognise that the place value system can extend beyond hundredths.<br>• Compare, order and represent decimals to at least the hundredths.<br>• Round numbers to the nearest 10, 100 and 1,000. | Lesson 1: **Exploring place value**<br>Lesson 2: **Identifying the value of digits (expanding numbers)**<br>Lesson 3: **Applying expanding form**<br>Lesson 4: **Comparing numbers**<br>Lesson 5: **Writing numbers in written form (No. 1)**<br>Lesson 6: **Writing numbers in written form (No. 2)**<br>Lesson 7: **Applying place value knowledge**<br>Lesson 8: **Rounding numbers to the nearest 10, 100 and 1,000**<br>Lesson 9: **Applying rounding skills**<br>Lesson 10: **Introduction to decimals - tenths and hundredths**<br>Lesson 11: **Introduction to decimals - thousandths**<br>Lesson 12: **Rounding to the nearest whole number**<br>Lesson 13: **Problem-Solving and Consolidation** |
| Consolidation and assessment. | Lesson 14: **Place Value Assessment** |

# Addition & Subtraction

| Objectives | Awesomenicity Lessons |
| --- | --- |
| • Develop effective mental strategies for manipulating, adding, and subtracting numbers with and without regrouping (exchanging).<br>• Gain a conceptual understanding of the process of regrouping.<br>• Utilise effective written strategies for adding and subtracting large numbers with and without regrouping.<br>• Add and subtract decimals to at least the hundredths.<br>• Use inverse operations, rounding and other strategies to check for reasonableness of answers.<br>• Solve addition and subtraction word problems using a range of strategies. | Lesson 1: **Explore mental addition strategies**<br>Lesson 2: **Adding using bump strategy**<br>Lesson 3: **Introduction to compensation strategy**<br>Lesson 4: **Using rounding and mental strategies to problem-solve**<br>Lesson 5: **Using jump & split strategy to subtract mentally**<br>Lesson 6: **Intro to bump strategy subtraction**<br>Lesson 7: **Introduction to subtraction compensation strategy**<br>Lesson 8: **Applying subtraction strategies in a game**<br>Lesson 9: **Adding multi-digit numbers using column addition**<br>Lesson 10: **Introduction to adding decimals**<br>Lesson 11: **Use column method to investigate adding decimals**<br>Lesson 12: **Using REPS to apply problem-solving skills**<br>Lesson 13: **Use column method to subtract multi-digit numbers**<br>Lesson 14: **Introduction to subtracting decimals using column subtraction**<br>Lesson 15: **Investigation using addition and subtraction with decimals** |
| Consolidation and assessment. | Lesson 16: **Solving word problems**<br>Lesson 17: **Using strategies to problem-solve**<br>Lesson 18: **Addition and Subtraction Assessment** |

# Multiplication & Division Part A

| Objectives | Awesomenicity Lessons |
| --- | --- |
| • Investigate multiples and make connections between multiples and factors.<br>• Investigate factors, including finding common factors.<br>• Use multiplication vocabulary.<br>• Use division vocabulary.<br>• Explore equal groups and division involving remainders.<br>• Use inverse operations to multiply, divide and verify answers.<br>• Use place value to multiply and divide by multiples of 10, 100 and 1,000. | Lesson 1: **Applying times table strategies**<br>Lesson 2: **Investigating multiples**<br>Lesson 3: **Investigating factors**<br>Lesson 4: **Identifying common factors**<br>Lesson 5: **Investigating factors and multiples**<br>Lesson 6: **Using division to make equal groups**<br>Lesson 7: **Identifying remainders**<br>Lesson 8: **Using inverse operations to divide**<br>Lesson 9: **Multiply and divide by 10, 100 and 1,000**<br>Lesson 10: **Applying x and ÷ by 10, 100 and 1,000** |
| Consolidation and assessment. | Lesson 11: **Part A Assessment** |

Multiplication & Division Part A

# Multiplication & Division Part B

| Objectives | Awesomenicity Lessons |
| --- | --- |
| • Multiply by multiples of 10 using flexible thinking.<br>• Develop and apply mental and written strategies to multiply and divide larger numbers.<br>• Solve one and multi-step word problems involving multiplication and division. | Lesson 1: **Multiply multiples of 10 and 100**<br>Lesson 2: **Multiply up to 4-digit numbers**<br>Lesson 3: **Use grid method to multiply**<br>Lesson 4: **Exploring creative ways to multiply**<br>Lesson 5: **Learning partial product strategy**<br>Lesson 6: **Applying partial product strategy**<br>Lesson 7: **Learning short multiplication**<br>Lesson 8: **Applying short multiplication**<br>Lesson 9: **Solving word problems**<br>Lesson 10: **Learning jump strategy division**<br>Lesson 11: **Applying jump strategy**<br>Lesson 12: **Learning chunking strategy to divide**<br>Lesson 13: **Applying chunking strategy**<br>Lesson 14: **Exploring divisibility**<br>Lesson 15: **Learning long division**<br>Lesson 16: **Dividing 4-digit dividends**<br>Lesson 17: **Using REPs to solve word problems** |
| Consolidation and assessment. | Lesson 18: **Applying problem-solving skills**<br>Lesson 19: **X and ÷ Part B Assessment** |

Multiplication & Division Part B

# Fractions

| Objectives | Awesomenicity Lessons |
| --- | --- |
| • Connect fractions to real life scenarios.<br>• Use fraction vocabulary.<br>• Identify equivalent fractions.<br>• Compare fractions with unlike denominators using lowest common multiples.<br>• Simplify fractions.<br>• Calculate fractions of amounts.<br>• Add and subtract fractions with unlike denominators (including mixed numbers & improper fractions).<br>• Convert improper fractions into mixed numbers.<br>• Make connections between fractions, decimals and percentages. | Lesson 1: **Identifying fractions in real life**<br>Lesson 2: **Exploring and identifying equivalent fractions**<br>Lesson 3: **Create Equivalent Fractions**<br>Lesson 4: **Introduction to simplifying fractions**<br>Lesson 5: **Simplifying fractions**<br>Lesson 6: **Simplifying fractions**<br>Lesson 7: **Comparing fractions**<br>Lesson 8: **Apply comparing fraction knowledge**<br>Lesson 9: **Calculate fractions of amounts**<br>Lesson 10: **Lesson 10: Problem-solve with fractions of amounts**<br>Lesson 11: **Exploring mixed numbers and improper fractions**<br>Lesson 12: **Converting improper fractions into mixed numbers**<br>Lesson 13: **Add and subtract fractions with unlike denominators**<br>Lesson 14: **Solve fraction puzzles**<br>Lesson 15: **Connecting fractions to decimals and percentages**<br>Lesson 16: **Making connections between fractions, decimals and percentages**<br>Lesson 17: **Multiplying fractions by whole numbers** |
| Consolidation and assessment. | Lesson 18: **Fractions Assessment** |

Fractions

# Measurement

| Objectives | Awesomenicity Lessons |
| --- | --- |
| • Identify and choose appropriate units of measurement.<br>• Measure and convert units of distance, such as mm, cm, m and km.<br>• Calculate the perimeter and area of compound shapes.<br>• Measure and convert units of capacity.<br>• Measure and convert units of mass.<br>• Find and read the scale of various measuring instruments. | Lesson 1: **Identifying different units of measurement**<br>Lesson 2: **Converting centimetres and millimetres**<br>Lesson 3: **Converting units of length**<br>Lesson 4: **Calculating perimeter**<br>Lesson 5: **Calculating perimeter using compound shapes**<br>Lesson 6: **Calculating the area of rectangles**<br>Lesson 7: **Calculating the area of compound shapes**<br>Lesson 8: **Introduction to capacity/volume**<br>Lesson 9: **Introduction to mass**<br>Lesson 10: **Solving measurement word problems**<br>Lesson 11: **Metric Olympics!** |
| Consolidation and assessment. | Lesson 15: **Measurement Assessment** |

# Shape and Space

| Objectives | Awesomenicity Lessons |
| --- | --- |
| • Connect 3D objects with their nets and 2D representations.<br>• Describe locations using a grid reference system.<br>• Employ directional language and use landmarks to describe routes.<br>• Describe translations, reflections and rotations of 2D shapes.<br>• Identify line and rotational symmetries.<br>• Use enlargement transformation with 2D shapes and describe and compare the properties of the enlarged result with the original.<br>• Estimate, measure and compare lines and angles using geometric vocabulary and a protractor. | Lesson 1: **Introduction to angles**<br>Lesson 2: **Measuring angles**<br>Lesson 3: **Calculating angles**<br>Lesson 4: **Drawing angles**<br>Lesson 5: **Using lines to draw 2D shapes**<br>Lesson 6: **Constructing and identifying 3D shapes**<br>Lesson 7: **Using nets to make 3D shapes**<br>Lesson 8: **Locating and plotting coordinates**<br>Lesson 9: **Plotting coordinates**<br>Lesson 10: **Translating shapes on a grid**<br>Lesson 11: **Making & describing translations**<br>Lesson 12: **Identifying lines of symmetry**<br>Lesson 13: **Reflecting shapes** |
| Consolidation and assessment. | Lesson 14: **Shape and Space Assessment** |

# Statistics, Probability and Data

| Objectives | Awesomenicity Lessons |
| --- | --- |
| • Pose questions and collect data by observation or survey.<br>• Choose appropriate scales and construct appropriate displays, graphs, dot plots and tables to represent data.<br>• Use fractions, percentages and/or scales to describe outcomes of chance experiments involving equally likely outcomes.<br>• Recognise that probabilities range from 0 to 1<br>• Describe and interpret different data sets in context.<br>• Use mode, mean, median and range as a way of summarising data. | Lesson 1: **Interpreting graphs**<br>Lesson 2: **Creating line graphs**<br>Lesson 3: **Gathering and presenting data**<br>Lesson 4: **Calculating mean averages**<br>Lesson 5: **Mean, mode, median and range**<br>Lesson 6: **Introduction to chance and probability**<br>Lesson 7: **Using probability to make predictions** |
| Consolidation and assessment. | Lesson 8: **Statistics, Probability and Data Assessment** |

# Time

| Objectives | Awesomenicity Lessons |
| --- | --- |
| • Measure and convert between units of time.<br>• Convert between 12 and 24 hour time.<br>• Calculate elapsed time. | Lesson 1: **Converting between units of time**<br>Lesson 2: **Converting 24 hour time**<br>Lesson 3: **Calculating elapsed time**<br>Lesson 4: **Reading timetables** |
| Consolidation and assessment. | Lesson 5: **Time Summative Assessment** |

# G4/Y5 Checklist

## Number

| Objectives | ✅ |
|---|---|
| Read, write, and order whole numbers beyond the hundred thousands using base ten numerals, number names, and expanded form. | |
| Recognise that the place value system can extend beyond hundredths. | |
| Compare, order and represent decimals to at least the hundredths. | |
| Round numbers to the nearest 10, 100 and 1,000. | |

## Addition

| Objectives | ✅ |
|---|---|
| Develop effective mental strategies for manipulating and adding numbers with and without regrouping. | |
| Utilise effective written strategies for adding large numbers with and without regrouping. | |
| Add decimals to at least the hundredths with and without regrouping. | |
| Use rounding and other strategies to check for reasonableness of answers. | |
| Solve addition word problems using a range of strategies. | |

## Subtraction

| Objectives | ✅ |
|---|---|
| Develop effective mental strategies for manipulating and subtracting numbers with and without regrouping. | |
| Gain a conceptual understanding of the process of regrouping. | |
| Utilise effective written strategies to subtract large numbers with and without regrouping. | |
| Subtract decimal amounts to at least the hundredths with and without regrouping. | |
| Use addition, rounding and other strategies to check for reasonableness of answers. | |
| Solve word problems involving addition and subtraction using a range of strategies. | |

# G4/Y5 Checklist

## Multiplication

| Objectives | ✅ |
|---|---|
| Investigate multiples and make connections between multiples and factors. | |
| Investigate factors, including finding common factors. | |
| Use multiplication vocabulary. | |
| Use place value to multiply by multiples of 10, 100 and 1,000. | |
| Multiply by multiples of 10 using flexible thinking. | |
| Develop and apply mental and written strategies to multiply larger numbers. | |
| Solve one and multi-step word problems involving multiplication. | |

## Division

| Objectives | ✅ |
|---|---|
| Use division vocabulary. | |
| Explore equal groups and division involving remainders. | |
| Use inverse operations to divide and verify answers. | |
| Divide by 10, 100 and 1,000 using place value. | |
| Develop and apply mental and written strategies to divide. | |
| Use multiplication and a range of division strategies to solve word problems. | |

## Fractions

| Objectives | ✅ |
|---|---|
| Connect fractions to real life scenarios. | |
| Use fraction vocabulary. | |
| Identify equivalent fractions. | |
| Compare fractions with unlike denominators using lowest common multiples. | |
| Simplify fractions. | |
| Calculate fractions of amounts. | |
| Add and subtract fractions with unlike denominators (including mixed numbers & improper fractions). | |
| Convert improper fractions into mixed numbers. | |
| Make connections between fractions, decimals and percentages. | |

# G4/Y5 Checklist

## Measurement

| Objectives | ✅ |
|---|---|
| Identify and choose appropriate units of measurement. | |
| Measure and convert units of length, such as mm, cm, m and km. | |
| Calculate the perimeter and area of compound shapes. | |
| Measure and convert units of capacity. | |
| Measure and convert units of mass. | |
| Find and read the scale of various measuring instruments. | |

## Space and Shape

| Objectives | ✅ |
|---|---|
| Connect 3D objects with their nets and 2D representations. | |
| Describe locations using a grid reference system. | |
| Employ directional language and use landmarks to describe routes. | |
| Describe translations, reflections and rotations of 2D shapes. | |
| Identify line and rotational symmetries. | |
| Use enlargement transformation with 2D shapes and describe and compare the properties of the enlarged result with the original. | |
| Estimate, measure and compare lines and angles using geometric vocabulary and a protractor. | |

## Statistics, Probability & Data Handling

| Objectives | ✅ |
|---|---|
| Pose questions and collect data by observation or survey. | |
| Choose appropriate scales and construct appropriate displays, graphs, dot plots and tables to represent data. | |
| Use fractions, percentages and/or scales to describe outcomes of chance experiments involving equally likely outcomes. | |
| Recognise that probabilities range from 0 to 1. | |
| Describe and interpret different data sets in context. | |
| Use mode, mean, median and range as a way of summarising data. | |

# Every child deserves to feel awesome about maths

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