Decimal Place Value: Maths : Year 6 : Autumn Term

PlanBee

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To be able to read, write, order and compare numbers up to 10,000,000.	Children will identify the value of each digit in numbers up to ten million. They will practise reading and writing larger numbers in both numerals and words, and use place value charts to check the value of each digit. Children will start to order and compare numbers with up to seven digits.	• Can children read numbers to 10,000,000? • Can children write numbers to 10,000,000? • Can children order and compare numbers to 10,000,000?	• Slides • Crossword Puzzle 1A/1B/1C • Number Cards 1A/1B/1C (FSD? activity only) • Blank Number Cards (FSD? activity only)
Lesson 2	To be able to identify the value of each digit in numbers with up to three decimal places.	Children will identify the value of each digit in numbers with up to three decimal places. They will read and write decimals in words and numbers, and start to order and compare numbers with up to three decimal places.	• Can the children recognise decimal place value to one place? • Can the children recognise decimal place value to three places? • Can the children order decimals?	• Slides • Game Board 2A/2B • Question Cards 2A/2B • Spinner • Score Cards • Digit Cards (FSD? activity only) • Game Card 2A/2B/2C (FSD? activity only) • Dice (FSD? activity only)
Lesson 3	To be able to use place value to order numbers with up to three decimal places.	Children will use their understanding of the place value of numbers with up to three decimal places to compare and order sets of numbers.	• Could the children order decimals to one decimal place? • Could the children order decimals to two decimal places? • Could the children order decimals to three decimal places?	• Slides • Game Board 3A/3B • Dice and counters • Number Cards 3A/3B/3C (FSD? activity only)
Lesson 4	To be able to round a number with two decimal places to the nearest tenth or whole number.	Children will recap the rules for rounding whole numbers. They will then translate this knowledge to rounding numbers with up to three decimal places to the nearest whole number or nearest tenth.	• Could the children round to the nearest whole number? • Could the children round to the nearest tenth? • Could the children round to the nearest hundredth?	• Slides • Worksheet 4A/4B/4C • Game Card (FSD? activity only) • Number Cards 4A/4B (FSD? activity only)
Lesson 5	To be able to solve problems which require answers to be rounded to specified degrees of accuracy.	Children will put rounding decimals into real-life contexts as they apply a variety of maths skills to find averages, rounding the answer to the nearest tenth or whole number when needed. They will add numbers together to find totals and divide these totals to find averages, using calculators where necessary. They will then round numbers, with many decimal places in some instances, to the nearest whole number or tenth to give an answer in context.	• Can children round decimals to the nearest whole number? • Do children understand how to find an average? • Can children recall the value of each digit in numbers with up to three decimal places?	• Slides • Calculators • Challenge Cards 5A/5B/5C • Data Cards 5A/5B (FSD? activity only)

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

Choosing Methods: Maths: Year 6: Autumn Term

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To practise column methods for addition and subtraction.	Children will recap methods for column addition and subtraction, then practise these methods by solving missing number problems or by randomly generating numbers to add/subtract.`	• Can children add using a column method? • Can children subtract using a column method? • Can children add and subtract decimals using a column method?	• Slides • Problem Cards A/B/C • Target Sheet A/B/C (FSD? activity only) • Spinner A/B/C (FSD? activity only)
Lesson 2	To be able to choose a method for solving addition and subtraction problems, including mental methods.	Children will read addition and subtraction word problems then decide on the most appropriate methods for solving them.	• Can children add or subtract numbers mentally? • Can children add or subtract numbers using the column method? • Can children choose an appropriate method for solving addition and subtraction problems?	• Slides • Thinking of a Number Cards A/B/C • Number Cards A/B/C • Problem Cards A/B/C (FSD? activity only)
Lesson 3	To practise different multiplication and division methods.	Children will recap methods for multiplication (the grid method, an expanded method and a formal method) and division (an ad hoc 'chunking' method and the short division method), then play games where they must apply these methods.	• Can children multiply using the short and long multiplication methods? • Can children divide using the short division methods? • Can children think of their own multiplication and division questions?	• Slides • Wheel Sheet A/B/C • Worksheet 3A • Famous People Cards A/B (FSD? activity only)
Lesson 4	To be able to choose a method for solving multiplication and division problems, including mental methods.	Children will read word problems and decide whether multiplication or division is required to solve them. They will also find missing numbers in given calculations, and identify mistakes in given calculations.	• Can children multiply or divide numbers mentally? • Can children multiply or divide numbers using formal methods? • Can children choose an appropriate method for solving multiplication and division problems?	• Slides • Problem Cards A/B/C • Worksheet 4A • Missing Number Cards A/B/C (FSD? activity only)
Lesson 5	To be able to solve problems involving addition, subtraction, multiplication and division.	Children will solve a number of problems around a theme, where they must use appropriate addition, subtraction, multiplication and division methods of their choosing.	• Can children choose an appropriate method for solving a problem? • Can children check their answers accurately? • Can children explain their workings?	• Slides • Worksheet 5A/5B/5C • Number Cards A/B (FSD? activity only)

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

Subtraction Strategies: Maths : Year 6 : Autumn Term

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To use appropriate subtraction strategies to solve problems.	While learning about the world your class will solve problems and analyse findings while improving their confidence and subtraction skills.	• Can children apply subtraction strategies to solve problems? • Can children choose appropriate strategies to solve problems? • Can children apply their knowledge of real-life contexts to mathematical problems?	• Slides • Worksheet 1A/1B/1C • Fact Cards (FSD? activity only)
Lesson 2	To choose appropriate subtraction strategies to solve problems.	Through the context of the International Day of Peace your class will solve subtraction problems. They will explore the number of people involved in the day each year before going on to look at the Global Peace Index and compare the different countries' ranking over time.	• Can children use appropriate subtraction strategies to solve problems? • Can children use estimation to increase the speed they can solve problems? • Can children solve problems involving billions and decimal numbers?	• Slides • Worksheet 2A/2B/2C • Challenge Cards A/B/C • Global Peace Index 2017, 2016, 2015, 2014, 2013 • Country Cards (FSD? activity only) • Group Discussion Cards (FSD? activity only)
Lesson 3	To apply subtraction strategies to solve problems.	During this charity-themed lesson your class will get to grips with applying a range of problem-solving strategies to answer questions. They will explore the number of people helped by charities and the amount of money earned and spent.	• Can children choose appropriate subtraction strategies to solve problems? • Can children use estimation to check an answer? • Can children apply subtraction strategies to solve problems in a real-life context?	• Slides • Worksheet 3A/3B/3C • Information Cards (FSD? activity only) • Worksheet 3D (FSD? activity only)
Lesson 4	To solve problems using a variety of subtraction strategies.	While helping a school plan a fundraising event your class will work out profit margins of stalls and decide the best activities to have at the event, while staying within a given budget. They will encounter some mixed operation questions and have to apply their problem-solving skills to ensure they are using the right figures to answer the questions.	• Can children choose appropriate subtraction strategies to solve problems? • Can children use estimation to check an answer? • Can children use the inverse operation to check an answer?	• Slides • Worksheet 4A/4B/4C • Potential Stalls Sheets • Challenge Cards (FSD? activity only) • Tile Question Cards (FSD? activity only) • Decoration Question Cards (FSD? activity only)
Lesson 5	To solve problems using a variety of methods and strategies.	In this final lesson your class will plan their own fundraising event. They will be challenged to apply all they know about keeping to a budget and increasing profit margins.	• Can children choose appropriate strategies to solve problems? • Can children use estimation/inverse operations to check an answer? • Can children apply strategies to solve problems in a real-life context?	• Slides • Worksheet 5A/5B/5C • Stock Sheet A/B/C • What Next Sheet A/B/C • Visitor Number Sheet • Budget Sheet (FSD? activity only)

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

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Calculating Compound Shapes: Maths : Year 6 : Autumn Term

PlanBee

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To recognise that shapes with the same area can have different perimeters, and vice versa.	Children will consider the ways in which shapes of different dimensions may have the same area or the same perimeter. They may then investigate how altering the construction of shapes of a given area affects their perimeter.	• Do children know how to find the area and perimeter of a rectangle? • Do children know shapes with the same area can have different perimeters and vice versa? • Can children work systematically to solve problems involving area and perimeter?	• Slides • Worksheet 1A/1B • Question Cards 1A/1B/1C • Challenge Card (FSD? activity only) • Trundle wheels/tape measures (plenary)
Lesson 2	To be able to calculate the perimeter and area of compound shapes.	Children will develop strategies for finding the area, and missing lengths of sides, of rectilinear compound shapes. They may then practise these strategies by calculating and measuring the perimeters and areas of compound shapes.	• Can children find the area and perimeter of compound shapes by counting squares? • Can children find the area of compound shapes? • Can children find the perimeter of compound shapes?	• Slides • Worksheet 2A/2B/2C • Squares and rectangles to draw around (FSD? activity only) • Plain paper (FSD? activity only)
Lesson 3	To be able to calculate the area of triangles and parallelograms.	Children will learn how to find the area of any triangle, then use this information to find the area of parallelograms and more complex compound shapes.	• Can children find the area of triangles? • Can children find the area of parallelograms? • Can children find the area of compound shapes?	• Slides • Worksheet 3A/3B/3C • Tangram Sheet (FSD? activity only)
Lesson 4	To be able to calculate the volume of cubes and cuboids.	Children will use the formula length x width x height to calculate the volume of cuboids or of compound shapes constructed using only cuboids. Some children may explore ways in which cuboids of different dimensions may have the same volume.	• Do children understand the difference between area and volume? • Can children use the formula to work out the volume of cubes and cuboids? • Can children work out the volume of compound shapes?	• Slides • Riddle Cards 4A/4B • Challenge Cards 4A • Volume Cards • Worksheet 4A/4B (FSD? activity only)
Lesson 5	To be able to estimate and compare the volume of cubes and cuboids.	Children will estimate the volumes of cuboids with one missing dimension, then compare the values of volumes given with different units of measurement, e.g. mm³, cm³, m³, km³.	• Can children estimate the volume of cubes and cuboids? • Can children compare the volume of cubes and cuboids? • Can children calculate the volume of cubes and cuboids to check their estimates?	• Slides • Variety of cubes and cuboids (packaging) • Sticky notes • Volume Cards 5A/5B (FSD? activity only) • Worksheet 5A (FSD? activity only)

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

Parts and Proportion: Maths : Year 6 : Autumn Term

PlanBee

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To compare and order fractions, including fractions greater than one.	Children will recap adding fractions with the same denominator, resulting in improper fractions. They will practise converting improper fractions to mixed numbers and consider why this is helpful. Children will also start to convert some fractions to decimals, again considering why this is helpful.	• Can children convert improper fractions to mixed number fractions? • Can children convert some fractions to decimal numbers? • Can children compare and order fractions, including those greater than one?	• Slides • Target Boards 1A/1B/1C • Target Number cards 1A/1B/1C • Big Ordering Challenge cards (FSD…? activity only)
Lesson 2	To compare and order fractions by finding a common denominator.	Children are presented with a scenario in which two different fractions – with different denominators – of the same amount must be compared. They will then learn how to find the lowest common denominator of two or more fractions, so they may be more easily compared or ordered.	• Can children find the lowest common multiple of two different denominators? • Can children convert two different fractions so they have a common denominator? • Can children compare and order fractions by finding their common denominator?	• Slides • Worksheets 2A/2B/2C • Challenge Cards 2A–2C (FSD…? activity only) • Weighing scales, containers, rice or sand (FSD…? activity only)
Lesson 3	To express related amounts as ratios, and solve ratio problems.	Children will consider how and why ratios are used, write ratios to represent related amounts, and change the scale of ratios where both sides of the ratio may be multiplied or divided by the same whole number. Some children will also solve trickier ratio problems requiring extra steps/calculations.	• Can children write ratios for given images and descriptions of related amounts? • Can children increase/decrease the scale of ratios where the values are divisible by the same amount? • Can children spot number patterns to solve some trickier ratio problems where the values are not divisible by the same amount?	• Slides • Demolition! sheet • Crash, Bash & Smash question cards • End Of The Line sheet (FSD…? activity only)
Lesson 4	To compare, order and transform shapes by scale factors.	Children will recap various ways shapes on a grid may be transformed, then learn more about how they may be transformed by scaling. They will learn how a scale factor may be used to describe this type of transformation, then practise scaling polygons and rectilinear shapes by scale factors more, and less, than one.	• Can children estimate, just by looking, whether a shape transformed by a scale factor has increased/decreased? • Can children identify or draw shapes that have been transformed by common scale factors, e.g. 1/4, 1/2, 2, 4, 5, 10? • Can children calculate transformations by scale factors less than one, given as fractions and as decimal numbers?	• Slides • Worksheets 4A/4B/4C • Challenge Card 4 (FSD…? activity only) • Maths resources, construction toys, art software etc. (FSD…? activity only)
Lesson 5	To solve problems involving the scale factor of shapes.	Children will identify common errors that may be made when transforming simple shapes or images by various scale factors. They will go on to learn how to identify the ratio of a transformed image, compared to the original. After that, children may either practise transforming drawings of everyday objects at different scales, identifying their ratios, or make clay sculptures at different scales.	• Can children identify ways in which shapes have been incorrectly transformed by given scale factors? • Can children work out ratios to describe shapes that have been transformed by given scale factors? • Can children make scale drawings or models at given scale factors and ratios?	• Slides • Worksheets 5A/5B • Challenge Card 5 (FSD…? activity only) • Weighing scales and clay (FSD…? activity only)

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

Practising Multiplication and Division: Maths : Year 6 : Autumn Term

PlanBee

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To be able to choose an appropriate method to solve multiplication and division problems.	Children are challenged to use their knowledge of multiplication and division to solve missing number problems. They are encouraged to consider various methods and choose the most appropriate. They are also challenged to find the highest and lowest possible answers by rearranging digits in multiplication and division statements.	• Can children use their understanding of multiplication tables to solve problems? • Can children use a variety of appropriate methods to solve multiplication and division problems? • Can children use reasoning and estimating to help them solve problems?	• Slides • Challenge Cards 1A/1B/1C • Worksheet 1A • Calculation Cards 1A/1B
Lesson 2	To be able to use the formal written method of long multiplication.	Children will recap the formal long multiplication method by going through some examples as a class. They are then challenged to use their multiplication knowledge to solve calculations where the numbers have been replaced with letters. Children will need to use the key, then deduce facts to solve each one.	• Can children complete long multiplication calculations using the formal written method to multiply two two-digit numbers? • Can children complete long multiplication calculations using the formal written method to multiply a three-digit number by a two-digit number? • Can children use their understanding of the long multiplication method to solve problems?	• Slides • Challenge Cards 2A/2B/2C • Worksheet 2A/2B/2C (FSD? activity only)
Lesson 3	To be able to use short division to divide numbers by one- and two-digit numbers.	Children will recap the short division method, then extend to looking at how to divide three- and four-digit numbers by two-digit numbers. They can then either practise the short division method by solving a crossword puzzle or work out the years of important historical events by solving division problems.	• Can children use short division to divide three-digit numbers by a single digit? • Can children use short division to divide numbers four-digit numbers by a single digit? • Can children use short division to divide three-digit numbers by a two-digit number?	• Slides • Worksheet 3A/3B/3C • Historical Event Cards (FSD? activity only) • Fact Hunt Sheet 3A/3B (FSD? activity only)
Lesson 4	To be able to multiply increasingly large numbers by 11.	Children will explore the 11 times table beyond 11x12 to see if they can identify any patterns. They are then shown a handy trick that will allow them to multiply increasingly large numbers by 11. There are a variety of fun activities to consolidate this.	• Can children identify patterns? • Can children identify and use the strategy for multiplying by 11? • Can children check their answers using an appropriate method?	• Slides • Question Cards 4A/4B/4C • Time Tests (FSD? activity only) • Challenge Card (FSD? activity only)
Lesson 5	To be able to solve problems involving multiplication and division.	Children are challenged to use multiplication and division to solve problems relating to distances between fictional planets. They are encouraged to think about which methods would be best to solve a variety of problems, including two-step problems, and consider how they can check their work for accuracy.	• Can children identify what a word problem is asking them to do? • Can children choose an appropriate method to solve word problems? • Can children check their answers for accuracy?	• Slides • Worksheet 5A/5B/5C • Clue Cards 5A/5B/5C • Planet Distance Chart sheet (FSD? activity only) • True or False Cards 5A/5B (FSD? activity only)

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

Using Money : Maths : Year 6: Autumn Term

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To add, subtract and order money, including negative amounts.	Children will recap and practise reading, writing, saying, adding, subtracting and ordering amounts of money, including negative amounts.	• Can children read, write and say large amounts of money? • Can children order amounts of money, including negative numbers? • Can children use informal and formal written methods to add/subtract amounts of money, including calculations resulting in negative numbers?	• Slides • Worksheet 1A/1B/1C • Money Run game board (FSD…? activity only) • Dice and counters (FSD…? activity only)
Lesson 2	To develop mental and written methods for multiplying money.	Children will recap and practise doubling amounts of money. They will also develop strategies for multiplying amounts of money by three or more. Children will go on to select appropriate informal or written methods for multiplying amounts in a variety of contexts.	• Can children double small amounts of money mentally? • Can children present simple money multiplication word problems as number sentences? • Can children use written methods to find multiples of large amounts of money?	• Slides • Worksheet 2A/2B/2C • Worksheet 2D (FSD…? activity only) • Chip Shop cards (FSD…? activity only)
Lesson 3	To develop mental and practical strategies for halving money.	Children will develop informal methods, including partitioning, to halve amounts of money. They may then go on to practise these methods, in some cases using play money to help or check.	• Can children mentally halve small amounts in pounds and pence, finding remainders? • Can children use informal written methods to help halve large amounts of money? • Can children use notes and coins when dividing amounts, some with remainders?	• Slides • Worksheet 3A/3B/3C • Maths Money: printable notes and coins • × Tables Grid • Challenge Cards 3 (FSD…? activity only)
Lesson 4	To develop practical, mental and written strategies for dividing money.	Children will explore ways of quickly dividing money using practical strategies involving bank notes and coins. They will go on to recap and develop using short division to divide larger amounts of money, finding the smallest possible remainder in pence.	• Can children divide amounts in whole pounds using short division? • Can children divide amounts in pounds and pence using short division? • Can children solve problems involving division of money or other measures of quantity?	• Slides • Worksheet 4A/4B/4C • × Tables Grid • Challenge Cards (FSD…? activity only) • School Donation Sheets (FSD…? activity only)
Lesson 5	To develop a variety of mental, informal and formal written methods for + - × ÷ money.	Children will consolidate their skills manipulating amounts of money through solving a variety of word problems and completing tasks by interpreting real data about family spending in different UK regions.	• Can children identify what calculations are required to solve multi-step problems? • Can children select appropriate methods for a variety of calculations involving money? • Can children present their calculations and findings in a way that others can read and understand?	• Slides • Challenge Card 5A/5B/5C • Worksheet 5 • Shopping List sheet • Family Spending Report (2014) (FSD…? activity only) • Family Spending Challenge (FSD…? activity only)

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Mental Methods: Maths : Year 6 : Autumn Term

PlanBee

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To recap and use a variety of mental strategies to solve problems involving all four operations.	Children will explore a range of different calculations and identify a range of strategies that can be used to solve these calculations mentally. Children will practise multiplying by 10 and 100 (including decimals), adding near doubles, using adjustment methods and partitioning numbers to make calculations simpler.	• Can children use mental strategies to solve addition and subtraction problems? • Can children use mental strategies to solve multiplication and division problems? • Can children use mental strategies to solve problems involving decimals?	• Slides • Calculation Web 1A/1B/1C • Skill Sets A to F (FSD? activity only)
Lesson 2	To be able to use and understand the role of brackets in number sentences.	Children will be introduced to the concept of brackets within a calculation, focussing on solving the calculation within the brackets first. Children will continue employing strategies to solve problems mentally wherever possible.	• Do children understand the function of brackets within a number sentence? • Can children solve a number sentence that includes brackets? • Can children express and solve real-life scenarios using number sentences that include brackets?	• Slides • Top Trump Cards 2A/2B/2C • Number Sentences 2A/2B (FSD? activity only)
Lesson 3	To know the order of operations and use this when solving problems.	Children will build on their understanding of the function of brackets within a calculation by exploring the order of operations. Using multiple operations within a number sentence, children will work mentally to solve problems, identifying which parts of the calculation should be completed first and understanding why the order of operations is important.	• Do children understand why the order of operations is important? • Can children solve problems mentally using the correct order of operations? • Can children investigate how brackets can change the outcome of a number sentence?	• Slides • Highlighters • Worksheet 3A/3B/3C • Challenge Card 3A/3B/3C • Domino Cards 3A/3B (FSD? activity only)
Lesson 4	To be able to use the correct order of operations in calculations including all four operations.	Children will develop their fluency in using the correct order of operations by exploring what happens when there is more than one multiplication or division calculation in a number sentence. They will learn how to work from left to right to ensure the calculation is solved correctly, and continue to use mental methods wherever possible to solve increasingly challenging problems.	• Can children remember the order of operations? • Can children solve problems accurately using the correct order of operations? • Can children translate word problems into number sentences to be solved?	• Slides • Clue Cards 4A/4B/4C • Code Translator 4A/4B/4C • Key Sheet and Key Cards • Challenge Cards 4A/4B • Worksheet 4A (FSD? activity only)
Lesson 5	To be able to solve problems involving increasingly large numbers mentally.	Children will recap how to multiply numbers up to 12 by a multiple of 10 before exploring how to multiply multiples of powers of 10 together, such as 50 x 600. They will recall multiplication facts for all times tables to solve such problems mentally.	• Can children recall multiplication facts for all times tables up to x12? • Do children understand the effect of multiplying multiples of powers of 10? • Can children solve problems with increasingly large number using appropriate mental strategies?	• Slides • Game Board 5A/5B/5C • Number Cards 5A/5B/5C • Calculation Cards 5A/5B/5C (FSD? activity only) • Worksheet 5A (FSD? activity only)

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

Calculators : Maths : Year 6 : Autumn Term

PlanBee

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To use calculators to solve calculations including several operations.	Children will learn about the order of operations, then draw brackets around parts of calculations to show which parts are solved first. They may also explore ways in which placing brackets around other parts of a calculation can affect the total.	• Can children identify the order of operation when solving calculations? • Can children draw brackets around the parts of a calculation which, in the standard order of operation, are calculated first? • Can some children find higher/lower totals by drawing brackets around different parts of a calculation?	• Slides • Worksheets 1A/1B/1C • Flashcards 1 • Answer sheets • Squared paper • Calculators
Lesson 2	To use calculators to solve calculations with several different operations and numbers with up to two decimal places.	Children will build on their understanding of the order of operations, using calculators to solve long calculations including numbers with up to two decimal places.	• Can children identify the order of operation in long calculations? • Can children use mental/written methods to solve n.nn-n.nn or n.nn×n calculations? • Can children identify reasons for, and advantages of, using a calculator for certain types of calculation?	• Slides • Worksheets 2A/2B/2C • Squared paper • Answer sheets **FSD...? activity only:** • Challenge Card 2 • Game Board 2 • A variety of maths resources
Lesson 3	To identify the correct order of operations for long calculations including powers, and use calculators to solve them.	Continuing to build on their understanding of the order of operations, children will use calculators to solve long calculations including square numbers and other powers. Some children may also find missing operations in long calculations.	• Can children identify the correct order of operation for long calculations? • Can children solve long calculations including powers? • Can children construct long calculations including at least two different operations?	• Slides • Worksheets 3A/3B/3C/3D • Squared paper • Calculators • Answer sheets
Lesson 4	To convert fractions to decimals, and use calculators to solve calculations including fractions.	Continuing to build on their understanding of the order of operations, children will use calculators to convert fractions to decimals, then solve long calculations including fractions.	• Can children choose and use appropriate written methods or solving calculations? • Can children convert fractions to decimals using calculators? • Can children solve calculations including all four operations, whole numbers and fractions?	• Slides • Worksheets 4A/4B/4C/4D • Squared paper • Calculators • Answer sheets
Lesson 5	To solve multi-step problems choosing appropriate methods, including using calculators.	Children will be reminded that they can choose appropriate methods (mental/written/calculator) as they demonstrate their understanding of the week's learning by solving long, tricky calculations - either provided, or generated by themselves.	• Can children decide on appropriate operations and methods when solving multi-step problems? • Can children apply their knowledge of the order of operations when solving problems? • Can children use calculators and mental/written methods, where appropriate, to solve and check their calculations?	• Slides • Bungling Builders Cards 5 • Calculation Clues 5 • Squared paper • Calculators • Challenge Cards 5 (FSD...? activity only) • A variety of measuring equipment, e.g. tape measures, trundle wheels, scales (FSD? only) • Answer sheets

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Solving Data Problems: Maths : Year 6 : Autumn Term

PlanBee

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To interpret data presented in tables and pie charts.	Children will recap features of pie charts, identify mistakes in pie charts, read and interpret data presented in pie charts, and learn how to calculate percentage amounts of a given total. They will then go on to answer questions and explain their own interpretations of data presented in a variety of ways, including pie charts.	• Can children relate data presented in tables and pie charts? • Can children solve problems by interpreting pie charts? • Can children find percentages of an amount?	• Slides • Worksheets 1A/1B/1C • Clothes Shop Challenge sheets 1A–1C (FSD…? activity only)
Lesson 2	To convert proportions of a total amount to percentages and present them using pie charts.	Children will develop strategies, using prior knowledge of degrees and angles, to sketch 'estimated' pie charts by interpreting given sets of data. They will then practise making accurate pie charts, including those where it may be necessary to round degrees to the nearest whole number.	• Can children use knowledge of percentages and angles to make estimated drawings of pie charts? • Can children find percentages of proportions, including percentages of 360°? • Can children use a protractor to draw pie charts?	• Slides • Airport Challenge sheets 2A/2B/2C • Station Clues cards (FSD…? activity only)
Lesson 3	To interpret and construct line graphs, including those with two variables.	Children will explore how line graphs are useful for showing changes over time, looking at both continuous and discrete data. They will plot continuous and discrete data on line graphs, including those with two variables, and interpret the information shown. There is also the opportunity to solve problems involving the information shown on a variety of line graphs.	• Can children identify differences between discrete and continuous variables? • Can children draw scales and plot data on line graphs? • Can children solve problems by interpreting line graphs?	• Slides • Worksheets 3A/3B/3C • Graph paper • Business Report Challenge sheet (FSD…? activity only) • Charts and Graphs 3A–3D (FSD…? activity only)
Lesson 4	To interpret and draw conversion graphs.	Children will start by looking at how simple conversions can be solved using a four-cell ratio model before quickly finding out that this is only useful for simple conversions. They will then study a variety of conversion graphs. Children are encouraged to explain what they show before learning how to create their own accurate conversion graphs.	• Can children solve problems by interpreting conversion graphs? • Can children choose an appropriate scale for conversion graphs? • Can children accurately draw conversion graphs?	• Slides • Challenge Card 4 • Graph paper • Converting Currency sheet (FSD…? activity only) • Internet access (FSD…? activity only)
Lesson 5	To interpret and construct pie charts, line graphs and conversion graphs.	Children will consolidate their understanding of pie charts, line graphs and conversion graphs in this lesson as they solve a variety of problems. Children are challenged to create a report either from given data or from data about themselves. They will need to decide how to present each set of data, accurately draw pie charts, line graphs and conversion charts, and interpret the information they have collated.	• Can children construct and interpret pie charts? • Can children construct and interpret line graphs? • Can children construct and interpret conversion graphs?	• Slides • Annual Report sheets 5 • Annual Report form • Lined paper and graph paper • Challenge Card 5 (FSD…? activity only)

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