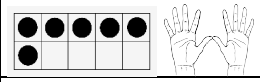
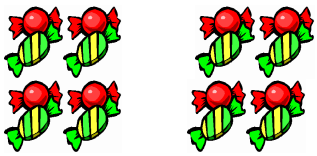
Student Numeracy Profile Examples (From 'Team Solutions')

KNOWLEDGE & STRATEGY	STAGE 0-1 During 1st yr	EMERGENT- ONE TO ONE COUNTING									
LEARNING OUTCOMES – KNOWLEDGE I am learning to:											
Read numbers to 5 first and then to 10	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10										
Count forwards to 5 first and then to 10	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10										
Count backwards from 5 first and then from 10	5, 4, 3, 2, 1										
Say the number after a number (in the range 1-5)	3, 4, ____										
Say the number before a number (in the range 1-5)	____ 4, 5										
Order numbers to 5 first and then to 10	5 3 1 2 4										
STRATEGY I am learning to:											
Count a set of objects up to 5 first and then to 10 by one to one matching	 1 2 3 3 ladybirds										
Form a set of objects up to 5 first and then to 10 by one to one matching	Get 2 teddies 1 2										

KNOWLEDGE & STRATEGY	STAGE 1 During 1st yr	ONE TO ONE COUNTING									
LEARNING OUTCOMES – **KNOWLEDGE** I am learning to:											
Read numbers to 10	7, 6, 8										
Count forwards to 10	0, 1, 2, 3, 4, 5 …										
Count backwards from 10	10, 9, 8, 7, 6 …										
Say the number after a number (in the range 1-10)	4, 5, ____										
Say the number before a number (in the range 1-10)	____ 6, 7										
Order numbers to 10	5 3 1 8 2 7										
STRATEGY I am learning to:											
Count a set of objects up to 10	1 2 3 4 5 6 7 7 faces										
Join and split objects in groups	and										

KNOWLEDGE & STRATEGY	STAGE 2 During 1st yr	COUNTING FROM ONE ON MATERIALS									
LEARNING OUTCOMES – **KNOWLEDGE** I am learning to:											
Read any number up to 20	17, 6, 18										
Count forwards from any number up to 20	14, 15, 16										
Count backwards from any number up to 20	15, 14, 13										
Say the number after a number (in the range 1-20)	14, 15, ____										
Say the number before a number (in the range 1-20)	____ 16, 17										
Order numbers to 20	5 13 17 8 20										
Know groupings within 5	3 and 2 4 and 1										
Know groupings with 5	5 and 2										
Read symbols for halves and quarters	½ ¼										
STRATEGY I am learning to:											
Solve + problems to 10 by counting all the objects	 6 + 3 = 9										
Solve – problems to 10 by counting all the objects											

KNOWLEDGE & STRATEGY	STAGE 3 After 1½ Yrs	COUNTING FROM ONE BY IMAGING									
LEARNING OUTCOMES – KNOWLEDGE **I am learning to:**											
Read any number up to 20	17, 6, 18										
Count forwards from any number up to 20	14, 15, 16										
Count backwards from any number up to 20	15, 14, 13										
Say the number after a number (in the range 1-20)	14, 15, ____										
Say the number before a number (in the range 1-20)	____ 16, 17										
Order numbers to 20	5 13 17 8 20										
Skip count forwards & backwards in 2's, 5's, & 10's	2, 4, 6, 8, 10 20										
	5, 10, 15, 20 50										
	10, 20, 30, 40, ... 100										
Know groupings within 10	7 and 3										
Instantly recognise patterns to 10, doubles & 5 based											
Know doubles to 10	5 + 5 = 10										
Read symbols for halves and quarters	½ ¼										
STRATEGY	**I am learning to:**										
Addition: Solve simple + problems by counting all the objects in their head	6 + 3 = 1,2,3,4,5, 6.7.8.9										
Subtraction: Solve simple – problems by counting all the objects in their head	6 – 3 = 1,2,3,~~4,5,6~~										
Multiplication: Solve simple x & ÷ problems by counting all the objects	4 X 2 = 1,2,3,4,5,6,7,										
Fractions: Find ½ and ¼ of shapes or sets to 20 by equal sharing of the objects.	½ of 8 = 										

KNOWLEDGE & STRATEGY	STAGE 4 After 2½ Yrs	ADVANCED COUNTING									
LEARNING OUTCOMES – **KNOWLEDGE** **I am learning to:**											
Read any number up to 100	17, 26, 38										
Count forwards from any number up to 100	34, 35, 36										
Count backwards from any number up to 100	75, 74, 73										
Say the number after a number (in the range 1-20)	54, 55, ____										
Say the number before a number (in the range 1-100)	____ 56, 57										
Order numbers to 100	25, 13, 47, 58, 71										
Count forwards & backwards in 2's, 5's, & 10's to 100	2, 4, 6, 8, 10 100										
	5, 10, 15, 20 100										
	10, 20, 30, 40, ... 100										
Know numbers of 10's in decades	Six 10's in 60										
Know groupings within 20	17 + 3 4 + 16										
Know teen number facts	10 + 6 = 16 10 + ? = 18										
Know multiples of 10 that add to 100	30 + 70 = 100										
Know doubles and halves to 20	3 + 3 6 – 3 ½ of 6										
Know addition facts to 10	4 + 3 = 7										
Read unit fractions	½, ¼, $^1/_3$, $^1/_5$, $^1/_{10}$										
STRATEGY I am learning to:											
Addition: Solve + problems by counting on from the largest number in my head	16 + 3 = 17, 18, 19										
Subtraction: Solve – problems by counting back from the largest number in my head	32 – 3= 31, 30, 29										
Solve + and – problems by counting on and back in ones and tens	36 + 40 = 46, 56,66,76										
Multiplication: Solve x problems by skip counting in 2's, 5's or 10's	4 x 5 = 5. 10.15. 20										
Fractions: Find ½ and ¼ of sets and shapes by equal sharing	½ of 8 =										

KNOWLEDGE & STRATEGY	STAGE 5 By End of Y4	EARLY ADDITIVE PART-WHOLE									
LEARNING OUTCOMES – **KNOWLEDGE** **I am learning to:**											
Read any number up to 1000	333, 479, 983										
Count forwards & backwards by 1's, 10's & 100's	325, 335, … 1000										
Say the number 1 more, 10 more, 100 more	145, 155, _____										
Say the number 1 less, 10 less, 100 less	____ 156, 166										
Order numbers to 1000	126, 433, 754										
Skip count forwards & backwards in 3's	3, 6, 9, …..30 (as well as in 2's, 5's, 10's)										
Know unit fraction symbols	$\frac{1}{2}$, $\frac{1}{4}$, $^1/_3$, $^1/_5$, $^1/_{10}$										
Order fractions with the same denominators	$\frac{1}{4}$, $\frac{3}{4}$										
Know groupings of 10's in a three digit number	327 = 32 tens										
Know groupings to 100	43 and 57										
Round three digit numbers to the nearest 10 or 100	246 → 250										
Know addition facts to 20	12 + 8 = 20										
Know multiples of 100 that add to 1000	400 + 600										
Know multiplication & division facts for x2, x5, x10	5 x 2 = 10 60 ÷ 10 = 6										
STRATEGY I am learning to:											
Addition & Subtraction Solve simple problems mentally using basic facts they know: Doubles: 8+7=8+8-1 Fives: 8+7=5+3+5+2 Making tens: 8+7=8+2+5	8 + 7 = Double 8 is 16 so minus 1										
Addition & Subtraction: Solve 2 & digit problems by: *Tidy numbers:29+18 as 30+17 *Place value: 33+16 as 30+10+3+6	29 + 18 = 29+1 = 30 so now just add										
Multiplication & Division: Solve problems by: *using repeated addition with 2's, 3's, 5's & 10's at least *or forming the factors when the basic fact is known	8 x 5 = 5+5 = 10 so 10 + 10 + 10 + 10 = 40										
Fractions: *Find a fraction of a number by trial and improvement with addition facts *find fractions of shapes & lengths including fractions greater than 1 *order fractions	$^1/_3$ of 12 = 4+4+4=12, so $^1/_3$ is 4										

KNOWLEDGE & STRATEGY	STAGE 6 By End of Y6	ADVANCED ADDITIVE									
LEARNING OUTCOMES – KNOWLEDGE I am learning to:											
Read any number up to 1000000	698, 999										
Read decimals to 3dp	0.764										
Read any fraction, including greater than 1	$^{8}/_{6}$, $^{4}/_{5}$, $1^{1}/_{3}$										
Order unit fractions	$^{1}/_{10}$, $^{1}/_{8}$, ¼, ½										
Say the number 1, 10, 100 & 1000 more or less	654, 754, 854 8432, 7432 …										
Count forwards & backwards in ½s, ¼s, $^{1}/_{3s}$, $^{1}/_{5s}$, $^{1}/_{10s}$	$^{8}/_{10}$, $^{9}/_{10}$, 1, $1^{1}/_{10}$										
Know groupings of 10s and 100s in a four digit number	4676= 467 tens & 46 hundreds										
Know groupings within 1000	455 & 555, 200 & 800										
Know groups of 2s, 3s, 5s, & 10s in numbers to 100 & any remainders	Threes in 17 = 5 and 2 remainders										
Round whole numbers to the nearest 10, 100, 1000	5508 → 6000										
Round decimals to the nearest whole number	3.49 → 3										
Recall all basic multiplication facts	3 x 8 = 24 7 x 7 = 49										
Recall addition & subtraction facts to 20	13 + 5 = 18 16 – 9 = 7										
Know what happens when you multiply by 0, 1, or 10	14 x 10 = 140										
STRATEGY I am learning to:											
ADDITION & SUBTRACTION											
Compensation from tidy numbers	374+79 → (394+80)-1										
Place value partitioning	374+79 → 390+70+9+4										
Compatible numbers	45+37+65 → (45+65) + 37										
Reversibility	403-97 → 97+ ? = 403										
Equal additions	403-97 → 406-100										
Written form for addition	4394 + 579										
Written form for subtraction	2403 - 1097										
MULTIPLICATION & DIVISION											
Doubling	8x3 → 2x (4x3)										
Adding & subtracting	8x3 → (7x3) + 3										
Reversing	63 ÷ 9 → 9x ? = 63										
Doubling & halving	3 x 12 → 6 x 6										
Rounding/compensation	9x6 → (10x6) - 6										
Multiplying by 10s and 100s	70x5 → 7x5x10										
FRACTIONS											
Find fractions of whole numbers	¾ of 24 = ? ¾ of what is 21?										
Solve simple equivalent ratio & rate problems	2 : 3 so ? : 6										
Compare fraction sizes with whole numbers	$^{37}/_{7}$ = 5 $^{2}/_{7}$										

STRATEGY	STAGE 6 to 7 By End Y7	ADVANCED ADDITIVE – ADVANCED MULTIPLICATIVE PART-WHOLE

LEARNING OUTCOMES – **STRATEGY** I am learning to:											
ADDITION & SUBTRACTION											
Compensation from tidy numbers	3.2+1.95 → (3.2+2)-0.05										
Place value partitioning	8.65+4.2 → 8+4+0.6+0.2+0.05										
Reversibility	6.03-5.8 → 5.8+? = 6.03										
Equal additions	7.2-3.7 → 7.5-4=3.5										
Written form for + and -	7.2 - 3.7										
Negatives(integers)	6.4-7.2 = 0.6										
Simple equivalent fractions	$\frac{3}{4}+\frac{3}{8}=\frac{6}{8}+\frac{3}{8}=\frac{9}{8}$										
MULTIPLICATION & DIVISION											
Compensation from tidy numbers	19x6 → (20x6)-6 56÷4 → (60÷4) -1										
Place value	28x7 → (20x7)+(8x7)										
Reversibility	63÷9 → 9x ? = 63										
Proportional adjustment	75x4 → 25x12 81÷3 → (81÷9)x3										
Express remainders as fractions /decimals/whole numbers	38÷6= 6r2 or $6\frac{1}{3}$ or 6.33										
Written forms for x & ÷	476 x 8	6)845									
FRACTIONS											
Unit fractions	5/8x72 → 5x(1/8x72)										
Place value	3.4x8 → (3x8)+(0.4x8)										
Compensation from tidy numbers	2.9 x 6.3=(3x6.3)-(0.1x6.3)										
Equivalent fractions	40% of 35 = 2/5 of 35										

KNOWLEDGE & STRATEGY	STAGE 7 By end of Y8	ADVANCED MULTIPLICATIVE PART-WHOLE									
LEARNING OUTCOMES – **KNOWLEDGE** I am learning to:											
Count forwards & backwards in $^{1}/_{1000}$s, $^{1}/_{100}$s, $^{1}/_{10}$s,1's, 10's & 100's	1.2, 1.3, 1.4 6.44, 6.43, 6.42										
Say the number $^{1}/_{1000}$, $^{1}/_{100}$, $^{1}/_{10}$, 1, 10 before or after any number	1.2, 1.3 _____ ____ 6.42, 6.43										
Order decimals to 3dp	0.379, 0.48, 0.8										
Order mixed fractions with ½, ¼, $^{1}/_{3}$, $^{1}/_{5}$, $^{1}/_{10}$	$^{2}/_{10}$, ¾, ½, $^{5}/_{3}$										
Know equivalent fractions for ½, ¼, $^{1}/_{3}$, $^{1}/_{5}$, $^{1}/_{10}$ with denominators 10,100,1000	¼ = $^{25}/_{100}$										
Know groupings of 10s, 100s, 1000s in 7 digit nos.	3456789 = 345678 tens										
Round whole numbers & decimals to nearest 1 or $^{1}/_{10}$	0.47 → 0.5										
Know groupings to 100	43 and 57										
Round three digit numbers to the nearest 10 or 100	246 → 250										
Recall all multiplication and division facts to 10x10	7x8=56 72÷9=8										
Recall conversions between decimals/fractions/% with ½, ¼, $^{1}/_{3}$, $^{1}/_{5}$, $^{1}/_{10}$	½ → 0.5 → 50%										
Use divisibility rules for 2,3,5,9,10	245 is divisible by 5 as ones is a 5										
Know square nos and square roots to 100	7^2 = 49 so $\sqrt{49}$ = 7										
Identify factors of nos to 100	Factors of 35 = 1, 5, 7, 35										
Find common multiples to 100	Common multiples of 3 & 7 → 21, 42, 63										

KNOWLEDGE & STRATEGY	STAGE 7 to 8 END of Yr 9	ADVANCED PROPORTIONAL PART-WHOLE									
LEARNING OUTCOMES – **KNOWLEDGE** **I am learning to:**											
Count forwards & backwards in $^1/_{1000s}$, $^1/_{100s}$, $^1/_{10s}$,1's, 10's & 100's	1.2, 1.3, 1.4 6.44, 6.43, 6.42										
Say the number 0.001, 0.01, 0.1, 1, 10 before or after decimal numbers	1.2, 1.3 _____ ____ 6.42, 6.43										
Order fractions, decimals and %	0.4, 50%, $^4/_5$										
Know how many $^1/_{10s}$, $^1/_{100s}$ & $^1/_{1000s}$ are in numbers to 3dp	1.873 → 18 tenths or 187 hundredths or 1873 thousands										
Know what happens when any number is multiplied or divided by a power of 10	1.23x100=123 6.53÷10=0.653										
Round decimals to the nearest 100,10,1,0.1,0.01	9.876 → 9.88										
Recall fraction/decimal/% conversions for commonly used fractions: $^1/_8$.$^1/_{10}$,$^1/_{20}$ etc	1/8 = 0.125 = 12.5%										
Know simple powers of numbers to 10	$2^3 = 8$ $2^5 = 32$										
Use divisibility rules for 2,3,4,5,6,8,9,10	276 is divisible by 3 because 2+7+6=15 441 is divisible by 9 and 3 because 4+4+1=9										
Identify common factors of pairs of numbers to 100	$7^2 = 49$ so $\sqrt{49} = 7$										
Identify factors of nos to 100	Highest common factor of 63 & 56=7										
Identify lowest common multiple of pairs of numbers to 10	The LCM of 6&8 = 24										
Recall prime nos to 20	1, 2, 3, 5, 7										
STRATEGY	**STAGE 7-8** **ADVANCED MULTIPLICATIVE- ADVANCED PROPORTIONAL PART-WHOLE**										
Conversion between fractions & decimals	0.75 x 2.4 → ¾ x 2.4										
Place value	0.15x3.6 → (0.1x3.6)+ (0.05x3.6)										
Doubling & halving	7.2÷0.4 → (7.2÷0.8)x2										
Commutativity	48x0.125 → $^1/_8$ of 8										
Multiplying numerators & denominators	$^3/_4$ x $^2/_5$ → $\frac{3x2}{4x5}$										
Converting to common denominators	$^3/_5 + {}^2/_7 = {}^{21}/_{35} + {}^{10}/_{35} = {}^{31}/_{35}$										
Using written forms: e.g. >>	3.567 4.032 6735 +0.063 - 2.246 x 85 6.45 _____ x 3 5)4.83										
Find fractions/decimals/& of given amounts	65% of 24 → 50% of 24=12, 10% of 24=2.4 5% of 24=1.2 (12+2.4+1.2) or 28 out of 42=?% → 28/42=4/6=2/3=66.6%										
Finding equivalent ratios with a common factor or multiplier	21:28 as ? :8 → 21:28=3:4 so 6:8 3:5 = ? : ? out of 96 so 3:5 is $^3/_8$ and $^3/_8$ of 96 is 36 so the proportion is 36:60										