# Rounding and Ordering Numbers: Maths : Year 4 : Summer Term

**PlanBee**

| | Learning Objective | Overview | Assessment Questions | Resources |
|---|---|---|---|---|
| **Lesson 1** | To be able to count in multiples of 6, 7, 9, 25 and 1000. | Children will look at sequences of numbers where the value increases/decreases by a fixed amount, then complete missing number sequences. | • Can children identify place value in four-digit numbers? <br>• Can children order numbers? <br>• Can children continue a sequence of numbers? | • Slides <br>• Worksheet 1A/1B/1C/1D <br>• Number Cards (FSD? activity only) <br>• Sequence Cards (FSD? activity only) <br>• Multiples Cards (Plenary only) |
| **Lesson 2** | To round any number to the nearest 10, 100 or 1000. | Children will round two-, three- and four-digit numbers to the nearest ten, hundred and thousand. | • Can children round numbers to the nearest ten? <br>• Can children round numbers to the nearest hundred? <br>• Can children round numbers to the nearest thousand? | • Slides <br>• Worksheet 2A/2B/2C <br>• Board Game Sheet (FSD? activity only) <br>• Number Cards 10/100/1000 (FSD? activity only) <br>• Whiteboards, counters, timers, dice (FSD? activity only) |
| **Lesson 3** | To identify and represent numbers. | Children will consider the various ways in which two-, three- and four digit numbers can be represented, e.g. using symbols and pictures, or money. | • Can the children use objects to represent numbers? <br>• Can the children use symbols to represent numbers? <br>• Can the children use objects or symbols to represent number sentences? | • Slides <br>• Challenge Cards A/B/C/D/E/F <br>• Objects <br>• Number Cards A/B (FSD? activity only) <br>• Whiteboards or paper (FSD? activity only) |
| **Lesson 4** | To identify, represent and estimate numbers using different representations | Children will consider why being able to order and estimate is useful when working with different measures such as those used to measure weight or volume. They will use a variety of measuring equipment to practise these skills. | • Can the children estimate the mass of an object? <br>• Can the children estimate the volume of a liquid? <br>• Can the children check their measurements accurately? | • Slides <br>• Worksheet 4A/4B/4C <br>• Challenge Cards A/B (FSD? activity only) <br>• A variety of analogue and digital weighing scales (FSD? activity only) <br>• A variety of measuring jugs (FSD? activity only) |
| **Lesson 5** | To solve problems involving counting in multiples, identifying, representing, estimating and rounding numbers. | Children will use their developing skills for ordering, rounding and estimating numbers — including ordering multiples of numbers — by solving problems. | • Can the children solve problems involving multiples? <br>• Can the children solve problems involving estimating? <br>• Can the children solve problems involving rounding numbers? | • Slides <br>• Worksheet 5A/5B/5C <br>• Product Cards <br>• Stock Cards (FSD? activity only) |

*NB: 'FSD? Activity only' refers to the alternative 'Fancy Something Different...?' activity within the lesson plan*

# Using Addition and Subtraction 1: Maths : Year 4 : Summer Term

**PlanBee**

| | Learning Objective | Overview | Assessment Questions | Resources |
|---|---|---|---|---|
| **Lesson 1** | To recap on how to use the formal method for addition | In this first lesson, children will recap on their knowledge and understanding of the formal column method for addition. They will solve number sentences which involve carrying from one column to another. Children will also estimate their answers prior to working them out by rounding the addends to the nearest ten or hundred, and will understand how this is helpful for checking results. | • Can children use their rounding skills to estimate and check an answer?<br>• Can children use the formal method for addition to solve HTO + HTO and ThHTO + ThHTO?<br>• Can children use the formal method for addition to solve HTO + HTO and ThHTO + ThHTO including carrying? | • Slides<br>• Results Cards A/B/C<br>• Worksheet 1A/1B/1C<br>• Who Scored What? Sheets A/B/C (FSD? activity only) |
| **Lesson 2** | To use the formal method for addition, including carrying more than once | Children solve additions using the formal column method where carrying is needed more than once. They will understand that the digits they are carrying represent either tens or hundreds. Children will then progress to adding three 3-digit numbers together. In their independent activities, they will apply this knowledge to work out who has won the gold, silver and bronze medals for different sports day events. | • Can children use the formal method for addition to solve HTO + HTO where carrying is needed more than once?<br>• Can children add three and four HTO numbers together using the formal method?<br>• Can children explain their methods clearly? | • Slides<br>• Score Cards A/B/C<br>• Gold, Silver or Bronze? Worksheet A/B/C<br>• HiLo Game Cards (FSD? activity only)<br>• HiLo Game Cube (FSD? activity only)<br>• HiLo Game Instructions Cards (FSD? activity only)<br>• HiLo Game Score Cards (FSD? activity only) |
| **Lesson 3** | To recap on how to use the formal method for subtraction | To begin, children will recap on their knowledge and understanding of the formal method for subtraction. They will estimate their answers by rounding to the nearest 100 before calculating the actual answer. Children will solve number sentences which involve one exchange from the tens or the hundreds column, and explain what happens to the numbers when an exchange is needed. | • Can children use their rounding skills to estimate and check an answer?<br>• Can children use the formal method for subtraction to solve HTO - HTO and ThHTO - ThHTO?<br>• Can children use the formal method for subtraction to solve HTO - HTO and ThHTO - ThHTO including exchanging? | • Slides<br>• Worksheet 3A/3B/3C<br>• Egg & Spoon Race Clue Cards A/B (FSD? activity only)<br>• Egg & Spoon Race Calculation Sheet A/B (FSD? activity only) |
| **Lesson 4** | To use the formal method for subtraction, including exchanging more than once | In this lesson, will children continue to develop their understanding of the column method for subtraction. They will solve number sentences where exchanging is needed more than once, and where one or more of the digits in the larger number is zero. In their independent activities, children will sort true and false statements by finding the difference between two team's scores. Alternatively, they will create a 'personal best' score by solving questions that are levelled according to difficulty, and adding up the points they achieve from each correct answer. | • Can children identify errors in completed column methods for subtraction?<br>• Can children use the formal method for subtraction to solve HTO - HTO and ThHTO - ThHTO including more than one exchange?<br>• Can children explain when and why they exchange in a column subtraction? | • Slides<br>• Team Results Cards<br>• Worksheet 4A/4B/4C<br>• Personal Best Challenge Sheet (FSD? activity only) |
| **Lesson 5** | To solve addition and subtraction word problems using the column method | In this final lesson, children will apply their knowledge and understanding of the formal column method for both addition and subtraction by solving a range of one- and two-step word problems. They will play a board game where they have to answer word problems to gain bronze, silver then gold medals in different events. Alternatively, children will take part in an orienteering challenge where they need to find and answer questions in the correct order! | • Can children identify the operation needed to solve a word problem?<br>• Can children estimate an answer using rounding before solving with the formal column method?<br>• Can children use the formal column method to solve addition and subtraction word problems? | • Slides<br>• Quadrathlon Game Board<br>• Question Cards A/B/C<br>• Medals Sheet<br>• Blank Calculations Sheet, Dice, Counters<br>• Orienteering Answer Sheet A/B/C/D/E/F (FSD? activity only)<br>• Orienteering Question Posters (FSD? activity only) |

*NB: 'FSD? Activity only' refers to the alternative 'Fancy Something Different…?' activity within the lesson plan*   **www.planbee.com**

# Using Addition and Subtraction 2: Maths : Year 4 : Summer Term

| | Learning Objective | Overview | Assessment Questions | Resources |
|---|---|---|---|---|
| **Lesson 1** | To use the inverse operation to check calculations | In this first lesson, children will recap on what 'inverse' means, and how they can use it to check answers to addition and subtraction problems. They will understand how to identify if an answer is correct or incorrect based on the answer the inverse gives. Children will also learn the correct terms for the numbers that they are adding and subtracting in each number sentence. | • Can children explain what 'inverse' means?<br>• Can children use their knowledge of addition to check answers to subtraction questions?<br>• Can children use their knowledge of subtraction to check answers to addition questions? | • Slides<br>• Teach the Teacher! Sheet A/B/C<br>• Just Checking! Game Cards (FSD? activity only)<br>• Just Checking! Game Instructions (FSD? activity only)<br>• Speech Bubbles Sheet (FSD? activity only) |
| **Lesson 2** | To understand and use the language of addition and subtraction | Children will explore the language of addition and subtraction by identifying the words or phrases in a problem that indicate which operation is needed. In their independent activities, children will work out competitors' scores by solving one- and two-step problems. Alternatively, children will write their own word problems using the language of addition and subtraction for others to solve. | • Can children identify the language of addition in word problems?<br>• Can children identify the language of subtraction in word problems?<br>• Can children solve mixed word problems involving a range of language relating to addition and subtraction? | • Slides<br>• Worksheet 2A/2B/2C<br>• Language of Addition and Subtraction Cards (FSD? activity only)<br>• Blank Question Cards (FSD? activity only) |
| **Lesson 3** | To be able to solve two-step word problems involving addition and subtraction | Children will apply their knowledge of the language of addition and subtraction to solve two-step word problems. They will use their reasoning skills to discuss which information is important, what calculations are needed, and what order they need to be done in. Children will answer questions to compete in an 'obstacle course', or in the alternative activity, they will use their problem-solving skills to complete a number search puzzle. | • Can children identify the information in a word problem that they need in order to solve it?<br>• Can children explain their reasoning and justify their choices?<br>• Can children use an appropriate method to calculate two-step questions? | • Slides<br>• Worksheet 3A/3B/3C<br>• Green/Blue/Yellow Obstacle Course Questions<br>• Number Search Puzzle A/B |
| **Lesson 4** | To use addition and subtraction skills to solve puzzles | In this lesson, children will use their knowledge of addition and subtraction to solve puzzles using the trial and improvement method. They will develop their reasoning skills by explaining their thought processes and the steps they need to take in order to narrow down the possible answers and find the solution. | • Do children understand how to use the trial and improvement method?<br>• Can children use reasoning to decide how and where to begin a puzzle?<br>• Can children persevere until they find a solution? | • Slides<br>• Event Winners Sheet<br>• Puzzle Cards 4A/4B<br>• Create a Puzzle Instructions A/B (FSD? activity only)<br>• Create a Puzzle Question Cards A/B (FSD? activity only) |
| **Lesson 5** | To develop and use reasoning skills | In this final lesson, children will continue to develop their reasoning skills by solving missing number problems. They will identify various missing digits in both addition and subtraction column methods, and be encouraged to explain their thinking. In their independent activities, children will solve missing number problems, and identify whether or not they can be certain about their answers. Alternatively, children will generate their own column additions and subtractions based on given 'rules'. | • Can children identify missing digits in a column addition or subtraction?<br>• Can children identify calculations where we cannot be certain what the missing digits are?<br>• Can children explain their reasoning clearly? | • Slides<br>• Worksheet 5A/5B/5C<br>• Reasoning Sentence Starter Cards<br>• The Generation Game A/B/C (FSD? activity only) |

*NB: 'FSD? Activity only' refers to the alternative 'Fancy Something Different...?' activity within the lesson plan* **www.planbee.com**

# Multiplying Doubles and Digits: Maths : Year 4 : Summer Term, Week 4

## PlanBee

| | Learning Objective | Overview | Assessment Questions | Resources |
|---|---|---|---|---|
| **Lesson 1** | To use known facts and informal written methods to multiply by one-digit multiples including 0 and 1. | Children will consider and explain (in their own words) what happens when a number is multiplied by 0 or 1. They will go on to consider real-world scenarios where this knowledge is applied. After that they will recap, then practise, multiplying two- or three-digit numbers by a one-digit number using the grid method where appropriate. | • Can children write calculations to show what happens when multiplying by 0 and 1?<br><br>• Can children use other known multiplication facts to solve O×O calculations?<br><br>• Can children use an informal written method to solve TO×O, HTO×O and ThHTO×O calculations? | • Slides<br>• Worksheets 1A/1B/1C<br>• Maths resources: bead strings, counters, number lines<br>• Shopping Items cards (FSD…? activity only)<br>• Shopping List sheet (FSD…? activity only) |
| **Lesson 2** | To use known and derived facts to multiply two numbers, or three numbers together. | Children will develop strategies for mentally solving trickier multiplication calculations, e.g. 2 × 12 × 5, or 6 × 24. Strategies include drawing upon times tables knowledge and finding pairs of factors of large numbers in calculations, e.g. 6 × 24 could be changed to 6 × 6 × 4. They will then go on to practise these skills, jotting notes to help them. | • Can children use known times tables facts to simplify a calculation where three numbers are to be multiplied together?<br><br>• Can children simplify a multiplication calculation by replacing a large number with one of its factor pairs?<br><br>• Can children find all of the factors of a two-digit number? | • Slides<br>• Worksheets 2A/2B/2C<br>• 'Factor Pairs' Target Number Cards (FSD…? activity only)<br>• 'Factor Pairs' Pairs Cards (FSD…? activity only) |
| **Lesson 3** | To use place value knowledge, times tables knowledge and a formal written method to double large numbers. | Children will recap doubling three-digit numbers mentally using a partitioning method. They will then go on to learn and practise using written, short multiplication to double larger numbers quickly and efficiently, including those with one or more 'exchanges'. | • Can children explain how to double numbers using only mental methods?<br><br>• Can children show doubling of three-digit+ numbers using informal written methods?<br><br>• Can children use a formal written method to calculate doubles of larger numbers? | • Slides<br>• 'Hot', 'Boiling' and 'On Fire!' Doubling Sticks<br>• Doubling Down Cards (FSD…? activity only)<br>• Doubling Down Challenge (FSD…? activity only) |
| **Lesson 4** | To multiply two-digit and three-digit numbers by a one-digit number using formal written layout. | Children will compare various written methods for solving multiplication calculations, including a short multiplication method. They will then practise and consolidate their learning by solving multiplications, including those requiring 'exchanges', using a short multiplication method. | • Can children solve short multiplication calculations requiring no exchanges?<br><br>• Can some children solve short multiplication calculations requiring two or more exchanges?<br><br>• Can some children solve tricky short multiplication calculations with multiple exchanges and an increase in the total digits? | • Slides<br>• Tiddlywinks Target 4A/4B/4C sheets<br>• Counters and paperclips<br>• Worksheet 4 (FSD…? activity only) |
| **Lesson 5** | To use place value, known and derived facts to multiply mentally, then use a formal, written multiplication method. | Children will consider how multiplication/division 'fact families' can help when solving and checking problems. They will then use them while estimating, solving and checking multiplication calculations. | • Can children derive facts about a given times table multiplication up to 12?<br><br>• Can children use known times table facts to estimate answers up to 12?<br><br>• Can children use a formal written method to solve multiplication calculations (up to HTO × O)? | • Slides<br>• Household Statistics 5A–5C cards<br>• Challenge Card 5<br>• Word Problems 5A–5F (FSD…? activity only) |

*NB: 'FSD? Activity only' refers to the alternative 'Fancy Something Different…?' activity within the lesson plan*

# Position and Direction: Maths : Year 4 : Summer Term

## PlanBee

| | Learning Objective | Overview | Assessment Questions | Resources |
|---|---|---|---|---|
| **Lesson 1** | To find, plot and describe coordinates on a grid. | Children will recap the features of coordinate grids (1st quadrant only), then plot given coordinates accurately in the 1st quadrant. | • Can children name and identify the features of a coordinate grid?<br>• Can children find and plot given coordinates on a grid?<br>• Can children write coordinates in the first quadrant? | • Slides<br>• Worksheets 1A/1B/1C<br>• Connect Coordinates game (FSD? activity only)<br>• Dice (FSD? activity only)<br>• Counters (FSD? activity only) |
| **Lesson 2** | To plot specified points and draw sides to complete a given polygon. | Children will plot given coordinates on a grid (1st quadrant), then connect them in the order given to create polygons with their vertices plotted on a grid. | • Can children plot a series of specified coordinates?<br>• Can children connect coordinates to make polygons?<br>• Can children visualise and predict the shape of polygons based only on a set of given coordinates? | • Slides<br>• Worksheets 2A/2B/2C<br>• Blank Coordinate Grid<br>• Find the Quadrilateral game (FSD? activity only)<br>• 2-D Shapes poster/table mat (FSD? activity only) |
| **Lesson 3** | To describe movements between coordinates on a grid as translations. | Children will learn how to translate coordinates on a grid, then practise this by translating polygons or compound shapes on a coordinate grid (1st quadrant only). | • Can children describe the translation of a shape in terms of movement up/down/left/right?<br>• Can children use algebraic terms to describe the translation of a shape?<br>• Can children draw translations of a shape according to given instructions? | • Slides<br>• Worksheets 3A/3B/3C<br>• 3-D Letters Sheet (FSD? activity only)<br>• Blank Coordinate Grid (FSD? activity only) |
| **Lesson 4** | To find and plot coordinates on graphs to show linear relationships. | Children will consider the relationship between line graphs and coordinate grids, then read given sets of data, plotting their corresponding coordinates on grids. They will also write questions which can be answered by identifying sets of coordinates. | • Can children express two corresponding values as a coordinate?<br>• Can children connect coordinates with a line to make a straight-line graph?<br>• Can children think of, and answer questions about data shown on a straight-line graph? | • Slides<br>• Worksheets 4A/4B/4C<br>• Blank Coordinate Grid A/B/C |
| **Lesson 5** | To solve problems using grids and coordinates. | Children will solve a variety of problems including word problems, where they will have to read or plot coordinates, translate coordinates or draw straight line graphs and read coordinates at points along the line. | • Can children plot coordinates and draw lines to make shapes on a grid?<br>• Can children translate a shape on a grid accurately?<br>• Can children turn directly proportional data into coordinates on a grid? | • Slides<br>• Worksheets 5A/5B/5C<br>• Translation Table Mat (FSD? activity only) |

*NB: 'FSD? Activity only' refers to the alternative 'Fancy Something Different...?' activity within the lesson plan*

# Times Table Facts: Maths : Year 4 : Summer Term

| | Learning Objective | Overview | Assessment Questions | Resources |
|---|---|---|---|---|
| **Lesson 1** | To be able to recall and use multiplication and division facts for the 2, 3, 4, 5 and 10 times tables. | This lesson starts by showing children a multiplication grid with missing numbers. They will need to use their times tables knowledge to identify patterns and complete the grid. They then move on to practise recalling multiplication and division facts for the 2, 3, 4, 5 and 10 times tables through a variety of fun activities, including multiples colouring to reveal words, speed tests and a board game. | • Can children recall times table facts for the 2, 3, 4, 5 and 10 times tables?<br><br>• Can children recall division facts for the 2, 3, 4, 5 and 10 times tables?<br><br>• Can children identify multiples of the 2, 3, 4, 5 and 10 times tables? | • Slides<br>• Number Grid<br>• Grid Codes 1A/1B<br>• Speed Tests<br>• Board Game (FSD? activity only)<br>• Coloured pencils, dice and counters (FSD? activity only)<br>• Bingo Question Sheet (plenary) |
| **Lesson 2** | To be able to recall facts for the 6, 7, 8 and 9 times tables. | Starting with a fun game that will encourage recall of multiples of 6 and 8 (using their knowledge of the 3 and 4 times tables to help them), children will go on to look at the multiples of the 7 times table to identify patterns and recap some other tips and tricks for learning the 6, 7, 8 and 9 times tables. During their independent learning, they can then play a game to encourage quick recall of these facts, or test each other with fact family cards. | • Can children identify multiples of the 6, 7, 8, and 9 times tables?<br><br>• Can children recall multiplication facts for the 6, 7, 8 and 9 times tables?<br><br>• Can children recall associated division facts for the 6, 7, 8 and 9 times tables? | • Slides<br>• Spinner<br>• Game Card 2A/2B/2C/2D/2E/2F<br>• Multiplication Grid<br>• Fact Family Cards (FSD? activity only) |
| **Lesson 3** | To be able to find and recall multiples of the 11 and 12 times tables. | Children will start with a multiplication game, using dominoes to multiply two numbers (up to 12x12) together. They then go on to look in closer detail at the 11 and 12 times tables, exploring how to use partitioning to make calculations easier. They then undertake a variety of fun activities, including using a multiplication code to reveal a tongue twister. | • Can children use partitioning to help them multiply numbers by 11 and 12?<br><br>• Can children recall facts for the 11 times table?<br><br>• Can children recall facts for the 12 times table? | • Slides<br>• Domino Cards<br>• Worksheet 3A/3B/3C<br>• Calculation and Multiple Cards (FSD? activity only) |
| **Lesson 4** | To be able to identify fact families for different multiplication tables. | This lesson focuses on identifying fact families once one multiplication or division fact has been established. Starting by challenging children to pair up their given numbers with other numbers to create a statement, they will go on to explore how the three numbers can be rearranged to make different statements. The main activity gives them the chance to consolidate this, as well as practising their recall of times table facts. | • Can children recall facts for the 12 times table?<br><br>• Do children understand how to find multiple facts from a given multiplication or division fact?<br><br>• Can children create multiple multiplication and division statements that contain a given number? | • Slides<br>• Number and Symbol Cards<br>• Fact Family Cards 4A/4B/4C<br>• Worksheet 4A<br>• Instruction Card (FSD? activity only)<br>• Fact Family Rummy Cards (FSD? activity only) |
| **Lesson 5** | To be able to recall and use multiplication and division facts for all times tables up to 12x12. | Children will have the chance to consolidate everything they have learnt and to further practise the quick recall of times table facts up to 12x12. They will be challenged to use their times table knowledge to solve a variety of problems, including missing number problems. | • Can children recall multiplication facts for all times tables up to 12x12?<br><br>• Can children recall division facts for all times tables up to 12x12?<br><br>• Can children use their knowledge of times tables to solve a variety of problems? | • Slides<br>• Times Tables Activity Sets (purple, green and orange)<br>• Superhero Top Trump Cards (FSD? activity only) |

*NB: 'FSD? Activity only' refers to the alternative 'Fancy Something Different...?' activity within the lesson plan*

# Dividing and Multiplying: Maths : Year 4 : Summer Term

## PlanBee

| | Learning Objective | Overview | Assessment Questions | Resources |
|---|---|---|---|---|
| **Lesson 1** | To recall multiplication and division facts | In this first lesson, children will practise their skills of quick recall for multiplication and division facts. They will work in pairs or groups to identify number sentences which prove that a given statement is either true or false. In their independent activities, children will apply their quick recall skills to play games or solve puzzles. | • Can children use number sentences to prove whether a statement is correct or incorrect?<br>• Can children recall and use multiplication facts quickly and accurately?<br>• Can children recall and use division facts quickly and accurately? | • Slides<br>• Multiplication Cards (Teaching Input)<br>• Division Cards (Teaching Input)<br>• Camping Essentials Cards A/B/C<br>• Camping Essentials Points Sheet<br>• Camping Essentials Instructions Card<br>• Tentominos Game Cards A/B (FSD? activity only) |
| **Lesson 2** | To multiply three numbers together | Children will explore the different ways in which three digits can be multiplied together by beginning with an interactive game. They will then discuss their strategies for working out each step of the calculations they made. Children will practise using the partitioning and recombining method to mentally multiply three single-digit numbers. In their independent activities, they will multiply three given digits together to find the product, or in the alternative activity, they need to find the three digits that multiply together to make a given product. | • Can children multiply three numbers together?<br>• Do children understand that numbers can be multiplied in any order (commutative law)?<br>• Can children use the distributive law to help them mentally multiply three numbers together? | • Slides<br>• Digit Cards (Teaching Input)<br>• Calculators (Teaching Input)<br>• Marshmallow Multiplication Sheet 3A/3B/3C<br>• Marshmallow Stick Strips<br>• How Old Are We? Challenge Cards (FSD? activity only)<br>• Whiteboards or paper (optional) |
| **Lesson 3** | To recognise and use factor pairs | Children will find out what factor pairs are, and generate them for different given numbers. They will develop their knowledge and understanding of factor pairs by playing bingo, before applying it in their independent activities, where they will attempt to find as many factor pairs as possible for a given number within a time limit. In the alternative activity, children will decide whether statements concerning factor pairs are true or false, and provide evidence for their opinions. | • Do children understand what a factor is?<br>• Do children understand what a factor pair is?<br>• Can children generate and identify factor pairs of a given number? | • Slides<br>• Factor Pairs Bingo Cards (Teaching Input)<br>• Camp Fire Factors Game Cards A/B<br>• Instructions Cards<br>• Recording Sheet<br>• Stopwatches<br>• True or False? Cards (FSD? activity only) |
| **Lesson 4** | To solve scaling problems using multiplication and division | In this lesson, children will learn how to use their multiplication and division knowledge in order to solve problems which involve scaling up and scaling down. They will look at a range of different problems as a class before moving on to their independent work, where they will apply this understanding to solve clues to identify the winner of a scavenger hunt. In the alternative activity, children will determine the different amounts of items in picnic baskets according to the size of the group of people. | • Do children know how to scale up using their multiplication skills?<br>• Do children know how to scale down using their division skills?<br>• Can children explain how they solved a problem? | • Slides<br>• Worksheet 4A/4B/4C<br>• Scavenger Hunt Clue Cards A/B/C<br>• Picnic Basket Contents Cards (FSD? activity only)<br>• Picnic Basket Order Strips (FSD? activity only) |
| **Lesson 5** | To solve correspondence problems using multiplication and division skills | Children will learn how to solve correspondence problems using their knowledge of multiplication and division. As a class, they will discuss and solve questions worded in a variety of different ways, before solving similar problems in their independent activities. | • Do children understand how to solve a correspondence problem?<br>• Can children use their multiplication skills to solve a correspondence problem?<br>• Can children use their division skills to solve a correspondence problem? | • Slides<br>• Worksheet 5A/5B/5C<br>• Campsite Conundrum Cards (FSD? activity only) |

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# Measuring Capacity: Maths : Year 4 : Summer Term

**PlanBee**

| | Learning Objective | Overview | Assessment Questions | Resources |
|---|---|---|---|---|
| **Lesson 1** | To know and use the relationship between millilitres and litres | In this first lesson, children will recap on what capacity is, and which units it can be measured in. They will then use their knowledge and understanding of multiplication, division and place value to convert between the different units of measurement, involving numbers with up to two decimal places. Children will apply and consolidate this learning in their independent activities. | • Do children understand what capacity is?<br><br>• Do children understand the relationship between millilitres and litres?<br><br>• Can children convert millilitres to litres and vice versa? | • Slides<br>• True or False? Statement Cards (Teaching Input)<br>• Conversion Cards A/B<br>• Worksheet 1A/1B/1C<br>• Drops and Puddles Cards Set 1/2 (FSD? activity only)<br>• Instructions Cards (FSD? activity only) |
| **Lesson 2** | To estimate and measure capacity | Children will be reminded of what an estimate is. They will use known capacities of containers to estimate the capacity of other containers. They will then look at how to measure capacity accurately, and learn how to read different scales by calculating what each division represents. In their independent activities, children will complete a carousel of challenges involving estimating, measuring and reading scales. | • Can children give an accurate estimate of a container's capacity?<br><br>• Can children measure the capacity of a container accurately?<br><br>• Can children read and interpret scales accurately? | • Slides<br>• Capacity Cards (Teaching Input)<br>• Worksheet 2A/2B/2C<br>• Container Hunt Sheet (FSD? activity only)<br>• Teacher Notes<br>• Measuring jugs, water, clear plastic cups, containers of varying sizes e.g. bottle caps, margarine tubs, yoghurt cartons, water bottles (all with labels removed). |
| **Lesson 3** | To order and compare measurements | In this lesson, children will use their knowledge and understanding of converting between different units of measurement to order and compare a range of capacities. Children will apply and consolidate this skill in their independent activities. In the alternative activity, they will compare the capacities of different sets of containers, using inequality signs to complete the picture equations. | • Can children order and compare measurements in millilitres?<br><br>• Can children order and compare measurements in litres?<br><br>• Can children order and compare measurements in millilitres and litres by converting them to the same unit? | • Slides<br>• Measurement Cards Set A/B (Teaching Input)<br>• Worksheet 3A/3B/3C<br>• More or Less? Sheet A/B (FSD? activity only)<br>• Container Card A/B (FSD? activity only) |
| **Lesson 4** | To use addition and subtraction to solve capacity problems | Children will apply their knowledge and understanding of converting between different units of measurement to solve a variety of capacity problems involving addition and subtraction. In their independent activities, they will be challenged to solve a range of word problems about a given set of measures. In the alternative activity, children will use their knowledge to play a game involving gaining and losing different amounts of water. | • Can children solve capacity problems involving addition and subtraction?<br><br>• Can children use their knowledge and understanding of conversion to help them solve these problems?<br><br>• Can children explain their reasoning? | • Slides<br>• Container Conundrum Card A/B/C<br>• Container Conundrum Sheet 4A/4B/4C<br>• A Bucketful of Fun! Game Board A/B (FSD? activity only)<br>• A Bucketful of Fun! Card Set A/B/C/D (FSD? activity only)<br>• A Bucketful of Fun! Instructions A/B (FSD? activity only)<br>• Recording Sheet (FSD? activity only) |
| **Lesson 5** | To solve capacity problems involving money | In this final lesson, children will combine their knowledge and understanding of measuring capacity, as well as their multiplication, division and addition skills to solve a variety of two- and multi-step problems involving money. In their independent activities they will work out the cost of different health drinks, or in the alternative activity, design and cost their own drinks based on given criteria. | • Can children use their multiplication knowledge to solve capacity problems involving money?<br><br>• Can children use their division knowledge to solve capacity problems involving money?<br><br>• Can children explain how to solve a multi-step problem? | • Slides<br>• Ingredients Price List<br>• Recipe Cards A/B/C<br>• Worksheet 5A/5B/5C<br>• Gulp! Challenge Cards (FSD? activity only) |

*NB: 'FSD? activity only' refers to the alternative 'Fancy Something Different…?' activity within the lesson plan*

# Handling Data: Maths : Year 4 : Summer Term, week 9

**PlanBee**

| | Learning Objective | Overview | Assessment Questions | Resources |
|---|---|---|---|---|
| **Lesson 1** | To solve problems using information presented in a variety of tables and graphs. | Children will read and interpret a variety of data shown in bar charts with different scales, including stacked bar charts showing discrete data year-on-year. They will practise rapidly solving problems about data in graphs using familiar mental methods, and devise questions of their own which may be answered using data in given graphs. | • Can children read data in graphs, including stacked bar charts, with a variety of scales?<br>• Can children use mental methods to solve problems about data in graphs?<br>• Can children, using appropriate vocabulary, devise their own questions about data in graphs? | Slides<br><br>Graphs 1A–1F<br><br>Question Cards 1A–1C<br><br>Quiz 1 sheet (FSD…? activity only)<br><br>Answers 1 sheet (FSD…? activity only) |
| **Lesson 2** | To plan and conduct surveys, collecting data which may be presented and interpreted using graphs. | Children will consider and learn about what makes an effective survey question, including thinking about when 'other' or 'nothing' answer choices may be appropriate. They may then either devise a survey according to a given brief or design one to find out about a query of their own. | • Can children identify features of effective, useful survey questions?<br>• Can children suggest questions where having 'nothing' or 'other' answer choices would be appropriate?<br>• Can children devise survey questions and collect/compile survey data? | Slides<br><br>Example Uniform Questions<br><br>Worksheets 2A–2C<br><br>Survey Ideas cards(FSD…? activity only) |
| **Lesson 3** | To present discrete data accurately in graphs, using appropriate scales. | Children will identify what is wrong with a 'flawed' bar chart showing common mistakes done when drawing them. They will also develop strategies for selecting and using appropriate scales when drawing bar charts. Children may then either plot given or collected data on bar charts, or find interesting ways of presenting given data using 'graphic' bar charts in the style of newspapers and news websites. | • Can children identify common mistakes, or misleading design choices, made when creating bar charts?<br>• Can children identify features of accurate, helpful bar charts?<br>• Can children select appropriate scales when drawing bar charts on squared/graph paper? | Slides<br><br>Survey 3 sheet<br><br>0.5 cm squared paper and 2 mm graph paper<br><br>Visual Data 3 sheet (FSD…? activity only)<br><br>Bar Chart Data 3 cards |
| **Lesson 4** | To present sets of data with high/large values using bar charts with appropriate scales. | Children are challenged to identify common mistakes and difficulties when plotting data on graphs. They will go on to consider the challenges associated with presenting data sets with high/large values on bar charts at different scales, as well as the advantages of using spreadsheet software. Children may then either draw bar charts showing given data sets, or use spreadsheet software to automatically produce bar charts. | • Can children identify common, easily made mistakes when plotting data on graphs?<br>• Can children select and use appropriate scales when plotting data with high/large values on bar charts?<br>• Can children estimate where to draw the tops of bars when their values do not exactly align with gridlines? | Slides<br><br>Worksheets 4A–4C<br><br>1cm squared paper, 0.5 cm squared paper and 2 mm graph paper<br><br>Big Number Data 4 (FSD…? activity only)<br><br>Spreadsheet software (FSD…? activity only) |
| **Lesson 5** | To present discrete data showing changes over time using time graphs. | Children will identify ways in which time data may be presented in meaningful ways, then learn how to plot time data on line graphs at different scales and on different types of paper. They may then either plot given sets of data or collect and plot their own data, either on paper or using spreadsheet software. | • Can children suggest reasons why line graphs are appropriate for showing data with changes over time?<br>• Can children select and use appropriate scales for line graphs showing time data?<br>• Can children draw, read and interpret time graphs? | Slides<br><br>Worksheets 5A–5C<br><br>0.5 cm squared paper and 2 mm graph paper<br><br>Sticky notes<br><br>Time Activities 5 (FSD…? activity only)<br><br>Thermometers, tape measures, metre rules (FSD…? activity only)<br><br>Spreadsheet software (optional, FSD…? activity only) |

*NB: 'FSD? activity only' refers to the alternative 'Fancy Something Different…?' activity within the lesson plan* **www.planbee.com**

# Proportion Problems : Maths : Year 4 : Summer Term

PlanBee

| | Learning Objective | Overview | Assessment Questions | Resources |
|---|---|---|---|---|
| **Lesson 1** | To be able to recognise and show equivalent fractions. | Children will start by recapping exactly what fractions and decimals are, and how the two relate to each other. They will then focus on identifying equivalent fractions using diagrams. For example, in several diagrams with 16 circles, they will identify which has been shaded to represent one quarter. During their independent learning, they can either play an equivalent fraction matching game or complete a 'Colour by Fraction' activity to reveal a picture. | • Do children understand that fractions and decimals represent part of a whole?<br><br>• Can children identify equivalent fractions?<br><br>• Can children identify equivalent fractions represented pictorially? | • Slides<br>• Fraction Cards 1A/1B/1C<br>• Fraction Wall<br>• Colour by Fractions sheet (FSD? activity only)<br>• Symbol Cards (plenary) |
| **Lesson 2** | To be able to add and subtract fractions with a common denominator. | In this lesson, children use real-life problems to add and subtract fractions with a common denominator. The slides guide them through some problems to solve, explaining how to add and subtract fractions, including what happens if the answer is larger than one. They are then challenged to solve some addition and subtraction problems independently, including missing number problems. | • Can children add fractions with a common denominator?<br><br>• Can children subtract fractions with a common denominator?<br><br>• Can children add fractions whose answer is larger than one, converting the answer to a mixed number fraction? | • Slides<br>• Worksheet 2A/2B/2C<br>• Game Board 2A/2B (FSD? activity only)<br>• Game Cards 2A/2B (FSD? activity only) |
| **Lesson 3** | To be able to find fractions of quantities. | Children will recap how to find fractions of quantities in this lesson. Starting with objects, children will find, e.g. one quarter of 24. They will learn how finding fractions of quantities relates to division, and learn to find unit fractions of increasingly challenging numbers. There is also the opportunity to solve some missing number problems and play a class game of 'Pointless'. | • Can children find fractions of objects?<br><br>• Can children find fractions of numbers?<br><br>• Can children use division to find fractions of quantities? | • Slides<br>• Question Cards<br>• Worksheet 3A/3B/3C<br>• Plenary Question Sheet |
| **Lesson 4** | To be able to find fractions of amounts using non-unit fractions. | Moving on from their learning in the previous lesson, children will learn how to find fractions of amounts using non-unit fractions, e.g. finding three fifths of 35. Once they are comfortable with the process for this, they will move on to solving some real-life problems that involve finding fractions of amounts. There are also some challenging tarsia puzzles to solve. | • Can children find unit fractions of amounts?<br><br>• Can children find non-unit fractions of amounts?<br><br>• Can children solve missing number problems relating to finding non-unit fractions of amounts? | • Slides<br>• Challenge Cards 4A/4B/4C<br>• Worksheet 4A<br>• Tarsia Puzzle 4A/4B (FSD? activity only) |
| **Lesson 5** | To be able to round decimals with one decimal place to the nearest whole number. | The final lesson in this series looks again at the relationship between fractions and decimals, focussing on the place value of decimal numbers up to two decimal places. Children will then learn how to round numbers with one decimal place to the nearest whole number. They can then complete some crossword puzzles to practise this (as well as consolidating finding fractions of quantities), or play decimal bingo. | • Can children link decimals and fractions, explaining the relationship between the two?<br><br>• Do children understand the place value of numbers with two decimal places?<br><br>• Can children round numbers with one decimal place to the nearest whole number? | • Slides<br>• Worksheet 5A/5B/5C<br>• Number Vocabulary Card<br>• Bingo Grids (FSD? activity only)<br>• Bingo Decimals Sheet (FSD? activity only) |

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