

DOT & LINE

Sample Lessons

3.1

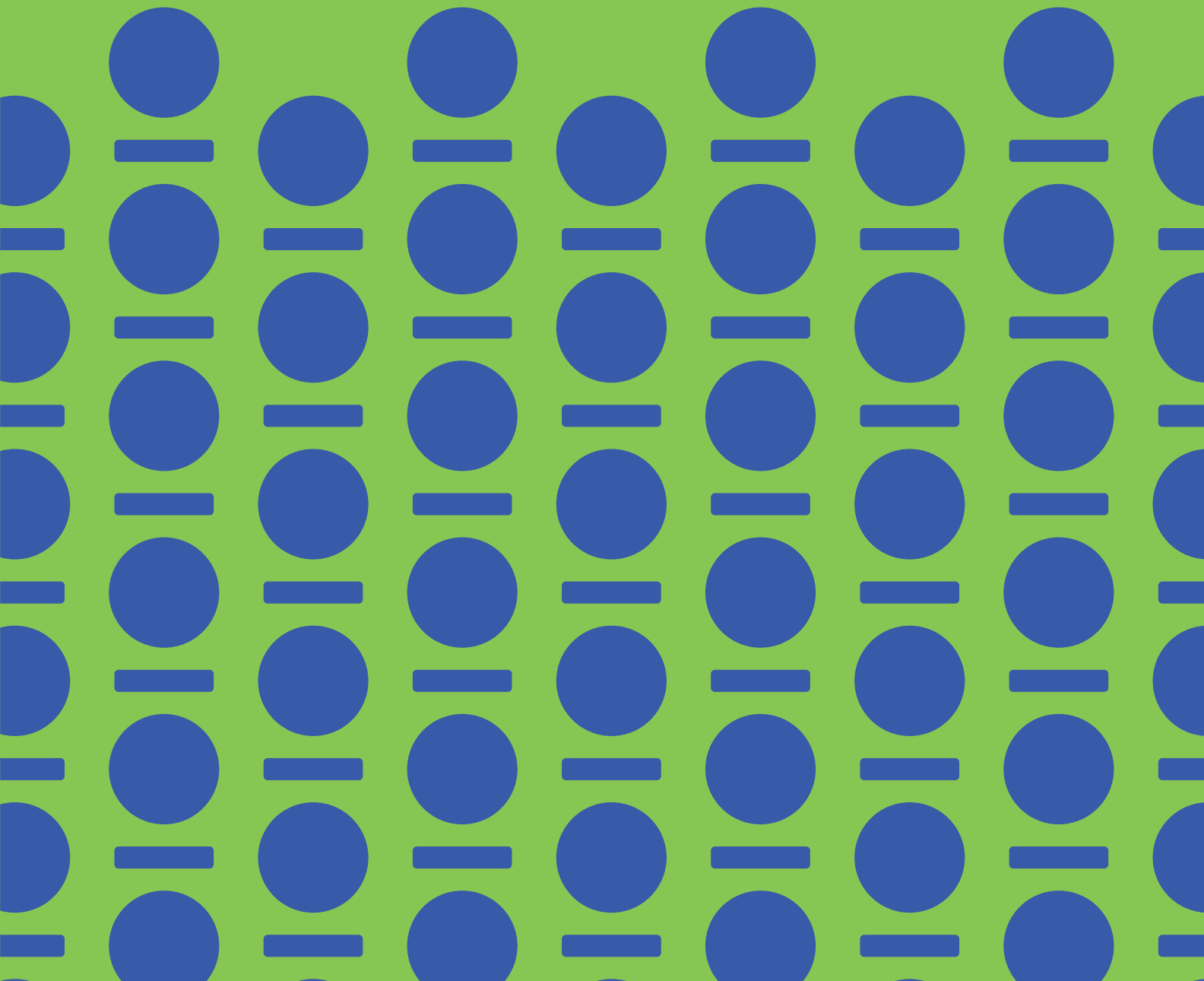


TABLE OF CONTENTS

BASIC OPERATIONS

Lesson-1: Place Value	2
Lesson-2: Inequality: Relationship Between Numbers	5
Lesson-3: Differences of Tens, Hundreds, Thousands and Ten Thousands - Advanced	8
Lesson-4: Comparing Numbers - Advanced	10
Lesson-5: The Regrouping Method	12
Lesson-6: The Regrouping Method - Advanced	15
Lesson-7: Advanced Addition - 3 Digit Numbers	17
Lesson-8: Advanced Addition - 4 Digit Numbers	20
Lesson-9: Subtracting using the Regrouping Method	23
Lesson-10: Using Skip Counting to Multiply	27
Lesson-11: Multiplication Made Easy	29
Lesson-12: Mental Math	33
Lesson-13: Double the Numbers	35
Lesson-14: The Standard Algorithm for Multiplication	37
Lesson-15: Multiplying using the Regrouping Method	39
Lesson-16: Concepts in Multiplication	41
Lesson-17: Rounding off on a Number Line	43
Lesson-18: Rounding off on a Number Line - Hundreds	47
Lesson-19: Rounding off on a Number Line - Thousands	49
Lesson-20: Rounding off - Revision	51
Lesson-21: Introduction to Estimation	53
Lesson-22: Estimation - Advanced	55

MEASUREMENT

Lesson-1: Measuring in Centimetres	58
Lesson-2: Estimating in Millimetres	60
Lesson-3: Comparing Centimetres and Millimetres	62
Lesson-4: Centimetres and Millimetres - Advanced	63
Lesson-5: Problems and Puzzles	65
Lesson-6: Metres	66
Lesson-7: Metres - Advanced	67

Lesson-8: Kilometres	69
Lesson-9: Ordering Units	70
Lesson-10: Appropriate use of Units of Measurement - Advanced.	72
Lesson-11: Perimeter	74
Lesson-12: Measuring Perimeter	77
Lesson-13: Telling Time	79
Lesson-14: Telling Time - Half and Quarter Hours	82
Lesson-15: Elapsed Time.	85
Lesson-16: Times of the Day	87
Lesson-17: The 24 hour clock	90
Lesson-18: Telling Time - The Second Hand.	93
Lesson-19: Longer Time Intervals	95
Lesson-20: Topics in Time.	97

GEOMETRY

Lesson-1: Sides and Vertices	100
Lesson-2: Angles	105
Lesson-3: How to use a Protractor	111
Lesson-4: Constructing Angles.	115
Lesson-5: Parallel Lines.	116
Lesson-6: Quadrilaterals.	119
Lesson-7: Properties of Shapes.	120
Lesson-8: Types of Quadrilaterals	123
Lesson-9: Symmetry	126
Lesson-10: Classifying Triangles	129
Lesson-11: Sorting and Classifying Shapes.	130
Lesson-12: Puzzles and Problems.	133

SEQUENCE & ALGEBRA

Lesson-1: Introduction to T-tables	136
Lesson-2: T-tables - Advanced.	140
Tear-able Activities.	145



Lesson-3

Differences of Tens, Hundreds, Thousands and Ten Thousands - Advanced

1. Add or subtract the following:

a)  = _____

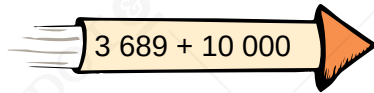
c)  = _____

e)  = _____

g)  = _____

b)  = _____

d)  = _____

f)  = _____

h)  = _____

2. Fill in the blanks given below:

a) $625 + \underline{\hspace{2cm}} = 635$

c) $1\ 653 + \underline{\hspace{2cm}} = 1\ 663$

e) $6\ 890 - \underline{\hspace{2cm}} = 5\ 890$

g) $902 - \underline{\hspace{2cm}} = 802$

i) $12\ 661 - \underline{\hspace{2cm}} = 11\ 661$

b) $702 + \underline{\hspace{2cm}} = 802$

d) $3\ 214 + \underline{\hspace{2cm}} = 3\ 314$

f) $3\ 257 - \underline{\hspace{2cm}} = 3\ 157$

h) $475 - \underline{\hspace{2cm}} = 465$

j) $234\ 110 - \underline{\hspace{2cm}} = 224\ 110$

3. Match the following:

a) 

b) 

c) 


d) 

is 10 more than 365

is 10 000 less than 22 113

is 10 000 more than 14 068

is 100 more than 9 277

 **Teacher Note:** Students will learn to add or subtract 10, 100, 1 000 and 10 000 from numbers which are not multiples of 10, 100, 1 000 and 10 000.



Lesson-3

Differences of Tens, Hundreds, Thousands and Ten Thousands - Advanced

4. Fill in the boxes given below:

a) $27 + 10 = \boxed{}$

b) $307 + 10 = \boxed{}$

c) $14\,823 + 10\,000 = \boxed{}$

d) $1\,238 + \boxed{} = 1\,248$

e) $7509 + \boxed{} = 7609$

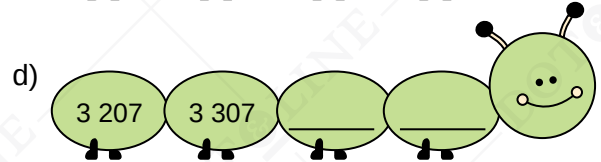
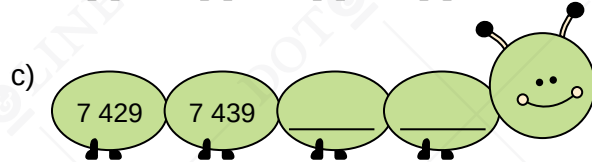
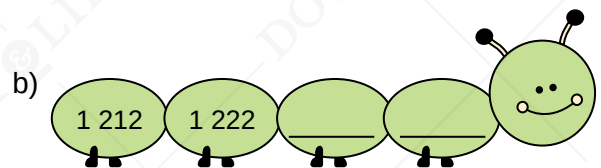
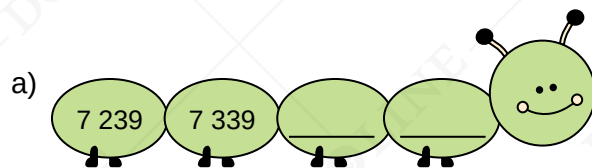
f) $26\,998 + \boxed{} = 36\,998$

g) $\boxed{} + 10 = 4\,375$

h) $\boxed{} + 10\,000 = 22\,026$

i) $\boxed{} + 1\,000 = 1\,291$

5. Find the pattern and continue the sequences given below:



6. Pakistan is one of the top mango producing countries in the world. Ajmal has 656 boxes of Sindhri mangoes. If he buys 10 more, how many boxes will he have altogether?



7. Three buses leave for a trip to Mohenjo-Daro with 229 people. If 10 people get off at the first stop, how many are left in the buses?

8. The distance from Multan to Lahore is 347 km. Ahsan left Multan by car and had driven 100 km. What distance does he still need to cover to reach Lahore?



9. Zahid bought a dozen oranges from the fruit market. 10 oranges had already been bought earlier at his home. How many oranges does he have now?

10. Raheel buys lunch from his school canteen. He spends Rs. 86 on biryani and Rs. 10 on a water bottle. How much money does he spend?



Lesson-4

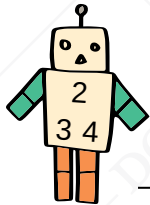
Comparing Numbers - Advanced



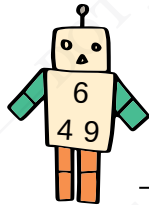
3.1-B.O-Quiz12

1. Using the sets of digits given below, create the greatest possible 3 digit number. Use each digit once.

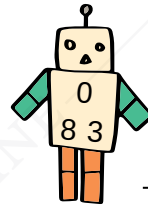
a)



b)

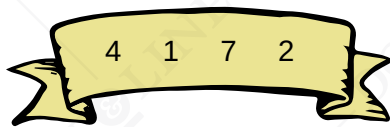


c)

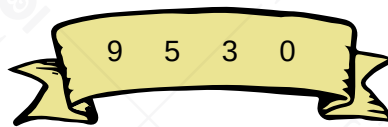


2. Using the digits given below, create the greatest possible 4 digit number. Use each digit only once.

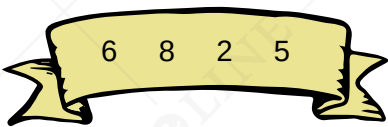
a)



b)

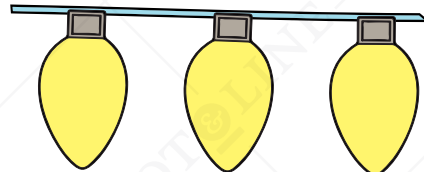
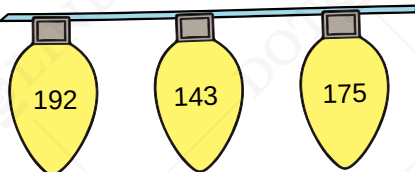


c)

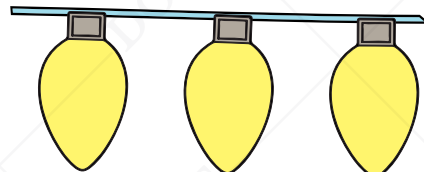
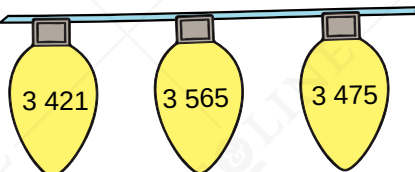


3. Arrange the numbers in order, starting with the smallest number. The first one has been done for you.

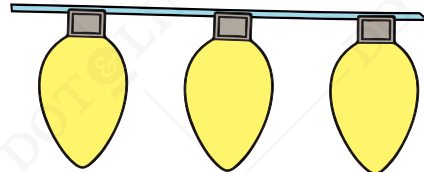
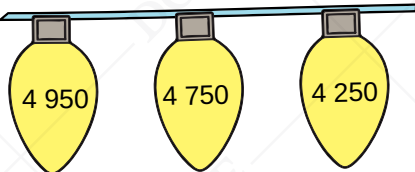
a)



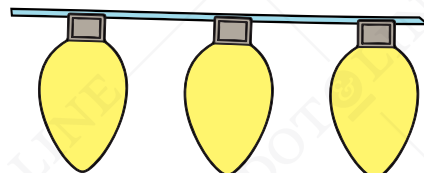
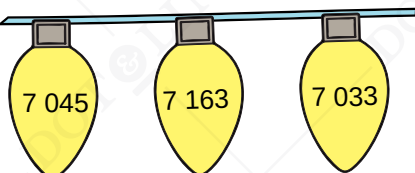
b)




c)



d)



 **Teacher Note:** Students will learn to order numbers and identify the greatest and least number. They will also learn how to create the greatest and least possible numbers using a given set of digits.



Lesson-4

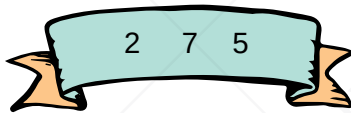
Comparing Numbers - Advanced

4. For each set of digits given below, create the greatest number, the smallest number and any number that lies between them.

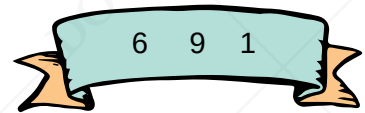
Digits	Greatest Number	Any Number in Between	Smallest Number
a) 6, 7, 0, 2	<input type="text"/>	<input type="text"/>	<input type="text"/>
b) 5, 3, 9, 1	<input type="text"/>	<input type="text"/>	<input type="text"/>
c) 4, 8, 1, 9	<input type="text"/>	<input type="text"/>	<input type="text"/>

5. List all possible 3 digit numbers that can be made using the set of digits given below. Then circle the greatest number. Use each digit only once in a number.

a)



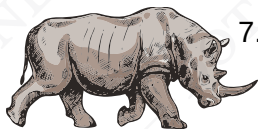
b)



6. Mrs. Khan has 4 children. Ibrahim is 12 years old, Hamza is 2 years older than Ibrahim, Sara is 5 years old and Hira is 2 years younger than Sara.

a) Who is the eldest child of Mrs. Khan?

b) List the names and ages of Mrs. Khan's children from the youngest to the eldest.



7. A white rhinoceros weighs 2 300 kg, an African elephant weighs 5 900 kg and a male hippopotamus weighs 1 800 kg. List the mammals, with their weights, from the heaviest.

8. Karomber Lake is situated at a height of 4 304 metres, Ansoo Lake is at a height of 5 027 metres and Rush Lake is at a height of 4 700 metres. Of the three lakes, which one is the highest?
9. During a population census, surveyors asked about the number of family members in each household. Ahmed, a surveyor, listed the number of family members from his survey as 5, 8, 6, 4, and 7. Arrange these starting from the least to the greatest.

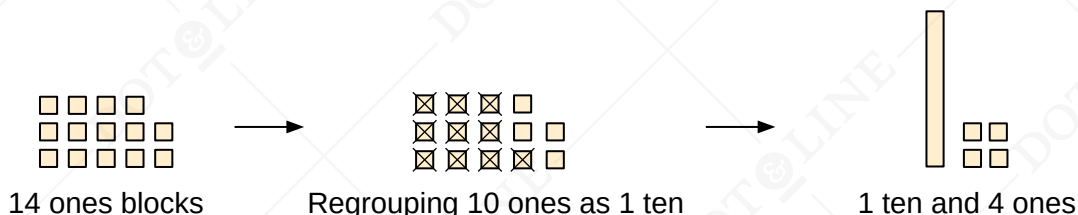


Lesson-5

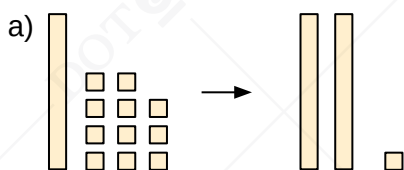
The Regrouping Method

Note: Did you know that if we have enough ones blocks we can regroup them to make tens!

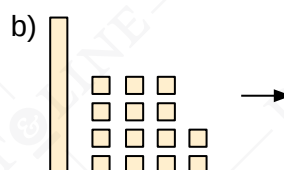
For example, Farheen has 14 blocks. She regroups 10 ones blocks into 1 tens blocks.



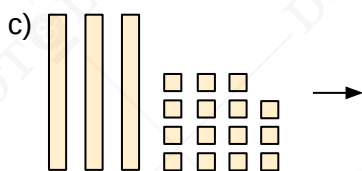
1. For the following base ten models, regroup 10 ones blocks as 1 tens block. The first one has been done for you.



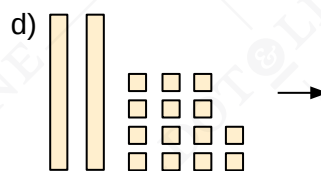
$$\underline{1} \text{ ten} + \underline{11} \text{ ones} = \underline{2} \text{ tens} + \underline{1} \text{ one}$$



$$\underline{\quad} \text{ ten} + \underline{\quad} \text{ ones} = \underline{\quad} \text{ tens} + \underline{\quad} \text{ ones}$$



$$\underline{\quad} \text{ tens} + \underline{\quad} \text{ ones} = \underline{\quad} \text{ tens} + \underline{\quad} \text{ ones}$$



$$\underline{\quad} \text{ ten} + \underline{\quad} \text{ ones} = \underline{\quad} \text{ tens} + \underline{\quad} \text{ ones}$$

2. Complete the table by regrouping as many ones as tens. The first one has been done for you.

	Before Regrouping		After Regrouping	
	Tens	Ones	Tens	Ones
a)	7	15	$7 + 1 = 8$	5
b)	4	26		
c)	5	34		
d)	8	16		
e)	6	39		



Teacher Note: Students will learn the regrouping method i.e. they will learn to regroup ones as tens and tens as hundreds.