

FRACTIONS AND DECIMALS CONCEPT SEQUENCE

RESEARCH

LINKS		FRACTIONS	DECIMALS
KINDERGARTEN	<u>1</u>	.1 Halve shapes and lengths, explaining it is half as big / long. .2 Halve different shapes, explaining why halves are different sizes / areas. <i>Use this concept now to investigate comparing the area of shapes. (MEASUREMENT AND GEOMETRY 10)</i>	T4
	<u>2</u>	Halve shapes, lengths and groups. (Also Patterns and Algebra 9) <i>Use this concept now to investigate dividing into 2 equal groups related to halving (MULTIPLICATION AND DIVISION 2) and to investigate time on the half hour. (TIME 6)</i>	T4
YEAR 2	<u>3</u>	Quarter shapes, explaining quarters are a quarter as big as 1 shape, and half as big as a half.	T4
	<u>4</u>	Quarter groups by quartering and by halving a half, relating to dividing into 4 equal groups. (Also Multiplication and Division 8) <i>Use this concept now to investigate quarter turns (MEASUREMENT AND GEOMETRY 27) and to investigate time to the quarter hour. (TIME 10)</i>	
	<u>5</u>	Eighth shapes, explaining eighths are an eighth as big as 1 shape, and half as big as a quarter and quarter as big as a half.	
	<u>6</u>	Eighth groups by eighthing, relating to dividing into 8 equal groups.	

		LINKS	FRACTIONS	DECIMALS	
YEAR 3	<u>7</u>		Role of the denominator as the number we are dividing by. <i>Use this concept now to investigate dividing by 2, 4, 3, 5, 9, 6, 8, 7 (MULTIPLICATION AND DIVISION 10, 11, 12, 13, 14, 15, 16, 17, PATTERNS AND ALGEBRA 18)</i>		T2
	<u>8</u>		Multiplicative relationships between fractions while building a fraction wall. <i>Use this concept now to investigate dividing into 2 equal groups related to halving (MULTIPLICATION AND DIVISION 2) and to investigate time on the half hour. (TIME 6)</i>		T3
	<u>9</u>		Non-unit fractions and the role of numerator as the number of parts we are concerned with.		
	<u>10</u>		Locate unit and non-unit fractions on a number line and identify that fractions with the same numerator and denominator are equal to 1.		

LINKS		FRACTIONS	DECIMALS
YEAR 4	<u>11</u>		.1 Explain multiplicative place value of decimals to tenths by dividing 1 by 10 to get tenths. .2 Explain multiplicative place value of decimals to tenths by multiplying tenths by 10 to get 1. .3 Explain standard and non-standard place value of decimals to tenths. .4 Express tenths as both fraction and decimal. (Also Place Value 20)
	<u>12</u>		.1 Multiplicative place value of decimals to hundredths by dividing a tenth by 10 to get hundredths. .2 Multiplicative place value of decimals to hundredths by multiplying hundredths by 10 to get tenths. .3 Standard and non-standard place value of decimals to hundredths. .4 Expressing hundredths as both fraction and decimal. (Also Place Value 21)
	<u>13</u>	.1 Equivalent unit and non-unit fractions with concrete material .2 Equivalent unit and non-unit fractions and the relationship between numerator and denominator.	Use these concepts now to convert between metres, centimetres, millimetres and millilitres, litres and grams, kilograms. (MEASUREMENT AND GEOMETRY 39, 45, 47)
	<u>14</u>	Equivalent unit and non-unit fractions on a number line.	
	<u>15</u>	.1 Number patterns involving fractions that increase through addition. .2 Number patterns involving fractions, that decrease through subtraction. (Also Patterns and Algebra 22, Addition and Subtraction 26)	
	<u>16</u>		Recognise that amounts of money are written with two decimal places and cents are a fraction of a dollar. (Also Money and Financial Mathematics 11, Place Value 22)
	<u>17</u>		Round a number with one or two decimal places to the nearest whole number. (Also Place Value 23)
			T1
			T2
			T3
			T4

LINKS		FRACTIONS	DECIMALS	
YEAR 5	<u>18</u>		.1 Multiplicative place value of whole numbers and decimals to hundredths by multiplying and dividing by 10, 100 and 1000. .2 Standard and non-standard place value of decimals to hundredths, expressing hundredths as both fraction and decimal. (Also Place Value 24)	T1
	<u>19</u>		.1 Multiplicative place value of whole numbers and decimals to thousandths by multiplying and dividing by 10, 100 and 1000. .2 Standard and non-standard place value to thousandths, expressing thousandths as both fraction and decimal. (Also Place Value 25) <i>Use this concept now to relate metric length units decametres, hectometres, kilometres and grams, kilograms, tonnes. (MEASUREMENT AND GEOMETRY 51, 57)</i>	
	<u>20</u>	Role of the vinculum as meaning divided by.		
	<u>21</u>	Division with remainders divided to create fractions. (Also Multiplication and Division 23)		T2
	<u>22</u>		Order decimals to thousandths on a number line, recording decimals as fractions and decimals. (Also Place Value 26)	T3
	<u>23</u>	Add and subtract fractions and mixed numerals with the same denominator. (Also Addition and Subtraction 28)		
<u>24</u>	Number patterns involving fractions, decimals and whole numbers, that increase through addition and decrease through subtraction, including on number line. (Also Patterns and Algebra 27, Place Value 27)			

LINKS		FRACTIONS	DECIMALS	
YEAR 6	<u>25</u>		Multiplicative and additive place value of whole numbers and decimals of any size by multiplying and dividing by 10, 100 and 1000. (Also Place Value 28)	T1
	<u>26</u>		.1 Multiply decimals to thousandths by whole numbers and powers of 10. .2 Divide decimals to thousandths by whole numbers and powers of 10, recording remainders as fractions and decimals. (Also Multiplication and Division 25, Place Value 29)	
			Use these concepts now to convert between millimetres, centimetres, metres, kilometres and millilitres, litres, kilolitres, megalitres and milligrams, grams, kilograms, tonnes. (MEASUREMENT AND GEOMETRY 59, 64, 67)	
	<u>27</u>	Division is multiplication by a fraction. (Also Multiplication and Division 26)		
	<u>28</u>	Fractions in their simplest form by dividing numerator and denominator by highest common factor creating equivalent fractions through calculation, identifying we have divided by 1. Use this concept now to add and subtract fractions and mixed numerals with related denominators using place value (ADDITION AND SUBTRACTION 30)		
	<u>29</u>	Percentages as hundredths, related to fractions and decimals.		
	<u>30</u>	Calculate percentage discounts of 10%, 25% and 50% on sale items. (Also Money and Financial Mathematics 13)		
	<u>31</u>	Describe probabilities using fractions, decimals and percentages, including on a number line. (Also Statistics and Probability 18, Place Value 30)		
	<u>32</u>		.1 Add decimals using place value. .2 Subtract decimals using place value. (Also Addition and Subtraction 29 and Place Value 32)	T2
	<u>33</u>	.1 Add fractions and mixed numerals with related denominators. .2 Subtract fractions and mixed numerals with related denominators using place value. (Also Addition and Subtraction 30)		
<u>34</u>	.1 Number patterns with fractions in a table, describing the rule using the relationship between the term and the number. .2 Number patterns with and decimals in a table, describing the rule using the relationship between the term and the number. (Also Patterns and Algebra 28, Place Value 31, Addition and Subtract 31)			