

Differentiated Learning (DL)

MATHEMATICS

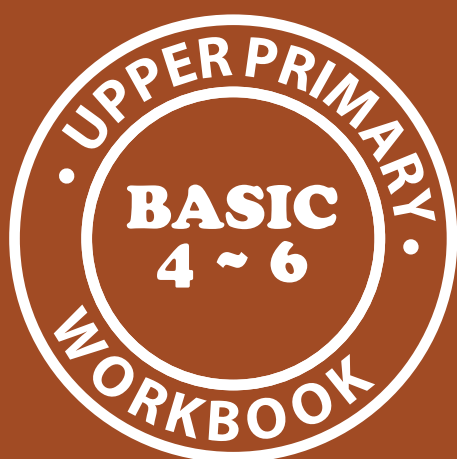
WORKBOOK

FOR UPPER PRIMARY



LEVEL
2

LEARNER'S WORKBOOK



Ghana Education
Service (GES)

unicef 
for every child

Differentiated Learning (DL)

*Mathematics Workbook for
Upper Primary*

Level 2

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TABLE OF CONTENT

MODULE 2 1

Lesson 1: Number names, numeral recognition, and counting in sequence.....	7
Lesson 2: Place value of 3-digit numbers	10
Lesson 3: Comparing and ordering 3-digit numbers using $<$, $>$ or $=$	12
Lesson 4: Addition of two 2-digit numbers	14
Lesson 5: Subtraction of 2-digit numbers	16
Lesson 6: Multiplication of 2-digit number by 1-digit number	20
Lesson 7: Multiplication and division problems.....	22
Lesson 8: Divide a 2-digit number by a 1-digit number.....	24

MODULE 3 1

Lesson 1: Modeling number quantities using Ghanaian currency.....	2
Lesson 2: Place value of a digit in 4-digit numbers.....	5
Lesson 3: Comparing and ordering 4-digit numbers.....	7
Lesson 4: Addition of a 2 and 3-digit numbers.....	9
Lesson 5: Subtraction of a 2-digit number from 3-digit number.....	11
Lesson 6: Multiplication of a 2-digit number by a 2-digit number.....	13
Lesson 7: Multiply a 3-digit number by a 1-digit number.....	15
Lesson 8: Division of 3-digit numbers by a 1-digit numbers.....	17

MODULE 4 20

Lesson 1: Place Value of numbers up to 10,000.....	21
Lesson 2: Addition sum up to 999.....	23
Lesson 3: Subtraction of two 3-digit numbers.....	25
Lesson 4: Adding word problems.....	27
Lesson 5: Multiply a 3-digit number by 1-digit number.....	30
Lesson 6: Modeling multiplication word problem involving a 3-digit by 1 digit...	32
Lesson 7: Division of whole numbers.....	34
Lesson 8: Division word problems involving whole numbers.....	36

MODULE 2

Number names, numeral recognition, and counting in sequence

Activity 1B

Task 1: Complete the following:

Example: How many hundreds, tens and ones?

Place Value Mat		
Hundreds	Tens	Ones
		

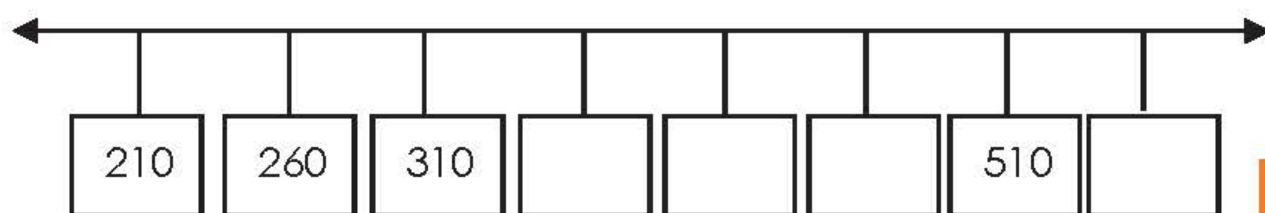
There are 1 hundred, 3 tens and 6 ones. = **136**

a. How many hundreds, tens and ones?

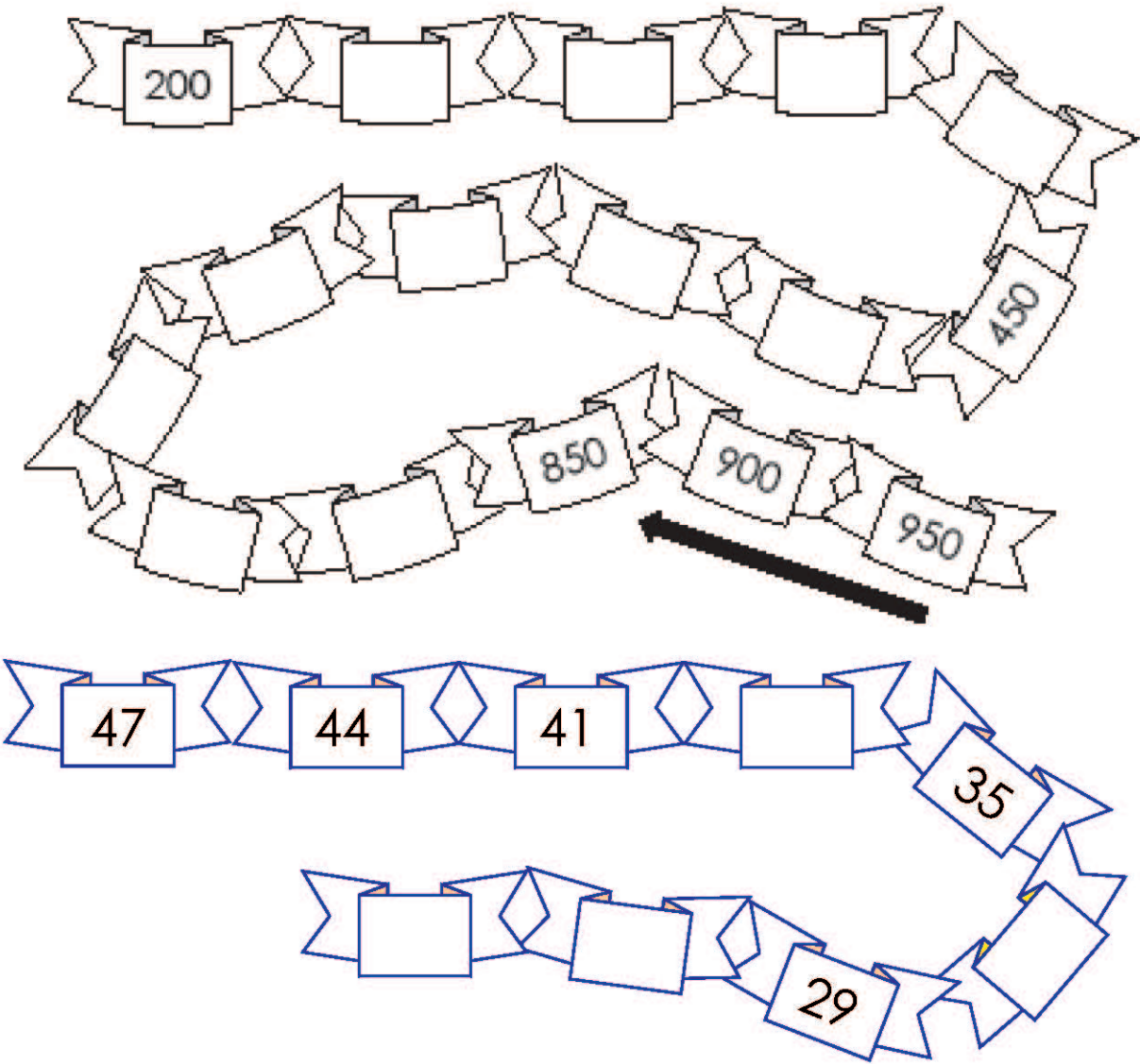
Place Value Mat		
Hundreds	Tens	Ones
		

There are ____ hundred, ____ tens and ____ ones. =

b. Fill in the missing numbers.



c. Fill in the missing numbers. Count backwards.



Task 2: Complete the number chart below.

100	110		130	140		160	170	180	190
200		220	230		250	260	270		290
300	310		330	340	350		370	380	
	410	420		440	450	460	470	480	490
	510	520	530	540		560	570		590
600		620	630	640	650		670	680	
700	710			740	750	760		780	790
	810	820	830		850		870	880	890
900		920	930	940		960		980	990

- b. Rearrange the numbers to complete the number chart starting from the smallest to the biggest number.

100	110	120	260	140
220	200	170	300	190
160	210	150	280	240
250	130	270	230	290
180	310	340	330	320
600		620	630	640
700	710			740
	810	820	830	
900		920	930	940



Place value of 3-digit numbers

Activity 4B

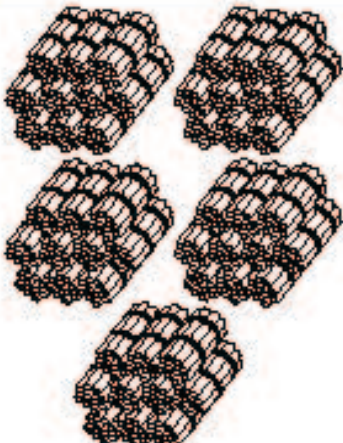
Task 1: How many hundreds, tens and ones?

a.

Place Value Mat		
Hundreds	Tens	Ones
		

There are ____ hundreds, ____ tens and ____ ones =

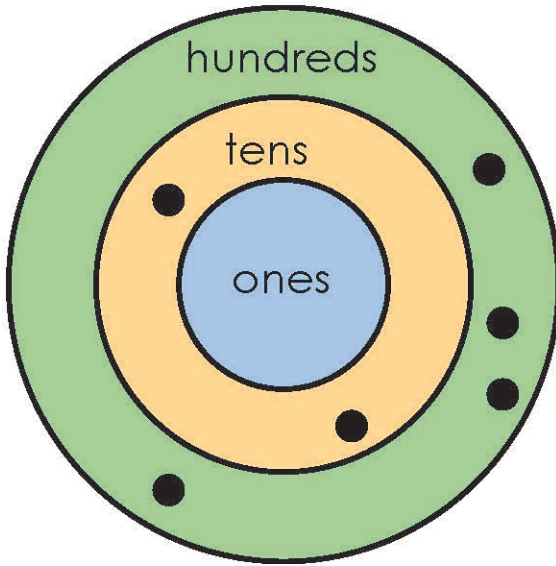
b.

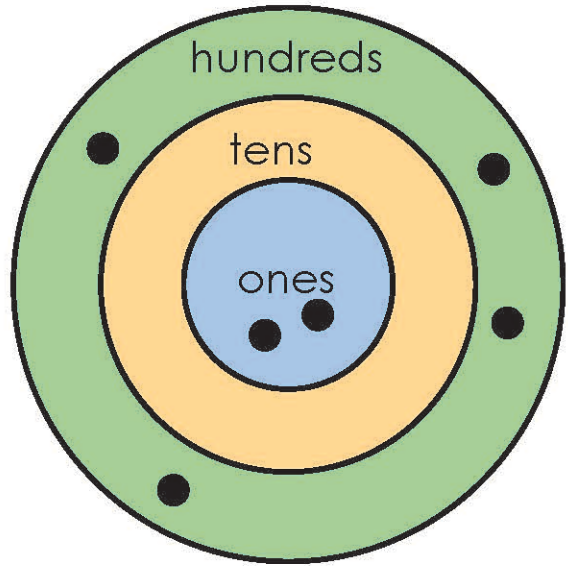
Place Value Mat		
Hundreds	Tens	Ones
		

There are ____ hundreds, ____ tens and ____ ones =

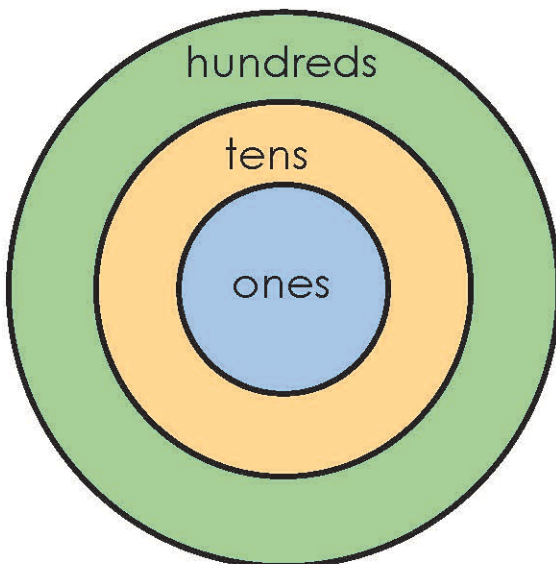
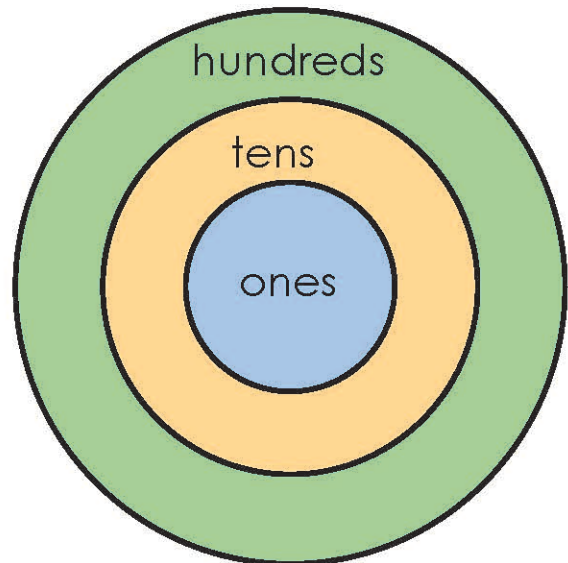
Task 2: What number does each wheel represent?

a.





- b. Make dots (●) on the number wheel to show the number written under each wheel.


451

133

Comparing and Ordering 3-digit numbers using $<$, $>$ or $=$

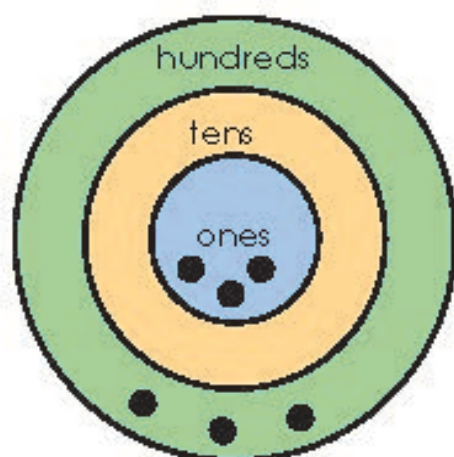
Activity 5B

Task 1: Use $<$, $>$ or $=$ to compare the groups of number quantities.

Example:

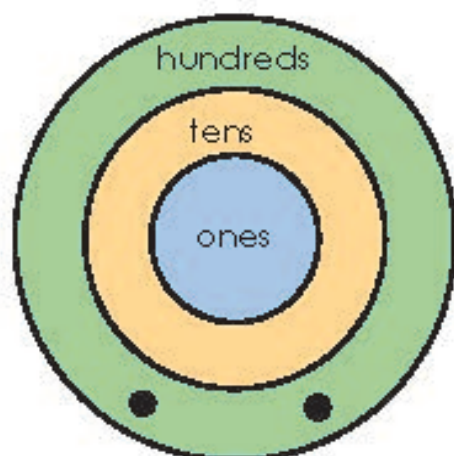
Hundreds	Tens	Ones
		

$<$



a.

Hundreds	Tens	Ones
		



b.

Hundreds	Tens	Ones
3	1	4

Hundreds	Tens	Ones
2	9	8

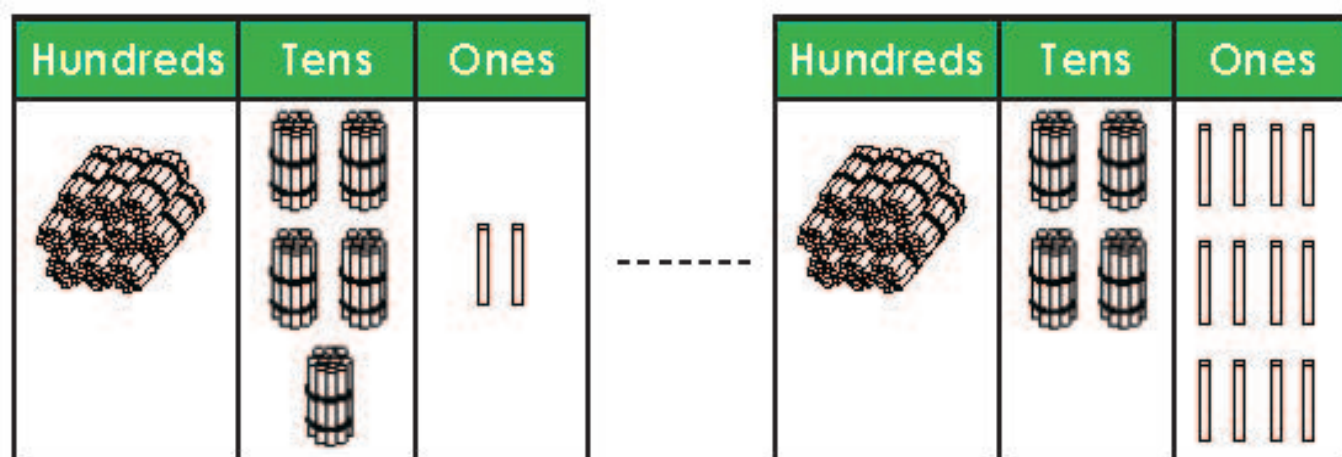
c.

570

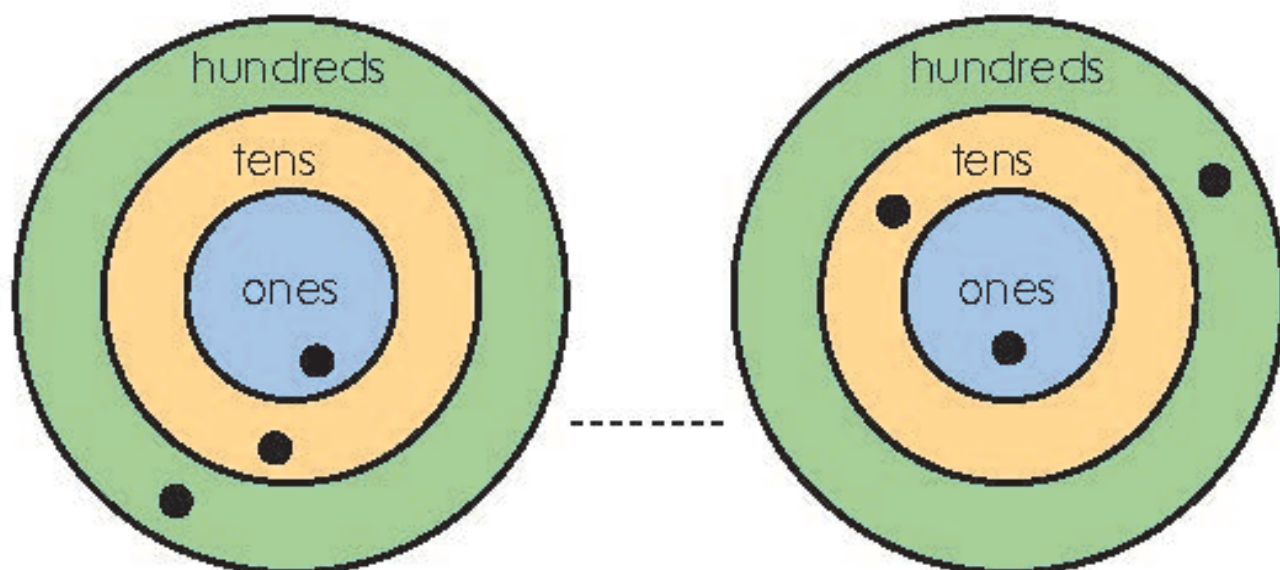
909

Task 2: Select the correct symbol ($<$, $>$ or $=$) to compare.

a.



b.



c.



LESSON 4

Addition of two 2-digit numbers

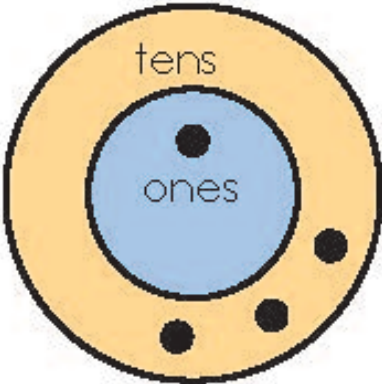
Activity 6B2

Task 1: Solve the addition problem in the mat.

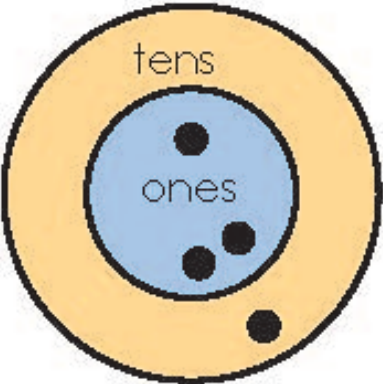
a.

	Tens	Ones
		
+		
=		

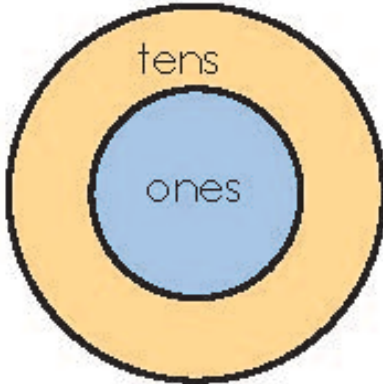
b. Make dots (●) to show your answer and write it down.



+



=



Solve the following addition problems

$$\begin{array}{r} 1. \quad 64 \\ + 15 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 38 \\ + 61 \\ \hline \end{array}$$

$$3. \quad 26 + 39 =$$

$$4. \quad 45 + 19 =$$

Task 2: Use the number chart to solve the following addition problems.

Example: $24 + 5 =$

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

So, $24 + 5 = 29$

$$45 + 11 =$$

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

So, $45 + 11 =$

Subtraction of two 2-digit numbers

Activity 10B

Task 1: Solve the subtraction problems.

a.

	Tens	Ones
		
-		
=		

b.

	Tens	Ones
		
-		
=		

c.

	Tens	Ones
	5	6
—	4	1
=		

d.

	Tens	Ones
	8	8
—	5	0
=		

Task 2: Use the number chart to solve the subtraction problems

Example: $48 - 5 =$

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

So, $48 - 5 =$ 43

a. $61 - 8 =$

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

So, $61 - 8 =$

b. $99 - 29 =$

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

So, $99 - 29 =$

Multiplication - 2-digit number by 1-digit number

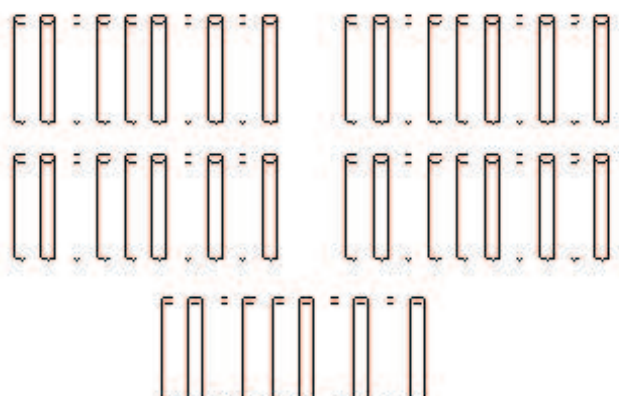
Activity 14B

Task 1: Use the grouping strategy to solve the multiplication problems.

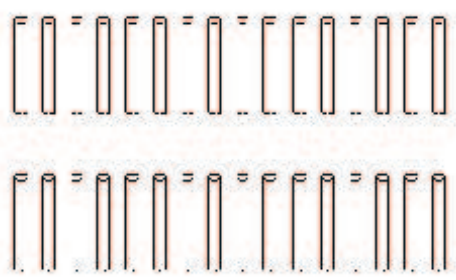
Example:

	2 groups of 12 = $2 \times 12 = 24$
--	---

a.

	___ groups of ___ = ___ x ___ = ___
---	--

b.

	___ groups of ___ = ___ x ___ = ___
---	--

Task 2: Use the number chart to solve the multiplication problem.

a. $12 \times 9 =$

$\times$	1	2	3	4	5	6	7	8	9	10	11	12
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

So, $12 \times 9 =$

Task 3: Use the expanded box strategy to solve the problems.

Example: 48×6

	40	+	8
6	$6 \times 40 = 240$		$6 \times 8 = 48$

$240 + 48 = 288$

So, $48 \times 6 = 288$

a. $55 \times 5 =$

--	--

So, $55 \times 5 =$

b. $63 \times 4 =$

--	--

So, $63 \times 4 =$

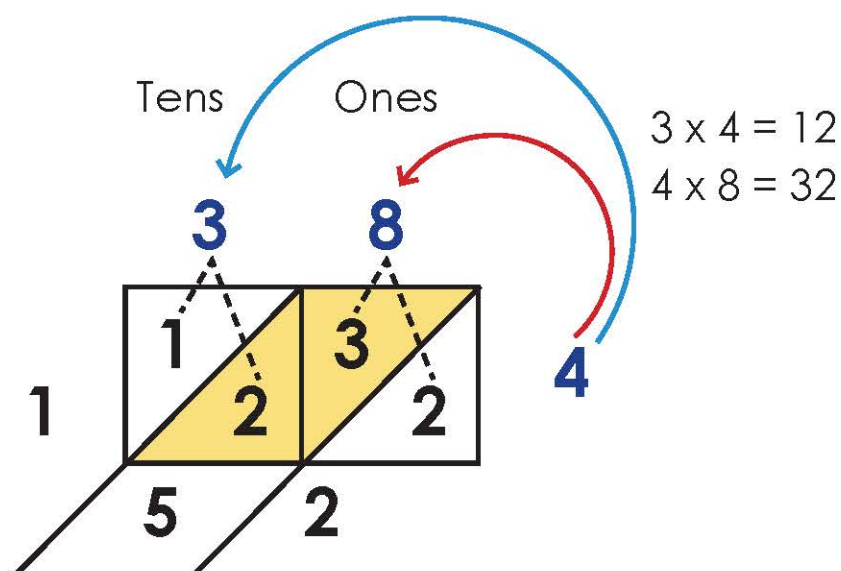
LESSON 7

Multiplication and division problems

Activity 18

Task 1: Use the lattice method to solve multiplication of a 2-digit number by a 1-digit number.

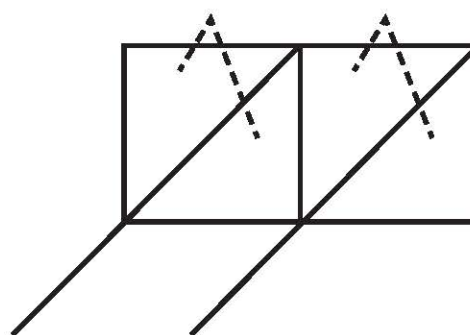
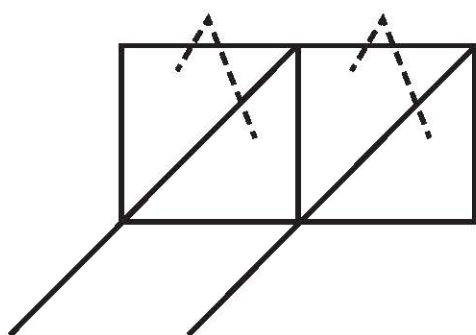
Example: $38 \times 4 =$



So, $38 \times 4 = 152$

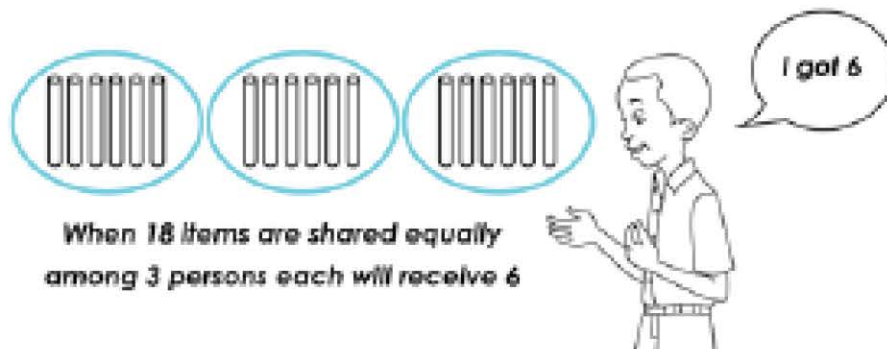
a. $22 \times 5 =$

b. $14 \times 9 =$



Task 2: Solve the division problems

Example; $18 \div 3 =$



So, $18 \div 3 = 6$

a. $44 \div 4 =$

So, $44 \div 4 =$

b. Write a word problem for the division sentence.

$80 \div 10 =$

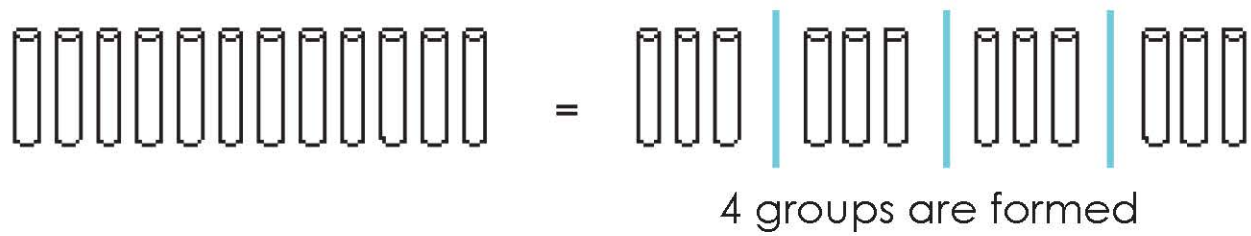
LESSON 8

Divide a 2-digit number by a 1-digit number

Activity 19

Task 1: Solve the division problems by making groups.

Example: 12 straws are grouped in 3s, how many groups are formed?



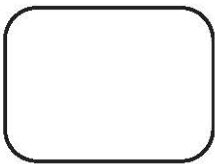
So, $12 \div 3 = 4$

a. If there are 35 items, make groups each having five items.

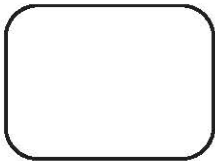


- 1. Write the division sentence.
- 2. How many groups did you form?

b. Count the paper clips in the picture.



How many pencils will 72 paper clips make?



Task 2: Solve the following division problems using the repeated subtraction strategy.

Example: $18 \div 3 =$

$18 - 3 = 15$	①
$15 - 3 = 12$	②
$12 - 3 = 9$	③
$9 - 3 = 6$	④
$6 - 3 = 3$	⑤
$3 - 3 = 0$	⑥

I subtracted 3 six times

So, $18 \div 3 = 6$

a. $21 \div 7 =$

$$\begin{aligned} 21 - 7 &= 14 \\ 14 - 7 &= 7 \\ 7 - 7 &= 0 \end{aligned}$$

I subtracted 7 three times

So, $21 \div 7 =$

3

b. $24 \div 6 =$

$$\begin{aligned} 24 - 6 &= 18 \\ 18 - 6 &= 12 \\ 12 - 6 &= 6 \\ 6 - 6 &= 0 \end{aligned}$$

I subtracted 6 four times

So, $24 \div 6 =$

4

MODULE 3

LESSON 1

Modeling number quantities using Ghanaian currency

Activity 1C

Task 1: Use the currency notes to answer the questions.

Example:



Write the value of each denomination.

$$1 \text{ of Gh} \pounds 5 = 5$$

$$3 \text{ of Gh} \pounds 20 = 60$$

$$2 \text{ of Gh} \pounds 50 = 100$$

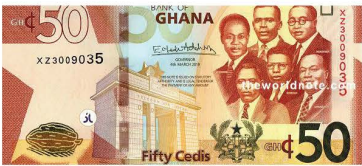
$$1 \text{ of Gh} \pounds 100 = 100$$

$$1 \text{ of Gh} \pounds 200 = 200$$

What is the total value of the currency?

$$200 + 100 + 100 + 60 + 5 = \text{Gh} \pounds 465$$

a.



a. Write the value of each denomination.

b. What is the total value of the currency?

Task 2: Complete the number chart.

10	20	30	40			70		90	
	120		140		160		180		200
210		230		250		270		290	
	320		340		360		380		400
410		430		450		470		490	
	520		540		560		580		600
610		630		650		670		690	
	720		740		760		780		800
810		830		850		870		890	
				950					

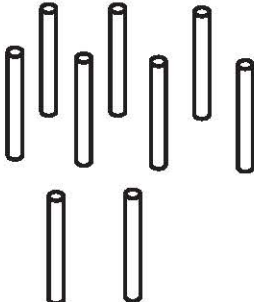
Lesson 2

Place value of a digit in 4-digit numbers

Activity 5C

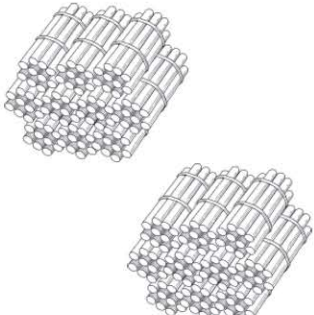
Tasks1: What number is represented on the place value mat.

Example:

Place Value Mat		
Hundreds	Tens	Ones
		

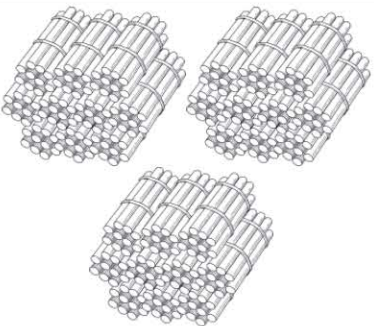
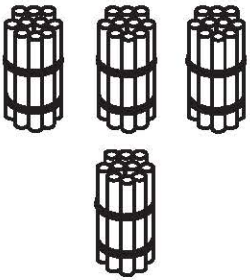
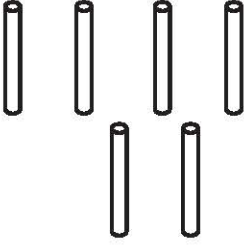
There are 1 hundred, 2 tens and 9 ones. The number is **129**.

a.

Place Value Mat		
Hundreds	Tens	Ones
		

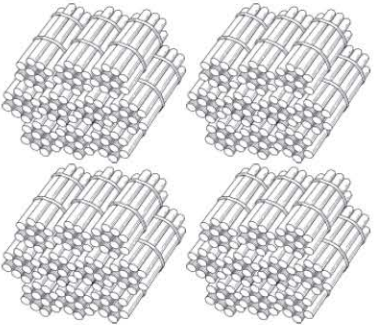
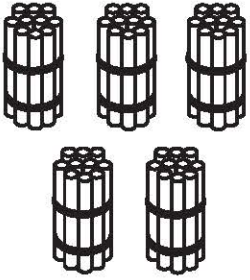
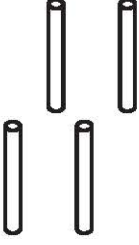
There are ____ hundreds ____ tens and ____ ones. The number is ____.

b.

Place Value Mat		
Hundreds	Tens	Ones
		

There are ____ hundreds ____ tens and ____ ones. The number is ____.

c.

Place Value Mat		
Hundreds	Tens	Ones
		

There are ____ hundreds ____ tens and ____ ones. The number is ____.

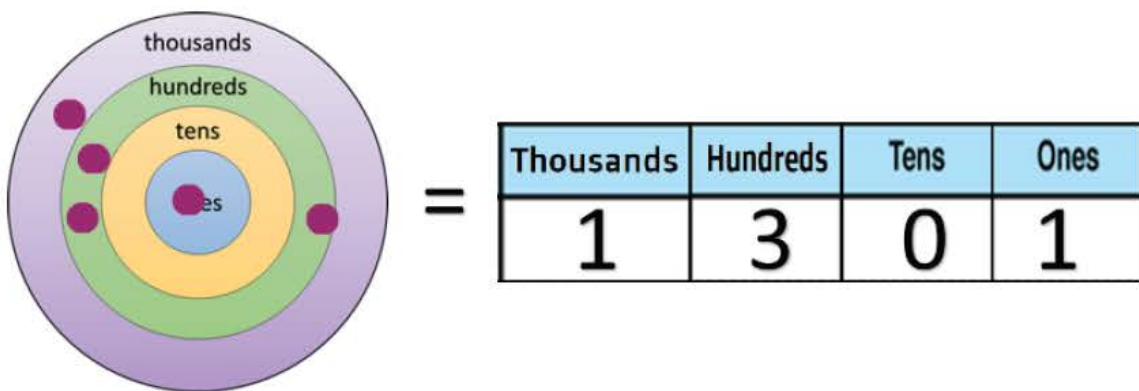
Lesson 3

Comparing and ordering 4-digit numbers

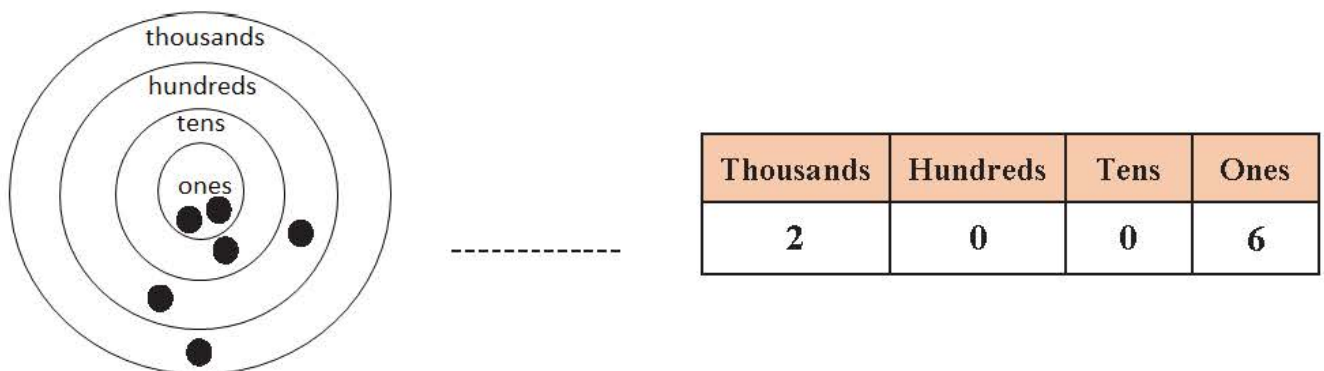
Activity 5C

Task 1: Use $<$, $>$ or $=$ to compare the following numbers.

Example:

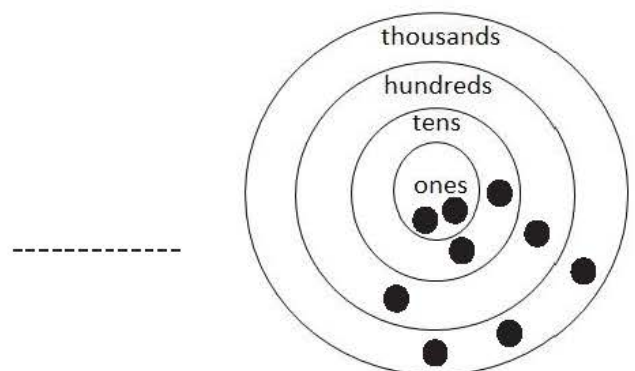


a.

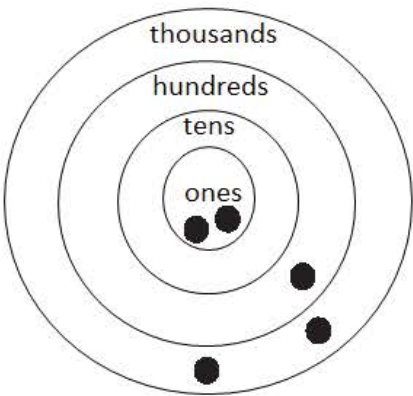


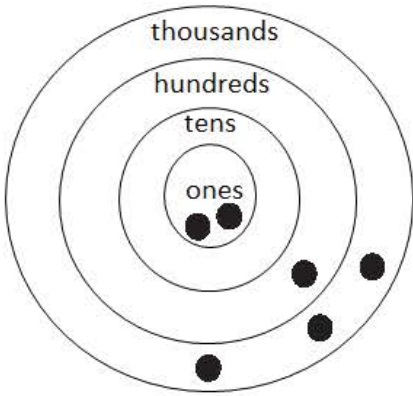
b.

Thousands	Hundreds	Tens	Ones
4	1	2	2

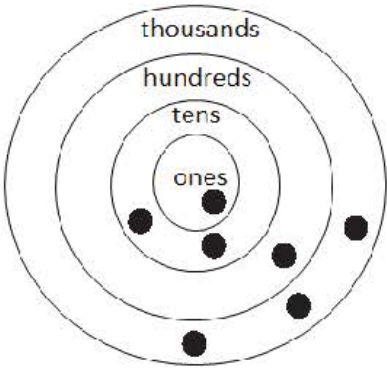


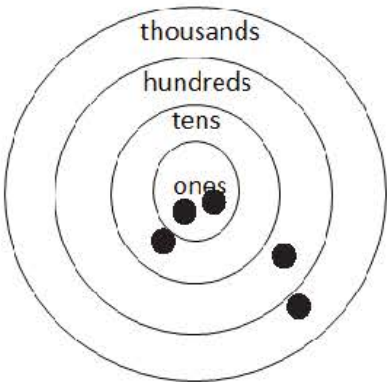
c.





d.





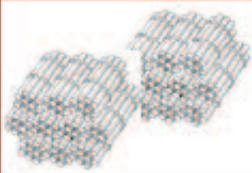
Lesson 4

Addition of a 2 and 3-digit numbers

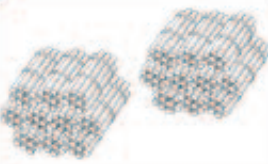
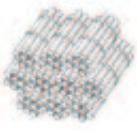
Activity 6C

Task 1: Solve the addition problems.

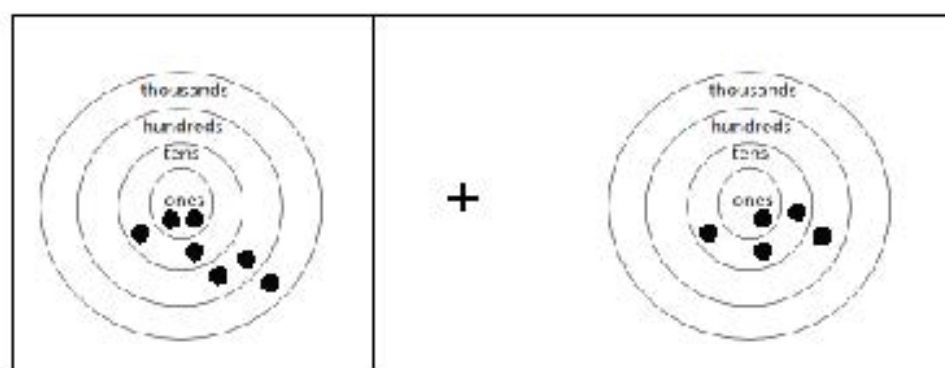
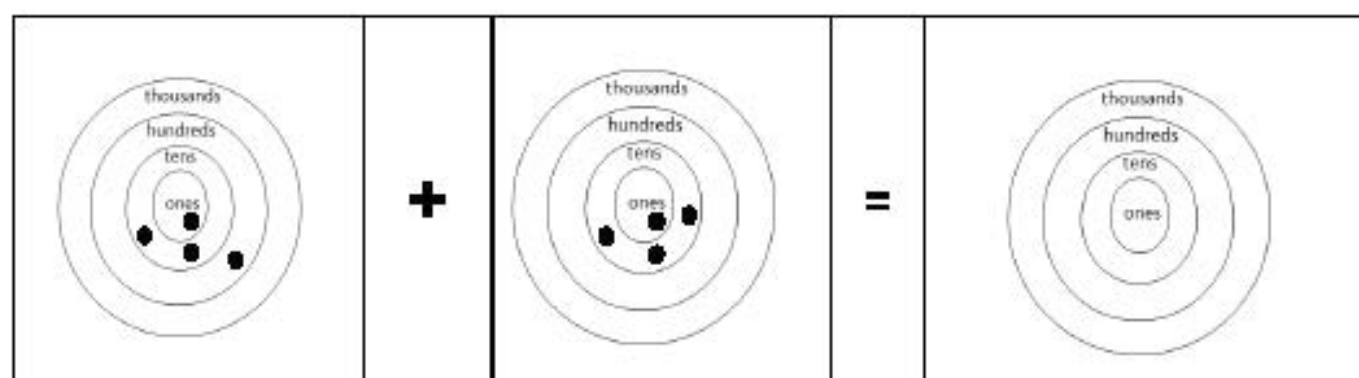
b.

	Hundreds	Tens	Ones
			
+			
=			

→

	Hundreds	Tens	Ones
			
+			
=			

→



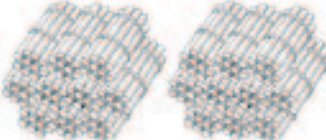
Lesson 5

Subtraction of a 2-digit number from a 3-digit number

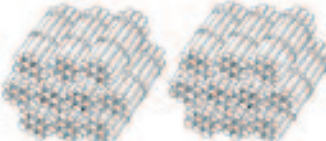
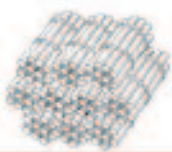
Activity 10C

Task 1: Solve the subtraction problems.

a.

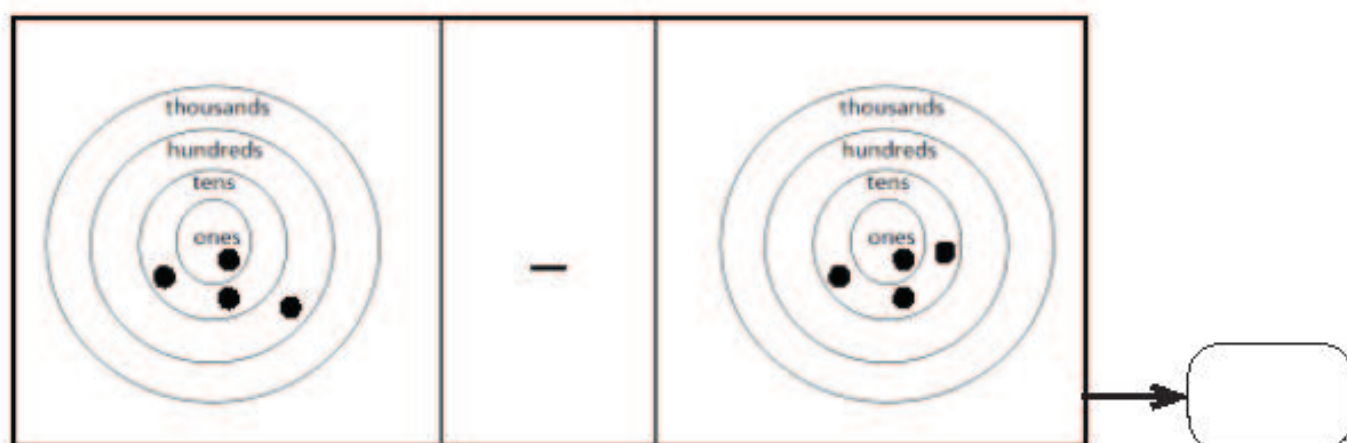
	Hundreds	Tens	Ones
			
-			
=			

b.

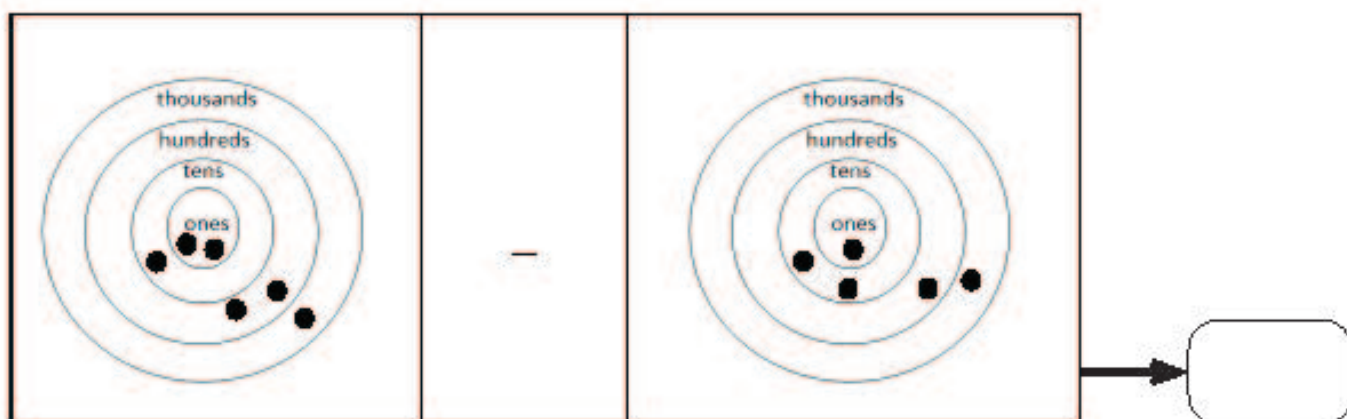
	Hundreds	Tens	Ones
			
-			
=			

Task 2: Solve the subtraction problems using the number wheels.

a.



b.



Lesson 6

Multiplication of a 2-digit number by a 2-digit number

Activity 17B

Task 1: Use the Expand and Box method to solve the following multiplication problems.

Example: $76 \times 34 =$

	70	6	
30	$30 \times 70 = 2100$	$30 \times 6 = 180$	$2100 + 180 = 2280$ $280 + 24 = 304$ $2280 + 304 = 2,584$
4	$4 \times 70 = 280$	$4 \times 6 = 24$	

So, $76 \times 34 = 2,584$

a. $34 \times 21 =$

--	--

b. $60 \times 35 =$

--	--

Task 2: Solve the following word problems using the expand and box method.

- a. Assibi has 21 times as many fowls as her brother. If her brother has 35 fowls, how many fowls has Assibi?

- b. There are 15 books on each shelf of a library. If there are 22 shelves, how many books are in the library?

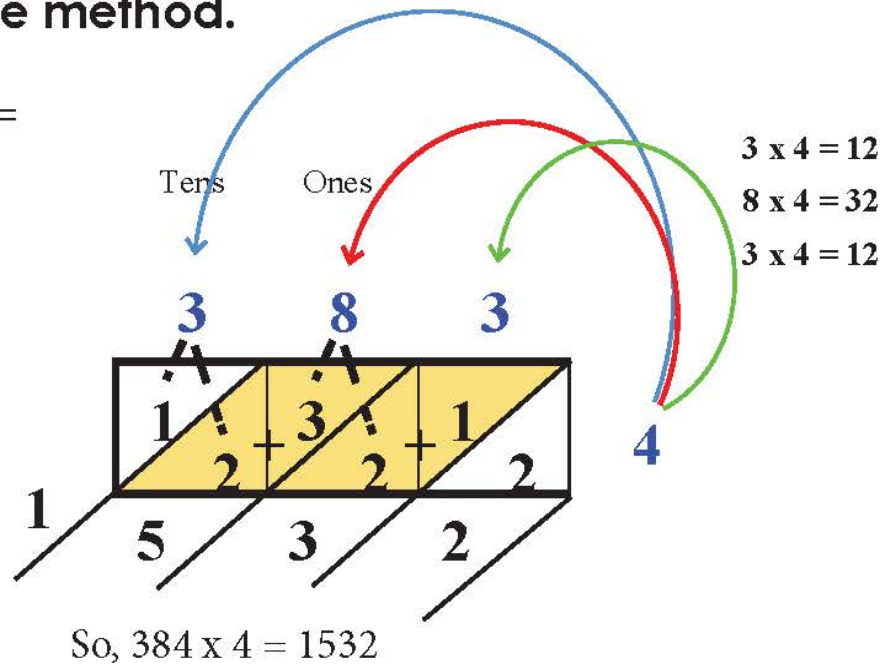
Lesson 7

Multiply a 3-digit number by a 1-digit number

Activity 18C

Task 1: Solve the multiplication problem using the lattice method.

Example: $383 \times 4 =$



a. $120 \times 4 =$

--	--	--	--

So, $120 \times 4 =$

b. $455 \times 6 =$

--	--	--	--

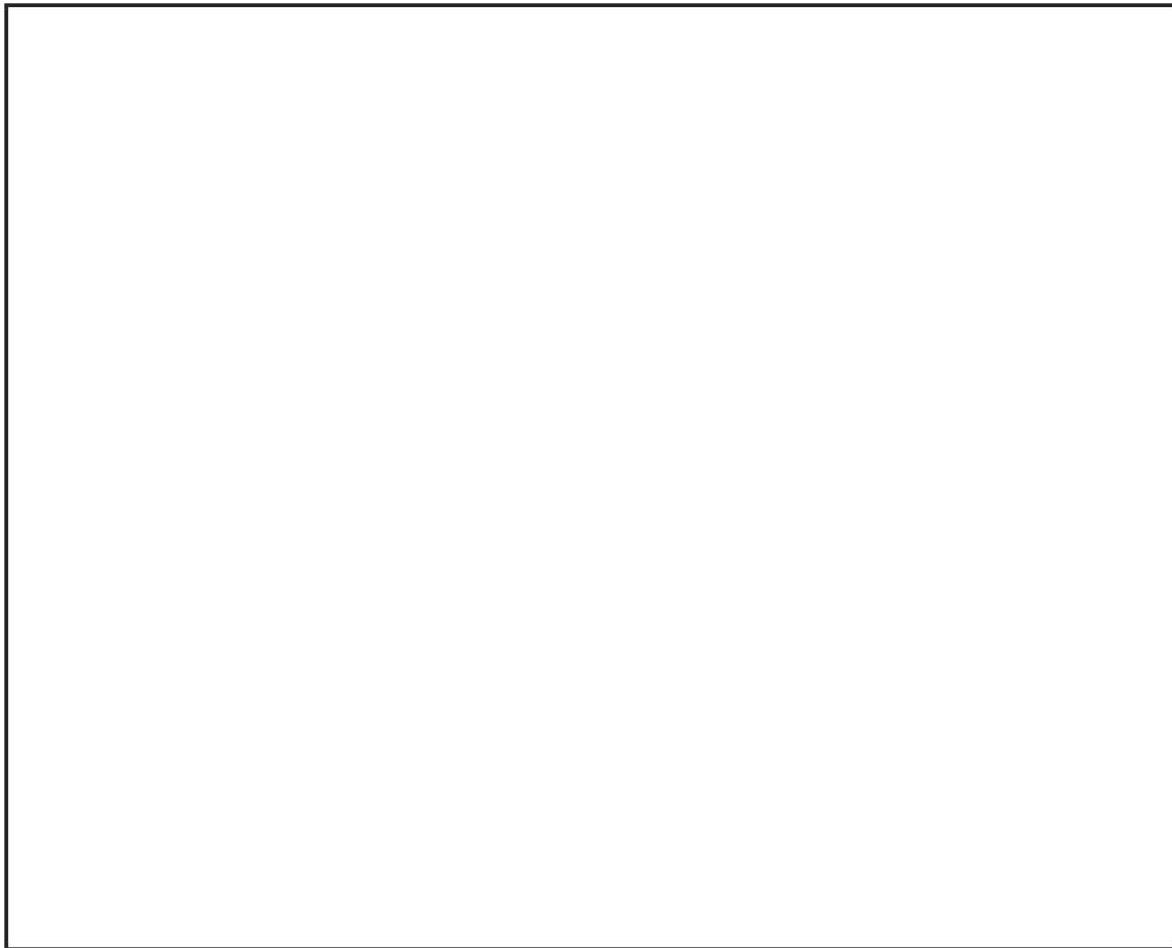
So, $455 \times 6 =$

Task 2: Solve the word problem using the expand and box method.

Nana is planting flowers in his community.
He plants 231 rows of sunflower.

Each row has 9 sunflowers.

a. How many sunflowers did he plant altogether?



Lesson 8

Division of 3-digit numbers by a 1-digit number

Activity 23

Task 1: Solve the division problems using the “Big 7” strategy.

Example: $318 \div 3 =$

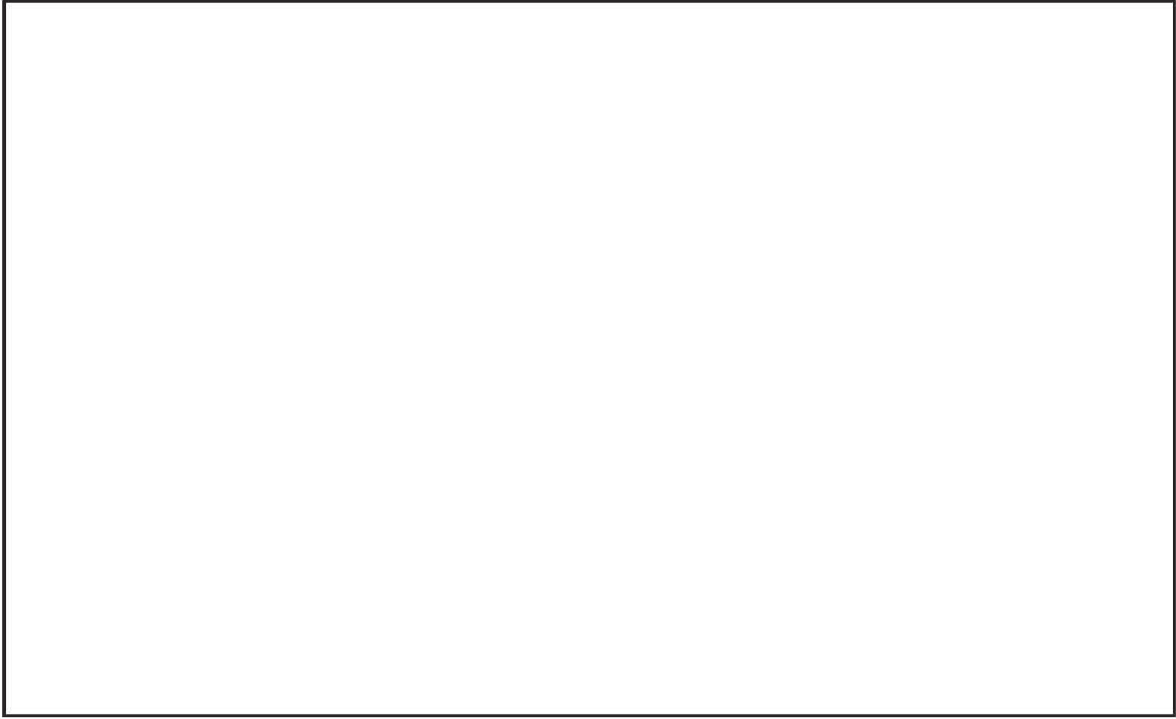
3	1	8	100
-3	0	0	
1	8		6
-1	8		
0			100 + 6 = 106

So, $318 \div 3 = 106$

a. $120 \div 6 =$

So, $120 \div 6 =$

b. $279 \div 9 =$



So, $279 \div 9 =$

Task 2: Solve the following division word problems using any appropriate strategy.

- a. Mr Ali gave Gh¢240.00 to his workers to share equally for weeding his farm. If there were 8 workers, how much will each receive?

- b. 125 Basic 4 pupils were placed into 5 equal groups. How many pupils will be in each group?

MODULE 4

Lesson 1

Place Value of numbers up to 10,000

Activity 5D

Task 1: Write the value of each digit in the number given.

523

Value of 5 =
Value of 2 =
Value of 3 =

Task 2: Write the position/place and the value of each digit in the number 4531

Digit	Position/place	Value
4	Thousands (1000s)	4000
5		
3		
1		

DL Workbook

Task 2: Model two different number values using the given digits.

Example: 2,456

thousands	hundreds	tens	Ones
2	5	6	4

>

thousands	hundreds	tens	Ones
2	4	6	5

a. 2,437

thousands	hundreds	tens	Ones

thousands	hundreds	tens	Ones

b. 1,734

thousands	hundreds	tens	Ones

thousands	hundreds	tens	Ones

c. 7,612

thousands	hundreds	tens	Ones

thousands	hundreds	tens	Ones

Lesson 2

Addition sum up to 999

Activity 9D,6D

Task 1: Solve the following addition problems.

a.

	Hundreds	tens	ones
	2	3	5
+	1	4	2
=			

b.

	Hundreds	tens	ones
	1	0	1
+	3	6	9
=			

c.

	Hundreds	tens	ones
	5	0	9
+	4	0	6
=			

d.

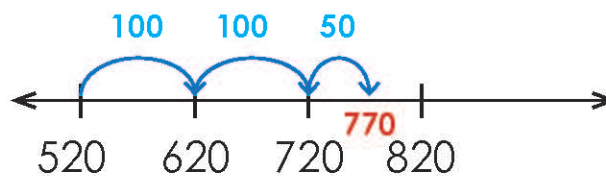
	Hundreds	tens	ones
	3	7	1
+	3	3	7
=			

Task 2: Addition sum up to 9999

Solve the addition problems using "friendly jumps".

For example, $520 + 250 =$

To do $520 + 250$, think



So, $520 + 250 = 770$

a. $730 + 140 =$

d. $860 + 504 =$

Lesson 3

Subtraction of two 3-digit numbers

Activity 12F 12 E and 12 D

Task 1: Solve the addition problems using the decomposition method.

For example, $543 - 212 =$

$$\begin{array}{r}
 500 + 40 + 3 \\
 - 200 + 10 + 2 \\
 \hline
 300 + 30 + 1 = 331
 \end{array}$$

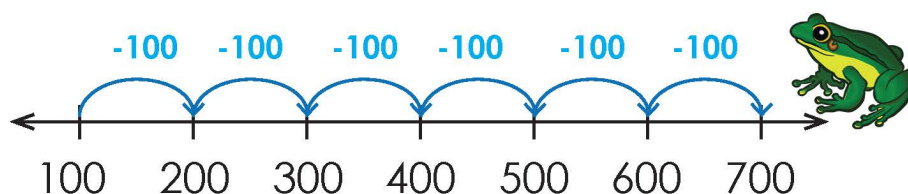
So, $543 - 212 = 331$

a. $694 - 521$

b. $928 - 215$

Task 2: Solve the subtraction problems using (friendly jumps).

Example; $700 - 500 =$



So, $700 - 500 = 200$

a. $940 - 240$

a. $530 - 450$

Lesson 4

Addition word problems

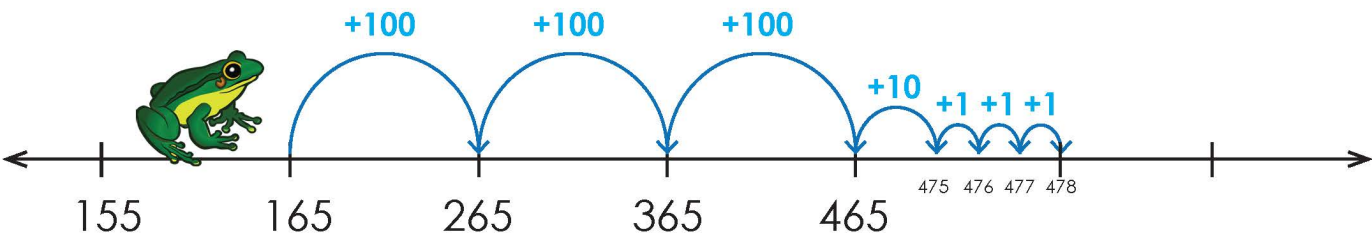
Activity 6E, 8E and 9D

Task 1: Write mathematical sentences for the following any correct strategy.

Example:

There were 165 boys and 313 girls at an inter-school sports competition. How many pupils attended the games?

Mathematics sentence $165 + 313 =$



So, $165 + 313 = 478$

- a. At a COVID-19 testing centre, 155 people tested negative for COVID-19 and 730 people tested positive. How many people were tested altogether?

- b. Mr Alhasan sold 750 bags of rice in the morning and 233 bags in the evening. How many bags did he sell altogether?

Activity 12E, 12C, 12D, 12E, 13E

Task 2: Write mathematical sentence for the following subtraction word problems and solve.

- a. Out of 870 learners in a school, 344 are boys. How many learners are girls?

- b. 970 seedlings are to be planted at Darko Farms.
510 seedlings were planted after three days.
How many more seedlings are still left to be planted?

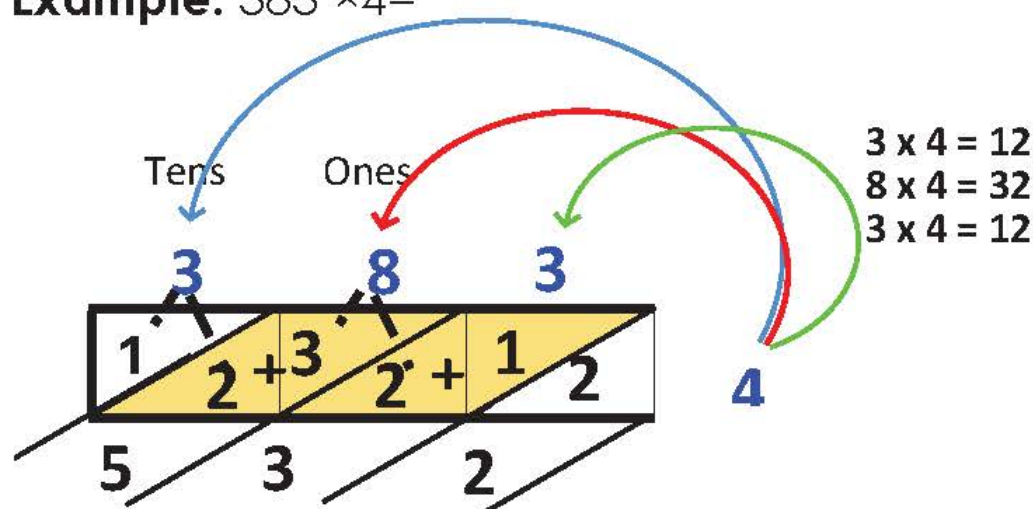
Lesson 5

Multiply a 3-digit number by 1-digit number.

Activity 18C

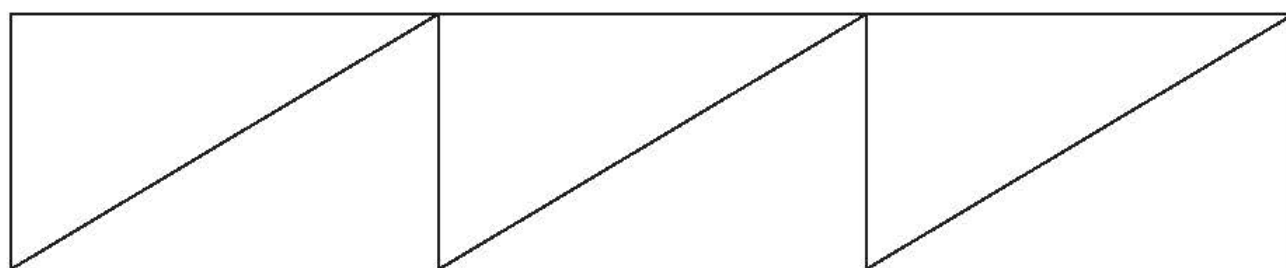
Task 1: Solve the following multiplication problems using the lattice method.

Example: $383 \times 4 =$

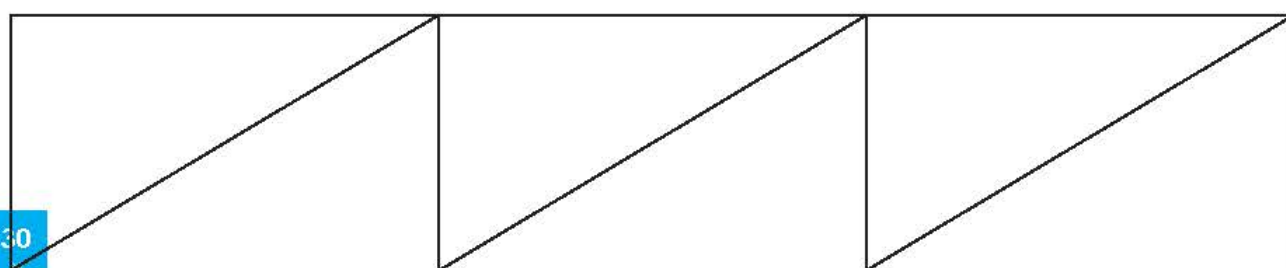


So, $383 \times 4 = 1532$

a. 442×2



b. 125×3



Task 2: Solve the multiplication problems using the decomposition method

Example: $482 \times 3 =$

400	80	2	
$400 \times 3 = 1200$	$80 \times 3 = 240$	$2 \times 3 = 6$	3

$$1200 + 240 + 6 = 1,446$$

$$\text{So, } 482 \times 3 = 1,446$$

a. $544 \times 4 =$

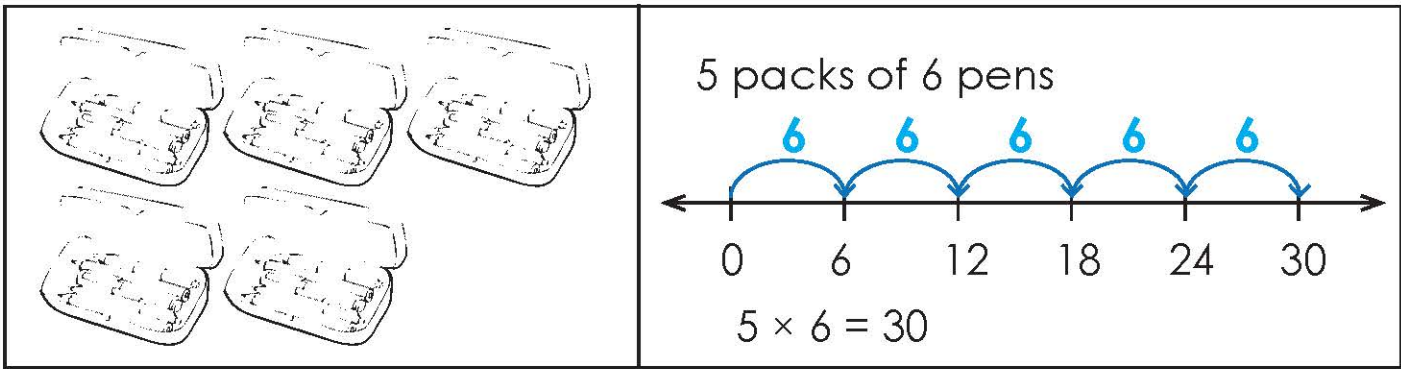
b. $375 \times 5 =$

Modelling multiplication word problem involving a 3-digit by 1-digit number

Activity17D

Task 1: Model the multiplication word problems and solve.

Example: A pack contains 6 pens. How many pens are in 5 packs?



- a. There are 15 toffees in a box. How many toffees are there in 3 of such boxes?

- b. 11 paper clips measure one pencil as shown.
How many paper clips will measure four of such pencils



Lesson 7

Division of whole numbers

Activity 22, 23, 2E

22E

Task 1: Use “repeated subtraction” to solve the following division problems.

Example: $144 \div 24 = 5$

$144 - 24 = 120$	①
$120 - 24 = 96$	②
$96 - 24 = 72$	③
$72 - 24 = 48$	④
$48 - 24 = 24$	⑤
$24 - 24 = 0$	6

So, $144 \div 24 = 6$

a. $120 \div 30 =$

b. $350 \div 50 =$

Task 2: Use “Big 7” strategy to solve the following division problems.

Example: $156 \div 12 =$

12	1	5	6	
	- 1	2	0	10
		3	6	+
	- 3	6		3
		0		13

So, $156 \div 12 = 13$

a. $143 \div 11 =$

b. $180 \div 15 =$

Division word problems involving whole numbers

Activity 23C, 23D1, 21D, 23D2 and 23E

Tasks 1: Solve the following division word problems.

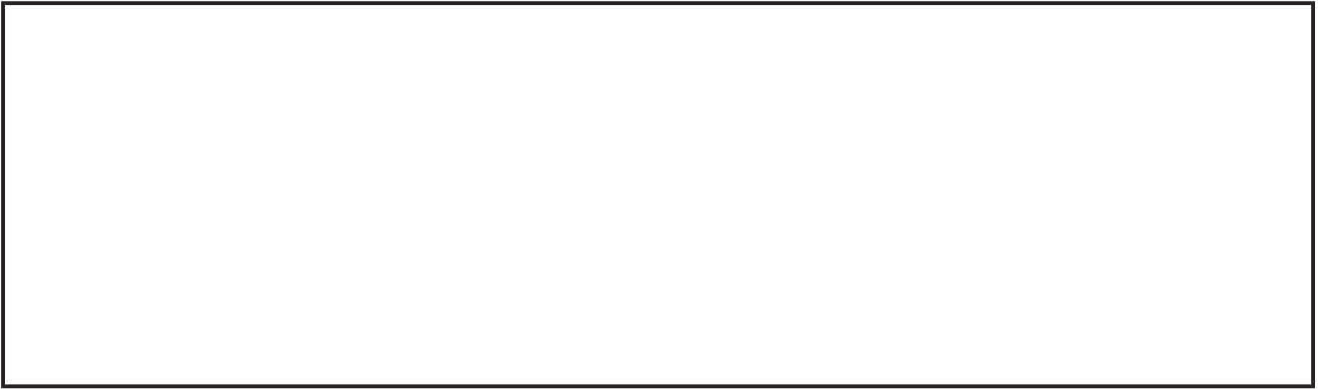
Example: A class teacher shared 165 exercise books equally among 15 pupils. How many did each pupil get?

165 ÷ 15 =

Repeated subtraction	"Big 7" strategy
165 - 15 = 150 1 150 - 15 = 135 2 135 - 15 = 120 3 120 - 15 = 105 4 105 - 15 = 90 5 90 - 15 = 75 6 75 - 15 = 60 7 60 - 15 = 45 8 45 - 15 = 30 9 30 - 15 = 15 10 15 - 15 = 0 11	15 165 -150 15 -15 0 So, 165 ÷ 15 = 11

a. 144 handkerchiefs were shared equally among 24 attendants at a birthday party. How many did each get?

- b. 121 pieces of biscuits were packed equally into 11 boxes. How many biscuits will be in each box?



- c. A teacher has 300 exercise books to be shared equally among 60 learners. How many will each learner receive?



