

# MULTIPLICATION AND DIVISION CONCEPT SEQUENCE

# RESEARCH

Number and Algebra concepts in Kindergarten / Prep / Reception are taught informally. These concepts are listed under Early Counting and Grouping.

LINKS		MULTIPLICATION AND DIVISION DIFFERENTIATE MULTIPLICATION AND DIVISION USING THESE LEVELS	LINKS	MULTIPLICATION AND DIVISION AND RELATED CONCEPTS
YEAR 1	<u>1</u>	Divide by making 'groups of' and 'equal groups'.		T3
	<u>2</u>	.1 Divide by 2 by making 2 equal groups, describe part left over, describe halves. .2 Divide by 2 by making groups of 2, describe part left over.	<u>3</u>	Number patterns rhythmic / skip counting forwards and backwards by 2s, 5s and 10s naming multiples. (Also Patterns and Algebra 8)
	Use these concepts now to investigate halving groups related to dividing into 2 equal groups. (FRACTIONS AND DECIMALS 2)			
	<u>4</u>	Divide into groups of 2, 5 and 10 and find total using skip and rhythmic counting.		
YEAR 2	<u>5</u>	.1 Divide into equal rows (array) describe using division. .2 Divide into equal rows (array) describe using 2 division and 2 multiplication number sentences.		T2
	Use these concepts now to investigate area of shapes using square arranged in an array. (MEASUREMENT AND GEOMETRY 23)			
	<u>7</u>	.1 Divide by making 'groups of ...' and count groups, and making '... equal groups' and count counters in each group. .2 Divide into 'groups of ...' and '... equal groups' and describe part left over.	<u>6</u>	Multiplication of coins and notes to make equivalent values, 20 cents = 2 x 10 cents, 5 x 20 cents = \$1, 4 x \$5 = \$20. (Also Money and Financial Mathematics 8)
	<u>8</u>	Divide into 'groups of 4' and '4 equal groups', relating to quarters, describe part left over. (Also Fractions and Decimals 4)		

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YEAR 3	<u>9</u>	Multiplication and division by 10 using multiplicative place value. <i>Investigate this concept with multiplicative place value of whole numbers to ten-thousands by multiplying and dividing by 10. (PLACE VALUE 18) Use these concepts now to relate metric length units (metres, decimetres, centimetres and millimetres) to multiplicative place value. (MEASUREMENT AND GEOMETRY 30)</i>	T1
	<u>10</u>	Multiplication and division by 2 using properties and relationships. <i>Use this concept to investigate odd and even numbers. (PATTERNS AND ALGEBRA 15)</i>	T2
	<u>11</u>	Multiplication and division by 4 using properties and relationships.	
	<u>12</u>	Multiplication and division by 3 using properties and relationships.	
	<u>13</u>	Multiplication and division by 5 using properties and relationships.	
YEAR 4	<u>14</u>	Multiplication and division by 9 using properties and relationships.	T3
	<u>15</u>	Multiplication and division by 6 using properties and relationships.	T4
	<u>16</u>	Multiplication and division by 8 using properties and relationships.	T2
	<u>17</u>	Multiplication and division by 7 using properties and relationships.	T3
		<p><b>LINKS</b></p> <p><u>18</u></p> <p>.1 Skip counting forwards and backwards multiples, identifying the rule and terms through multiplication. .2 Skip counting forwards and backwards non-multiples, identifying the rule, and terms. .3 Describe a rule using multiplication then create number patterns that increase and decrease. (Also Patterns and Algebra 23)</p> <p><u>19</u></p> <p>Multiplication and division word problems as number sentences. (Also Patterns and Algebra 25)</p>	T4

These concepts investigate multiplication using the distributive property. (PATTERNS AND ALGEBRA 18)

These concepts are related to the denominator meaning 'the number we divided by'. (FRACTIONS AND DECIMALS 7)

MULTIPLICATION AND DIVISION DIFFERENTIATE MULTIPLICATION AND DIVISION USING THESE LEVELS		MULTIPLICATION AND DIVISION AND RELATED CONCEPTS		
YEAR 5	LINKS	<u>20</u>	Highest common factor.	T1
		<u>21</u>	.1 Equivalent simpler division calculations result if both numbers are divided by a common factor, thus creating and solving equivalent number sentences. .2 Create and solve equivalent number sentences involving multiplication and division. (Also Patterns and Algebra 26)	
		<u>22</u>	Divisibility Tests.	
	<u>23</u>	Divide by single-digit numbers, dividing the remainder to create a fraction. (Also Fractions and Decimals 21) <i>Use this concept to investigate the vinculum meaning divided by. (FRACTIONS AND DECIMALS 19)</i>		
	<u>24</u>	Multiplication of 2 two-digit numbers using properties and relationships, including place value and the distributive property		T4
YEAR 6	<u>25</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 Fractions and Decimals 26, Place Value 29)		T1
	<u>26</u>	Division is multiplication by a fraction. (Also Fractions and Decimals 27)		T2
	<u>27</u>	Identify and explain square numbers. (Also Patterns and Algebra 29)		T4
	<u>28</u>	.1 Prime and composite numbers. .2 Explain composite numbers as the product of prime factors and use prime factors to simplify calculations. (Also Patterns and Algebra 32)		
	<u>29</u>	Missing and equivalent number sentences using order of operations and grouping symbols. (Also Addition and Subtraction 33, Patterns and Algebra 31)		