DOT & LINE

Sample Lessons

4.1

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Lesson- I

Place Value

4.1-BO-Quiz11

Note: Have you ever thought about how important the place of a digit is in a number?

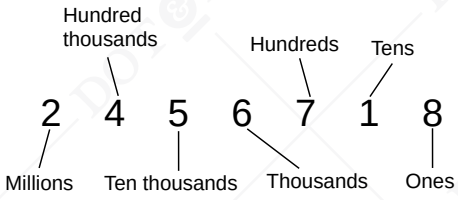
For example, in the number 4 102, the digit 2 is placed last. The position of the digit 2 in this number tells us something important about it. Let us study what it tells us.

Each digit in a number has a place which tells us the value of the digit. If the place of the digit in a number changes, so does its value.

'**Place Value**' is the position of a digit in a number which determines its value.

For example, 2 456 718 is an eight digit number. Let us see how the position of each digit determines its value.

- The digit 2 stands for 2 000 000 - the value of the digit 2 is 2 000 000
- The digit 4 stands for 400 000 - the value of the digit 4 is 400 000
- The digit 5 stands for 50 000 - the value of the digit 5 is 50 000
- The digit 6 stands for 6 000 - the value of the digit 6 is 6 000
- The digit 7 stands for 700 - the value of the digit 7 is 700
- The digit 1 stands for 10 - the value of the digit 1 is 10
- The digit 8 stands for 8 - the value of the digit 8 is 8



The number 2 456 718 can be represented using a place value chart:

Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
2	4	5	6	7	1	8

What would happen if we put 8 in place of 4 and 4 in place of 8? Would the number stay the same?

The number would now become 2 856 714

- The digit 2 stands for 2 000 000 - the value of the digit 2 is 2 000 000
- The digit 8 stands for 800 000 - the value of the digit 8 is 800 000
- The digit 5 stands for 50 000 - the value of the digit 5 is 50 000
- The digit 6 stands for 6 000 - the value of the digit 6 is 6 000
- The digit 7 stands for 700 - the value of the digit 7 is 700
- The digit 1 stands for 10 - the value of the digit 1 is 10
- The digit 4 stands for 4 - the value of the digit 4 is 4

The number 2 856 714 can be represented using a place value chart:

Millions	Hundred thousand	Ten thousands	Thousands	Hundreds	Tens	Ones
2	8	5	6	7	1	4

When we changed the place of the digits the number changed, 2 856 714 is a greater than 2 456 718.

1. **Teacher Note:** Students will be able to identify place value of 2, 3, 4, 5 and 6 digit numbers.

Lesson- I

Place Value

For example, in the number 2 608 002, the digit 2 comes twice but the value of each digit is different depending on its position in the number.

2 608 002

The 2 in the millions position has a value of 2 000 000

The 2 in the ones position has a value of 2

Notice how the value of the same digit, i.e. 2, changes according to its position.

The digit 2 in the millions place is 1 000 000 times more than the 2 in the ones place. The value of any digit in the millions place is obtained by multiplying it by 1 000 000, i.e. adding six zeros at the end.

1. Sara is 7 years old. Sara's grandma is 10 times her age. How old is her grandma?

2. There are approximately 6 500 spoken languages in the world today. What does the digit 5 stand for?

3. Rahima saved Rs. 12 000 in a year. What is the value of the digit 1?

4. The humpback whale weighs 36 000 kg on average. What does the digit 6 stand for?

5. Fill in the chart given below. The first one has been done for you.

	Numbers	How many times more is the first 2 worth than the second 2?	How many 0s are there in the number from the previous column?
a)	242	100	2
b)	2 902		
c)	3 221		
d)	1 232		
e)	23 472		
f)	128 127		
g)	2 308 926		

Lesson-2

Inequality: Relationship between Numbers

4.1-BO-Quiz14

Note: Have you ever compared two numbers?

For example, Ajmal is 15 years old and his sister is 24 years old. Who is older?

Safa collected 231 plastic bottles and Kiran collected 209. Who collected more plastic bottles for the Recycle Project?

In each of these examples, the two numbers being compared are **different** and **unequal**.

In Mathematics, not all numbers are always equal. Some numbers are '**greater than**' or '**lesser than**' others.

Inequality is the relationship between two numbers which tells us whether a number is greater than or lesser than the other.

We use special symbols, shown on the right, to represent this relationship:

> represents 'greater than'

< represents 'lesser than'

So, 9 > 7, expresses that 9 is 'greater than' 7. Similarly, 5 < 8, expresses that 5 is 'lesser than' 8.

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1. Write the value of each digit in the blanks:

a) 7 6 5 7 4 5

_____ is greater than _____

b) 2 6 7 3 6 7

_____ is greater than _____

c) 8 7 5 8 7 8

_____ is greater than _____

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2. **Teacher Note:** Students will be able to compare numbers (up to 5 digits) and identify which number is larger and which is smaller.

Lesson-2

Inequality: Relationship between Numbers

2. From the following table, read each pair of numbers from left to right and underline the first pair of digits you find different. Then write the greater number in the last column. The first one has been done for you.

	Pair of numbers		Greater number
a)	155	175	175
b)	365	264	
c)	456	459	
d)	3 456	3 557	
e)	1 230	2 235	
f)	33 547	33 557	
g)	45 670	46 670	
h)	26 545	16 545	
i)	10 458	10 459	
j)	67 760	67 560	

3. Fill in the circle with the correct inequality sign: < or >

a) 2 455 ◯ 3 667

b) 19 800 ◯ 19 500

c) 3 450 ◯ 2 389

d) 23 465 ◯ 23 466

e) 7 045 ◯ 7 065

f) 45 640 ◯ 44 640

g) 15 650 ◯ 14 670

h) 57 781 ◯ 57 281

Lesson-2

Inequality: Relationship between Numbers

4. For each pair of numbers given below, underline the digits that are different, and then circle the greater number. The first one has been done for you.

a)

3 476
3 376

b)

75 450
75 350

c)

8 945
7 945

d)

4 563
4 573

e)

12 365
12 375

f)

21 450
22 450

5. Circle the greater one in each of these pairs:

a) 2 340 **or** three thousand and two hundred

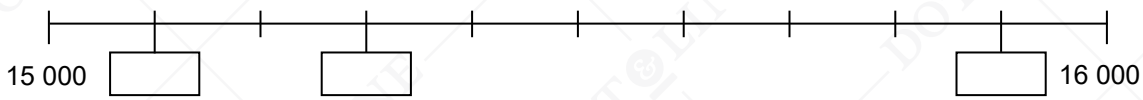
b) 990 **or** eight hundred and seventy

c) 3 305 **or** three thousand, four hundred and five

d) 14 100 **or** fourteen thousand and two hundred

e) 6 412 **or** three thousand and two hundred

6. Fill in the boxes on the number line and shade the greatest number.



Lesson-2

Inequality: Relationship between Numbers

7. Fill in the blanks with digits, that make the number statements true.

   a) __ 2 __ 5 > 2 __ __ 5

   b) 3 __ __ 5 < __ 4__ 5

8. Fill in the blanks with digits of your choice and then circle the greater number.

   ___ 456 or ___ 567

9. Hina and Arfa decided to sell cookies in their school to raise money for charity. In one week, Hina sold 210 cookies while Arfa sold 223 cookies. Who sold more cookies?

10. Rush Lake is located in the north of Pakistan at a height of 4 700 metres while Karambar Lake is located at a height of 4 272 metres. Which lake is located at a higher altitude?

11. List numbers that are lesser than 80 000 but greater than 79 990.

12. The Durand Line is the 2 640 km border between Pakistan and Afghanistan. Pakistan's border with India is 2 912 km long. Which country shares a longer border with Pakistan?

13. There are almost 12 000 ants living in anthill A, while anthill B has 11 500 ants. Which anthill has lesser number of ants?

14. The height of the MCB tower in Karachi is 381 feet. The Bahria Icon Tower is approximately 900 feet tall. Which building is taller?

15. Tarbela Dam, located on River Indus, generates 3 478 MW of energy daily, whereas Mangla Dam, located on River Jhelum, generates 1 310 MW of energy daily. Which dam generates more electricity everyday?