

D:\Users\01875535\Desktop\FDOI banner.jpg

# *Mapping of the Fractions and Decimals Online Interview to the*

# *Victorian Curriculum F-10 Mathematics*

Each task from the Fractions and Decimals Online Interview has been linked to the [*Overarching Big Idea*](http://www.education.vic.gov.au/school/teachers/teachingresources/discipline/maths/continuum/Pages/fracdecideas.aspx)to which it relates.

The task and the big idea are then related to the Content Description from the *Victorian Curriculum F-10 Mathematics* which provides the best match.

An indication of the extent of this match is also provided.

The final column relates key aspects of the Proficiencies to the Interview task and related Overarching Big Idea.

Further details on the Mathematics Content Descriptions and Achievement Standards can be accessed from the Victorian Curriculum website at: [http://victoriancurriculum.vcaa.vic.edu.au/mathematics](http://victoriancurriculum.vcaa.vic.edu.au/mathematics/curriculum/f-10#level=2)

| Fractions and Decimals Online Interview | | | Victorian Curriculum F-10 Mathematics | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Fractions & Decimals Online Interview Task | | Overarching Big Ideas | Level | Achievement Standard | Content Description | Extent of content match |
| **FRACTIONS** | | | | | | |
| 1 | **Fraction pie** | Understands that fractions are equal shares, with careful attention to what is the whole.  Can determine the part of a given whole. | 2 | **Number and Algebra**  Students count to and from, and order numbers up to 1000. They perform simple addition and subtraction calculations, using a range of strategies. They find the total value of simple collections of Australian notes and coins. Students represent multiplication and division by grouping into sets and divide collections and shapes into halves, quarters and eighths. They recognise increasing and decreasing number sequences involving 2s, 3s, 5s and 10s, identify the missing element in a number sequence, and use digital technology to produce sequences by constant addition. | **Fractions and Decimals**  Recognise and interpret common uses of halves, quarters and eighths of shapes and collections [(VCMNA110)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA110) | The task takes the idea of equal shares further, using unequal partitions in the model |
| **22** | **Pattern blocks** | Understands that the whole can change within a given task, and adjusts thinking accordingly.  Can express a larger object as a non-unit multiple of a smaller object. | **3** | **Number and Algebra**  Students count and order numbers to and from 10 000. They recognise the connection between addition and subtraction, and solve problems using efficient strategies for multiplication with and without the use of digital technology. Students recall addition and multiplication facts for single-digit numbers. They represent money values in various ways and correctly count out change from financial transactions. Students model and represent unit fractions for halves, thirds, quarters, fifths and eighths, and multiples of these up to one. They classify numbers as either odd or even, continue number patterns involving addition or subtraction, and explore simple number sequences based on multiples. | **Fractions and Decimals**  Model and represent unit fractions including 1/2, 1/4, 1/3, 1/5 and their multiples to a complete whole [(VCMNA136)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA136) | This task is more complex than the content description as it expects students to apply their knowledge of unit and non-unit (including improper) fractions to different wholes |
| **3** | **Dots array** | Can name a fraction of a collection. | **44** | **Number and Algebra**  Students recall multiplication facts to 10 x 10 and related division facts. They choose appropriate strategies for calculations involving multiplication and division, with and without the use of digital technology, and estimate answers accurately enough for the context. Students solve simple purchasing problems with and without the use of digital technology. They locate familiar fractions on a number line, recognise common equivalent fractions in familiar contexts and make connections between fractions and decimal notations up to two decimal places. Students identify unknown quantities in number sentences. They use the properties of odd and even numbers and describe number patterns resulting from multiplication. Students continue number sequences involving multiples of single-digit numbers and unit fractions, and locate them on a number line. | **Fractions and Decimals**  Investigate equivalent fractions used in contexts [(VCMNA157)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA157) | These tasks are assessing equivalent fractions in a discrete context |
| Recognises two equivalent fractions within a discrete situation. |
| **4** | **Simple operators** | Can mentally partition a number and identify the resultant part of the action of an operator involving a fraction of a whole number and problems involving two fractions. | **6** | **Number and Algebra**  Students recognise the properties of prime, composite, square and triangular numbers and determine sets of these numbers. They solve problems that involve all four operations with whole numbers and describe the use of integers in everyday contexts. Students locate fractions and integers on a number line and connect fractions, decimals and percentages as different representations of the same number. They solve problems involving the addition and subtraction of related fractions. Students calculate a simple fraction of a quantity and calculate common percentage discounts on sale items, with and without the use of digital technology. They make connections between the powers of 10 and the multiplication and division of decimals. Students add, subtract and multiply decimals and divide decimals where the result is rational. Students write number sentences using brackets and order of operations, and specify rules used to generate sequences involving whole numbers, fractions and decimals. They use ordered pairs of integers to represent coordinates of points and locate a point in any one of the four quadrants on the Cartesian plane. | **Fractions and Decimals**  Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies [(VCMNA213)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA213) | This task also assesses understanding of fraction of a fraction |
| **5** | **Fractions on a number line** | Can correctly locate a fraction (proper and improper) on a number line. | **4** | **Number and Algebra**  Students recall multiplication facts to 10 x 10 and related division facts. They choose appropriate strategies for calculations involving multiplication and division, with and without the use of digital technology, and estimate answers accurately enough for the context. Students solve simple purchasing problems with and without the use of digital technology. They locate familiar fractions on a number line, recognise common equivalent fractions in familiar contexts and make connections between fractions and decimal notations up to two decimal places. Students identify unknown quantities in number sentences. They use the properties of odd and even numbers and describe number patterns resulting from multiplication. Students continue number sequences involving multiples of single-digit numbers and unit fractions, and locate them on a number line. | **Fractions and Decimals**  Count by quarters, halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line [(VCMNA158)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA158) | This task also includes representing improper fractions on a number line |
| **6** | **Pizza** | Has an appropriate strategy for a sharing-type situation. | **4** | **Number and Algebra**  Students recall multiplication facts to 10 x 10 and related division facts. They choose appropriate strategies for calculations involving multiplication and division, with and without the use of digital technology, and estimate answers accurately enough for the context. Students solve simple purchasing problems with and without the use of digital technology. They locate familiar fractions on a number line, recognise common equivalent fractions in familiar contexts and make connections between fractions and decimal notations up to two decimal places. Students identify unknown quantities in number sentences. They use the properties of odd and even numbers and describe number patterns resulting from multiplication. Students continue number sequences involving multiples of single-digit numbers and unit fractions, and locate them on a number line. | **Number and place value**  Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder [(VCMNA156)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA156) | In this task, there is no remainder strictly, because each share is described as a fraction |
|  |  | **55** | **Number and Algebra**  Students solve simple problems involving the four operations using a range of strategies including digital technology. They estimate to check the reasonableness of answers and approximate answers by rounding. Students identify and describe factors and multiples. They explain plans for simple budgets. Students order decimals and unit fractions and locate them on a number line. Students add and subtract fractions with the same denominator. They find unknown quantities in number sentences and continue patterns by adding or subtracting fractions and decimals. | **Number and place value**  Solve problems involving division by a one digit number, including those that result in a remainder [(VCMNA184)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA184) |  |
| **7** | **Draw me a whole** | Can determine the whole when given a part which is less than one and a part greater than one. (12, 13) | **3** | **Number and Algebra**  Students count and order numbers to and from 10 000. They recognise the connection between addition and subtraction, and solve problems using efficient strategies for multiplication with and without the use of digital technology. Students recall addition and multiplication facts for single-digit numbers. They represent money values in various ways and correctly count out change from financial transactions. Students model and represent unit fractions for halves, thirds, quarters, fifths and eighths, and multiples of these up to one. They classify numbers as either odd or even, continue number patterns involving addition or subtraction, and explore simple number sequences based on multiples. | **Fractions and Decimals**  Model and represent unit fractions including 1/2, 1/4, 1/3, 1/5 and their multiples to a complete whole [(VCMNA136)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA136) | Also involves representing a whole given a part |
| **8** | **Construct a sum** | Has a sound understanding that a fraction has a size which can be benchmarked against fractions such as 0, 1/2 and 1.  Can determine two fractions that when added are close to one. | **6** | **Number and Algebra**  Students recognise the properties of prime, composite, square and triangular numbers and determine sets of these numbers. They solve problems that involve all four operations with whole numbers and describe the use of integers in everyday contexts. Students locate fractions and integers on a number line and connect fractions, decimals and percentages as different representations of the same number. They solve problems involving the addition and subtraction of related fractions. Students calculate a simple fraction of a quantity and calculate common percentage discounts on sale items, with and without the use of digital technology. They make connections between the powers of 10 and the multiplication and division of decimals. Students add, subtract and multiply decimals and divide decimals where the result is rational. Students write number sentences using brackets and order of operations, and specify rules used to generate sequences involving whole numbers, fractions and decimals. They use ordered pairs of integers to represent coordinates of points and locate a point in any one of the four quadrants on the Cartesian plane. | **Fractions and Decimals**  Solve problems involving addition and subtraction of fractions with the same or related denominators [(VCMNA212)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA212) | Also focuses on estimation and benchmarking. |
| **9** | **Fraction pairs** | Can compare the relative size of fractions, using appropriate and efficient strategies | **5** | **Number and Algebra**  Students solve simple problems involving the four operations using a range of strategies including digital technology. They estimate to check the reasonableness of answers and approximate answers by rounding. Students identify and describe factors and multiples. They explain plans for simple budgets. Students order decimals and unit fractions and locate them on a number line. Students add and subtract fractions with the same denominator. They find unknown quantities in number sentences and continue patterns by adding or subtracting fractions and decimals. | **Fractions and Decimals**  Compare and order common unit fractions and locate and represent them on a number line [(VCMNA187)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA187) | This task goes beyond common fractions comparisons. |
|  |  | Can compare the relative size of fractions, using appropriate and efficient strategies such preferred strategies such as residual thinking and benchmarking. | **6** | **Number and Algebra**  Students recognise the properties of prime, composite, square and triangular numbers and determine sets of these numbers. They solve problems that involve all four operations with whole numbers and describe the use of integers in everyday contexts. Students locate fractions and integers on a number line and connect fractions, decimals and percentages as different representations of the same number. They solve problems involving the addition and subtraction of related fractions. Students calculate a simple fraction of a quantity and calculate common percentage discounts on sale items, with and without the use of digital technology. They make connections between the powers of 10 and the multiplication and division of decimals. Students add, subtract and multiply decimals and divide decimals where the result is rational. Students write number sentences using brackets and order of operations, and specify rules used to generate sequences involving whole numbers, fractions and decimals. They use ordered pairs of integers to represent coordinates of points and locate a point in any one of the four quadrants on the Cartesian plane. | **Fractions and Decimals**  Compare fractions with related denominators and locate and represent them on a number line [(VCMNA211)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA211) | Also involves improper fractions; no number line representation required. |

| Fractions and Decimals Online Interview | | | Victorian Curriculum F-10 Mathematics | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Fractions & Decimals Online Interview Task | | Overarching Big Ideas | Level | Achievement Standard | Content Description | Extent of content match |
| **DECIMALS** | | | | | | |
| **10** | **Decimals on a number line** | Can identify a decimal fraction on a number line, including when the calibrations are in tenths and are not in tenths. | **5** | **Number and Algebra**  Students solve simple problems involving the four operations using a range of strategies including digital technology. They estimate to check the reasonableness of answers and approximate answers by rounding. Students identify and describe factors and multiples. They explain plans for simple budgets. Students order decimals and unit fractions and locate them on a number line. Students add and subtract fractions with the same denominator. They find unknown quantities in number sentences and continue patterns by adding or subtracting fractions and decimals. | **Fractions and Decimals**  Compare, order and represent decimals [(VCMNA190)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA190) | This task requires students to *interpret* a decimal on a number line. |
| **11** | **Decimal density** | Understands that between any two decimal numbers there is an infinite number of decimal numbers. | **5** | **Number and Algebra**  Students solve simple problems involving the four operations using a range of strategies including digital technology. They estimate to check the reasonableness of answers and approximate answers by rounding. Students identify and describe factors and multiples. They explain plans for simple budgets. Students order decimals and unit fractions and locate them on a number line. Students add and subtract fractions with the same denominator. They find unknown quantities in number sentences and continue patterns by adding or subtracting fractions and decimals. | **Fractions and Decimals**  Recognise that the place value system can be extended beyond hundredths [(VCMNA189)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA189) | Also involves decimal density. |
| **12** | **Make me a decimal** | Can represent fractions (where the denominator is a multiple of ten) in decimal notation, regrouping and renaming as required. | **4** | **Number and Algebra**  Students recall multiplication facts to 10 x 10 and related division facts. They choose appropriate strategies for calculations involving multiplication and division, with and without the use of digital technology, and estimate answers accurately enough for the context. Students solve simple purchasing problems with and without the use of digital technology. They locate familiar fractions on a number line, recognise common equivalent fractions in familiar contexts and make connections between fractions and decimal notations up to two decimal places. Students identify unknown quantities in number sentences. They use the properties of odd and even numbers and describe number patterns resulting from multiplication. Students continue number sequences involving multiples of single-digit numbers and unit fractions, and locate them on a number line. | **Fractions and Decimals**  Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation [(VCMNA159)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA159) | This task includes making connections between fractions greater than one and decimal notation. |
| **13** | **Ordering decimals** | Understands the relative size of decimals. | **5** | **Number and Algebra**  Students solve simple problems involving the four operations using a range of strategies including digital technology. They estimate to check the reasonableness of answers and approximate answers by rounding. Students identify and describe factors and multiples. They explain plans for simple budgets. Students order decimals and unit fractions and locate them on a number line. Students add and subtract fractions with the same denominator. They find unknown quantities in number sentences and continue patterns by adding or subtracting fractions and decimals. | **Fractions and Decimals**  Compare, order and represent decimals [(VCMNA190)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA190) | This task also includes ordering whole numbers and decimals greater than one. |
| **14** | **Connecting fractions, decimals and percentages** | Can interpret an area model divided into hundredths and represent this as a fraction, decimal and percent. | **4** | **Number and Algebra**  Students recall multiplication facts to 10 x 10 and related division facts. They choose appropriate strategies for calculations involving multiplication and division, with and without the use of digital technology, and estimate answers accurately enough for the context. Students solve simple purchasing problems with and without the use of digital technology. They locate familiar fractions on a number line, recognise common equivalent fractions in familiar contexts and make connections between fractions and decimal notations up to two decimal places. Students identify unknown quantities in number sentences. They use the properties of odd and even numbers and describe number patterns resulting from multiplication. Students continue number sequences involving multiples of single-digit numbers and unit fractions, and locate them on a number line. | **Fractions and Decimals**  Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation [(VCMNA159)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA159) | The task also involves links to percentages. |
| **15** | **Decimal comparison test** | Is able to compare the relative size of a pair of decimals. | **5** | **Number and Algebra**  Students solve simple problems involving the four operations using a range of strategies including digital technology. They estimate to check the reasonableness of answers and approximate answers by rounding. Students identify and describe factors and multiples. They explain plans for simple budgets. Students order decimals and unit fractions and locate them on a number line. Students add and subtract fractions with the same denominator. They find unknown quantities in number sentences and continue patterns by adding or subtracting fractions and decimals. | **Fractions and Decimals**  Compare, order and represent decimals [(VCMNA190)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA190) | The task doesn’t involve representation. |
| **16** | **Decimal operations** | Has a deep conceptual understanding of multiplication and division.  Is able to apply an understanding of multiplication and division to the decimal context. | **6** | **Number and Algebra**  Students recognise the properties of prime, composite, square and triangular numbers and determine sets of these numbers. They solve problems that involve all four operations with whole numbers and describe the use of integers in everyday contexts. Students locate fractions and integers on a number line and connect fractions, decimals and percentages as different representations of the same number. They solve problems involving the addition and subtraction of related fractions. Students calculate a simple fraction of a quantity and calculate common percentage discounts on sale items, with and without the use of digital technology. They make connections between the powers of 10 and the multiplication and division of decimals. Students add, subtract and multiply decimals and divide decimals where the result is rational. Students write number sentences using brackets and order of operations, and specify rules used to generate sequences involving whole numbers, fractions and decimals. They use ordered pairs of integers to represent coordinates of points and locate a point in any one of the four quadrants on the Cartesian plane. | **Fractions and decimals**  Multiply decimals by whole numbers and perform divisions by non-zero whole numbers where the results are terminating decimals, with and without digital technologies [(VCMNA215)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA215) | This task also includes dividing a whole number by a decimal less than one. |

| Fractions and Decimals Online Interview | | | | Victorian Curriculum F-10 Mathematics | | |
| --- | --- | --- | --- | --- | --- | --- |
| Fractions & Decimals Online Interview Task | | Overarching Big Ideas | Level | Achievement Standard | Content Description | Extent of content match |
| **RATIOS AND PERCENTAGES** | | | | | | |
| **17** | **Pod tunes or new tunes?** | Applies appropriate proportional reasoning to determine best value. | **7** | **Number and Algebra**  Students solve problems involving the order, addition and subtraction of integers. They make the connections between whole numbers and index notation and the relationship between perfect squares and square roots. They solve problems involving all four operations with fractions, decimals, percentages and their equivalences, and express fractions in their simplest form. Students compare the cost of items to make financial decisions, with and without the use of digital technology. They make simple estimates to judge the reasonableness of results. Students use variables to represent arbitrary numbers and connect the laws and properties of number to algebra and substitute numbers into algebraic expressions. They assign ordered pairs to given points on the Cartesian plane and interpret and analyse graphs of relations from real data. Students develop simple linear models for situations, make predictions based on these models, solve related equations and check their solutions. | **Money and financial mathematics**  Investigate and calculate 'best buys', with and without digital technologies [(VCMNA250)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA250) | Good match. |
| **18** | **Reserve bank** | Has a sufficient conceptual understanding of percentages to correctly interpret a fraction of a percent and translate it to other representations. | **6** | **Number and Algebra**  Students recognise the properties of prime, composite, square and triangular numbers and determine sets of these numbers. They solve problems that involve all four operations with whole numbers and describe the use of integers in everyday contexts. Students locate fractions and integers on a number line and connect fractions, decimals and percentages as different representations of the same number. They solve problems involving the addition and subtraction of related fractions. Students calculate a simple fraction of a quantity and calculate common percentage discounts on sale items, with and without the use of digital technology. They make connections between the powers of 10 and the multiplication and division of decimals. Students add, subtract and multiply decimals and divide decimals where the result is rational. Students write number sentences using brackets and order of operations, and specify rules used to generate sequences involving whole numbers, fractions and decimals. They use ordered pairs of integers to represent coordinates of points and locate a point in any one of the four quadrants on the Cartesian plane. | **Fractions and Decimals**  Make connections between equivalent fractions, decimals and percentages [(VCMNA217)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA217) | Good match. |
| **18** | **Chocolate milk** | Understands how percentages can be greater than 100%, and can move from more than 100% of a quantity to the quantity back to the whole. | **6** | **Number and Algebra**  Students recognise the properties of prime, composite, square and triangular numbers and determine sets of these numbers. They solve problems that involve all four operations with whole numbers and describe the use of integers in everyday contexts. Students locate fractions and integers on a number line and connect fractions, decimals and percentages as different representations of the same number. They solve problems involving the addition and subtraction of related fractions. Students calculate a simple fraction of a quantity and calculate common percentage discounts on sale items, with and without the use of digital technology. They make connections between the powers of 10 and the multiplication and division of decimals. Students add, subtract and multiply decimals and divide decimals where the result is rational. Students write number sentences using brackets and order of operations, and specify rules used to generate sequences involving whole numbers, fractions and decimals. They use ordered pairs of integers to represent coordinates of points and locate a point in any one of the four quadrants on the Cartesian plane. | **Money and financial mathematics**  Investigate and calculate percentage discounts of 10%, 25% and 50% on sale items, with and without digital technologies [(VCMNA218)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA218) | This task includes a percentage greater than 100%. |
| **18a & b** |  |  | **7** | **Number and Algebra**  Students solve problems involving the order, addition and subtraction of integers. They make the connections between whole numbers and index notation and the relationship between perfect squares and square roots. They solve problems involving all four operations with fractions, decimals, percentages and their equivalences, and express fractions in their simplest form. Students compare the cost of items to make financial decisions, with and without the use  of digital technology. They make simple estimates to judge the reasonableness of results. Students use variables to represent arbitrary numbers and connect the laws and properties of number to algebra and substitute numbers into algebraic expressions. They assign ordered pairs to given points on the Cartesian plane and interpret and analyse graphs of relations from real data. Students develop simple linear models for situations, make predictions based on these models, solve related equations and check their solutions. | **Real Numbers**  Connect fractions, decimals and percentages and carry out simple conversions [(VCMNA247)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA247) |
| **19** | **Cordial** | Can solve a two-part ratio to a practical situation, understanding that a partitioning situation represented by a:b can also be represented by a partitioning into two parts a/(a+b) and b/(a+b). | **7** | **Number and Algebra**  Students solve problems involving the order, addition and subtraction of integers. They make the connections between whole numbers and index notation and the relationship between perfect squares and square roots. They solve problems involving all four operations with fractions, decimals, percentages and their equivalences, and express fractions in their simplest form. Students compare the cost of items to make financial decisions, with and without the use of digital technology. They make simple estimates to judge the reasonableness of results. Students use variables to represent arbitrary numbers and connect the laws and properties of number to algebra and substitute numbers into algebraic expressions. They assign ordered pairs to given points on the Cartesian plane and interpret and analyse graphs of relations from real data. Students develop simple linear models for situations, make predictions based on these models, solve related equations and check their solutions. | **Real numbers**  Recognise and solve problems involving simple ratios [(VCMNA249)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA249) | Good match. |
| **20** | **Cheese Please** | Estimates well in a shopping situation involving determining the price of a fraction of a kilogram, given the kilogram rate.  Chooses the appropriate operation (multiplication) when calculating the cost of a decimal fraction of a kilogram. | **6** | **Number and Algebra**  Students recognise the properties of prime, composite, square and triangular numbers and determine sets of these numbers. They solve problems that involve all four operations with whole numbers and describe the use of integers in everyday contexts. Students locate fractions and integers on a number line and connect fractions, decimals and percentages as different representations of the same number. They solve problems involving the addition and subtraction of related fractions. Students calculate a simple fraction of a quantity and calculate common percentage discounts on sale items, with and without the use of digital technology. They make connections between the powers of 10 and the multiplication and division of decimals. Students add, subtract and multiply decimals and divide decimals where the result is rational. Students write number sentences using brackets and order of operations, and specify rules used to generate sequences involving whole numbers, fractions and decimals. They use ordered pairs of integers  to represent coordinates of points and locate a point in any one of the four quadrants on the Cartesian plane. | **Fractions and Decimals**  Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies [(VCMNA213)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA213) | Fractions are not simple in this task but an estimate is all that is required. |
| **Fractions and Decimals**  Multiply decimals by whole numbers and perform divisions by non-zero whole numbers where the results are terminating decimals, with and without digital technologies [(VCMNA215)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA215) |  |