

CHAPTER-4 (CUBES AND CUBE ROOTS)

The cube roots of a number 'n' is that number which when multiplied by itself three times gives 'n' as the product.

**Method to find the cube root of a number:**

- i) Express the given number as the product of prime factors.
- ii) Make groups in triplets of the same prime factors.
- iii) Take one factor from each triplet of prime factors. Multiply them together; the product so obtained is the required cube root of the given number.

**Example 1.** Find the cube root of 1728 by prime factorisation.

**Solution.** Given number is 1728

Expressing it into prime factors, we have

$$1728 = \underbrace{2 \times 2 \times 2}_{2^3} \times \underbrace{2 \times 2 \times 2}_{2^3} \times \underbrace{3 \times 3 \times 3}_{3^3}$$

$$\therefore \sqrt[3]{1728} = 2 \times 2 \times 3 = 12$$

Hence, cube root of 1728 is 12.

**Alternative method**

$$\begin{aligned} 1728 &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 \\ &= 2^6 \times 3^3 \end{aligned}$$

$$\begin{aligned} \therefore \sqrt[3]{1728} &= 2^2 \times 3^1 \\ &= 2 \times 2 \times 3 = 12. \end{aligned}$$

Prime factorisation

2	1728
2	864
2	432
2	216
2	108
2	54
3	27
3	9
3	3
	1

Take one-third of each index

**Example 2.** By what smallest number should 55125 be multiplied so that the product becomes a perfect cube? Also find the cube root of the product.

**Solution.** Given number is 55125

Expressing it into prime factors, we have

$$55125 = 3 \times 3 \times \underbrace{5 \times 5 \times 5}_{5^3} \times 7 \times 7$$

We note that the prime factor 5 occurs thrice while prime factors 3 and 7 occur twice. Therefore, the smallest number by which the given number must be multiplied so that the product is a perfect cube is  $3 \times 7$  i.e. 21.

Then product

$$55125 \times 3 \times 7 = \underbrace{3 \times 3 \times 3}_{3^3} \times \underbrace{5 \times 5 \times 5}_{5^3} \times \underbrace{7 \times 7 \times 7}_{7^3}$$

$\therefore$  Cube root of the product =  $3 \times 5 \times 7 = 105$ .

Prime factorisation

3	55125
3	18375
5	6125
5	1225
5	245
7	49
7	7
	1

**Example 3.** Divide 259875 by the smallest number so that the quotient is a perfect cube. Also find the cube root of the quotient.

**Solution.** Given number is 259875

Expressing it into prime factors, we have

$$259875 = \underbrace{5 \times 5 \times 5}_{5^3} \times \underbrace{3 \times 3 \times 3}_{3^3} \times 7 \times 11$$

We note that prime factors 5 and 3 occurs thrice while prime factors 7 and 11 occur once. Therefore the smallest number by which the given number must be divided so that the quotient is a perfect cube is  $7 \times 11$  i.e. 77.

Now quotient is  $259875 \div 77 = 3375$

$$3375 = \underbrace{5 \times 5 \times 5}_{5^3} \times \underbrace{3 \times 3 \times 3}_{3^3}$$

$\therefore \sqrt[3]{3375} = 5 \times 3 = 15$ .

Prime factorisation

5	259875
5	51975
5	10395
3	2079
3	693
3	231
7	77
11	11
	1

**Example 4.** Find the cube root of  $(-512)$ .

**Solution.** Given number is  $(-512)$

As we know that  $\sqrt[3]{-512} = -\sqrt[3]{512}$

Expressing 512 into prime factors, we have

$$512 = \underbrace{2 \times 2 \times 2}_{2^3} \times \underbrace{2 \times 2 \times 2}_{2^3} \times \underbrace{2 \times 2 \times 2}_{2^3}$$

$$\therefore \sqrt[3]{512} = 2 \times 2 \times 2 = 8$$

$$\therefore \sqrt[3]{-512} = -\sqrt[3]{512} = -8.$$

Prime factorisation

2	512
2	256
2	128
2	64
2	32
2	16
2	8
2	4
2	2
	1

### Cube root of product of integers

We have  $\sqrt[3]{ab} = (ab)^{1/3} = (a)^{1/3} \times (b)^{1/3} = \sqrt[3]{a} \times \sqrt[3]{b}$

$$\Rightarrow \sqrt[3]{ab} = \sqrt[3]{a} \times \sqrt[3]{b}$$

**Example 5.** Evaluate:  $\sqrt[3]{27 \times 64}$

**Solution.** As we know that  $\sqrt[3]{a \times b} = \sqrt[3]{a} \times \sqrt[3]{b}$

$$\begin{aligned} \therefore \sqrt[3]{27 \times 64} &= \sqrt[3]{27} \times \sqrt[3]{64} \\ &= \sqrt[3]{3 \times 3 \times 3} \times \sqrt[3]{4 \times 4 \times 4} \\ &= 3 \times 4 = 12 \end{aligned}$$

Prime factorisation

3	27	4	64
3	9	4	16
3	3	4	4
	1		1

**Example 6.** Evaluate:  $\sqrt[3]{125 \times (-64)}$

**Solution.**  $\sqrt[3]{125 \times (-64)} = \sqrt[3]{125} \times \sqrt[3]{-64} = \sqrt[3]{125} \times (-\sqrt[3]{64})$   
 $= \sqrt[3]{5 \times 5 \times 5} \times (-\sqrt[3]{2 \times 2 \times 2 \times 2 \times 2})$   
 $= 5 \times (-(2 \times 2)) = -20.$

Prime factorisation

5	125	2	64
5	25	2	32
5	5	2	16
	1	2	8
		2	4
		2	2
			1

### Cube root of a rational number

We have  $\sqrt[3]{\frac{a}{b}} = \left(\frac{a}{b}\right)^{1/3} = \frac{a^{1/3}}{b^{1/3}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$

$$\therefore \sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$$

**Example 7. Evaluate:**  $\sqrt[3]{\frac{216}{729}}$ .

**Solution.** As we know that  $\sqrt[3]{\frac{a}{b}} = \frac{\sqrt[3]{a}}{\sqrt[3]{b}}$

$$\therefore \sqrt[3]{\frac{216}{729}} = \frac{\sqrt[3]{216}}{\sqrt[3]{729}}$$

Expressing 216 and 729 into prime factors, we have

$$216 = \underbrace{2 \times 2 \times 2}_{2^3} \times \underbrace{3 \times 3 \times 3}_{3^3} \Rightarrow \sqrt[3]{216} = 2 \times 3 = 6$$

and  $729 = \underbrace{3 \times 3 \times 3}_{3^3} \times \underbrace{3 \times 3 \times 3}_{3^3}$

$$\Rightarrow \sqrt[3]{729} = 3 \times 3 = 9$$

$$\therefore \sqrt[3]{\frac{216}{729}} = \frac{6}{9} = \frac{2}{3}$$

Prime factorisation

2	216
2	108
2	54
3	27
3	9
3	3
	1

3	729
3	243
3	81
3	27
3	9
3	3
	1

**Example 8. Evaluate:**  $\sqrt[3]{\frac{-125}{343}}$

**Solution.**  $\sqrt[3]{\frac{-125}{343}} = \frac{\sqrt[3]{-125}}{\sqrt[3]{343}} = \frac{-\sqrt[3]{125}}{\sqrt[3]{343}}$

Expressing 125 and 343 into prime factors, we have

$$125 = \underbrace{5 \times 5 \times 5}_{5^3} \Rightarrow \sqrt[3]{125} = 5$$

$$\therefore -\sqrt[3]{125} = -5$$

$$343 = \underbrace{7 \times 7 \times 7}_{7^3} \Rightarrow \sqrt[3]{343} = 7$$

$$\therefore \sqrt[3]{\frac{-125}{343}} = \frac{-5}{7}$$

Prime factorisation

5	125
5	25
5	5
	1

7	343
7	49
7	7
	1

## Cube root of a cube number through estimation

To estimate the cube root of a given cube number, use the following process:

Let us consider a cube number 857375, to find the cube root of this number through estimation, proceed as under:

**Step 1.** Form groups of three digits starting from the rightmost digit (i.e. unit digit) of the number.

$$\begin{array}{ccc} & \underline{857} & \underline{375} \\ & \downarrow & \downarrow \\ \text{i.e.} & \text{Second group} & \text{First group} \end{array}$$

**Step 2.** First group (i.e. 375) decides the unit digit of the required cube root.

The number 375 ends with 5. We know that 5 comes at the unit's place of a number only when its cube root ends in 5.

So, the unit digit of the required cube root is 5.

**Step 3.** If no group is left then the number obtained in step 2 is the cube root of the given number.

But if second group exists (in this case 857) then it will decide the ten's digit of the required cube root.

Now take second group i.e. 857.

We know that  $9^3 = 729$  and  $10^3 = 1000$ . Also  $729 < 857 < 1000$ . We take the one's place, the smaller number 729 as the ten's digit of the required cube root (i.e. 9).

**Step 4.** If no group is left then the digits obtained in step 2 and step 3 decide the cube root of the given number.

i.e.  $\sqrt[3]{857375} = 95$

**Example 9.** Find the cube roots of the following decimal numbers:

(i) 0.216

(ii) 9.261

**Solution.** (i)  $\sqrt[3]{0.216} = \frac{\sqrt[3]{216}}{\sqrt[3]{1000}}$   
 $= \frac{\sqrt[3]{27}}{\sqrt[3]{125}}$

Converting decimal to fraction

$$= \frac{\sqrt[3]{27}}{\sqrt[3]{125}} = \frac{\sqrt[3]{3 \times 3 \times 3}}{\sqrt[3]{5 \times 5 \times 5}} = \frac{3}{5} = 0.6$$

Expressing in lowest terms

(ii)  $\sqrt[3]{9.261} = \frac{\sqrt[3]{9261}}{\sqrt[3]{1000}}$

Converting decimal to fraction

$$= \frac{\sqrt[3]{9261}}{\sqrt[3]{1000}} = \frac{\sqrt[3]{3 \times 3 \times 3 \times 7 \times 7 \times 7}}{\sqrt[3]{2 \times 2 \times 2 \times 5 \times 5 \times 5}}$$
$$= \frac{\sqrt[3]{(3 \times 3 \times 3) \times (7 \times 7 \times 7)}}{\sqrt[3]{(2 \times 2 \times 2) \times (5 \times 5 \times 5)}} = \frac{3 \times 7}{2 \times 5} = \frac{21}{10} = 2.1$$

**Example 10.** The volume of a cube is  $5832 \text{ m}^3$ . Find the length of its side.

**Solution.** Given volume of a cube =  $5832 \text{ m}^3$

Let the side of the cube be  $a$  metres

We know that, volume of cube = (side)<sup>3</sup>

$$\Rightarrow 5832 = a^3$$

$$\Rightarrow a = \sqrt[3]{5832}$$

$$\begin{aligned} \Rightarrow a &= \sqrt[3]{2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3} \\ &= 2 \times 3 \times 3 = 18 \end{aligned}$$

Hence, the length of side of the cube = 18 m

Prime factorisation

2	5832
2	2916
2	1458
3	729
3	243
3	81
3	27
3	9
3	3
	1

**Example 11.** Three numbers are in the ratio 1 : 2 : 3. The sum of their cubes is 7776. Find the numbers.

**Solution.** Let the three numbers be  $x$ ,  $2x$  and  $3x$ , then

$$x^3 + (2x)^3 + (3x)^3 = 7776$$

$$\Rightarrow x^3 + 8x^3 + 27x^3 = 7776$$

$$\Rightarrow 36x^3 = 7776$$

$$\Rightarrow x^3 = \frac{7776}{36} = 216$$

$$\begin{aligned} \Rightarrow x &= \sqrt[3]{216} = \sqrt[3]{2 \times 2 \times 2 \times 3 \times 3 \times 3} \\ &= 2 \times 3 = 6 \end{aligned}$$

$$\therefore x = 6, 2x = 2 \times 6 = 12 \text{ and } 3x = 3 \times 6 = 18.$$

Hence, the three numbers are 6, 12, 18.

Prime factorisation

2	216
2	108
2	54
3	27
3	9
3	3
	1

## SOLVE YOURSELVES

### EX.-4.2

1) Find the cube root of the following numbers by prime factorization:

i) 12167

vii) 262144

2) Find the cube root of the following numbers through estimation:

ii) 59319

iv) 148877

3) Find the cube root of the following numbers:

i) -250047

ii)  $\frac{-64}{1331}$

4) Evaluate the following:

i)  $\sqrt[3]{512 \times 729}$

ii)  $\sqrt[3]{(-1331) \times (3375)}$

5) Find the cube root of the following decimal numbers:

i) 0.003375

ii) 19.683

6) Evaluate:  $\sqrt[3]{27} + \sqrt[3]{0.008} + \sqrt[3]{0.064}$

[Answers of the questions given on assignment of 22.4.20 and 27.4.20 of chapter 3]

(Answers of assignment of 22.4.20).

1. Force is a cause, which can create motion in a body which is free to move, or change the speed of a moving body. Force can cause the change of shape or size of the body and can cause the turning effect of a body which is not free to move but pivoted on a point.

It's SI unit is Newton.

2. The effects of force

(i) Force can create motion

(ii) Force can change the shape or size of a body.

(iii) Force can change the speed of a moving body.

(iv) Force can create turning effect on a body.

3. One Newton force is the force which when applied on a moving body of mass 1 kg in the direction of its motion, increases its speed by 1 m per second in one second.

4. Our earth attracts each body towards its centre. The force of attraction exerted on a body by earth is called force of gravity.

It's another name is weight of the body.

5. A force can create a turning effect when the body is not free to move, but pivoted at a point.

6. The turning effect of a body depends upon the magnitude of the force and the perpendicular distance of the force from the pivoted point.

7. Moment of force can be defined as the product of magnitude of the force and the perpendicular distance of the force from the pivoted point.

8. The unit of moment of force in SI system is Nm and in CGS system it is Dyne cm.

9. Thrust is the force which acts normally on a surface.

10. Pressure can be defined as thrust per unit area.

Difference between thrust and pressure.

(i) Thrust is the sum total of force acting perpendicular to a surface.

Pressure is the thrust acting per unit area.

(ii) Thrust is independent of the area over which the force is applied.

Pressure depends on the area on which the force acts.

(iii) The SI unit of thrust is Newton.

The SI unit is Newton/ m.sq. or Pascal.

11. The pressure on a surface depends on the following two factors.

(i) On the area of the surface on which thrust acts.

(ii) On the magnitude of thrust acting on the surface.

(Answers of assignment of. 27.4.20).

1. A solid can exert pressure on the surface only at its bottom, but a liquid exerts pressure not only at the bottom of the container, but in all directions.

2. The factors which affect liquid pressure are as follows.

(i) The height of the liquid column. \_\_\_\_\_ Liquid pressure increases with the height of the liquid column.

(ii) The density of the liquid. \_\_\_\_\_. The liquid pressure increases with the density of the liquid.

3. The thrust on unit area of the earth surface due to the column of air is called the atmospheric pressure. Its value is about 10000 N/ m.sq.

4. We do not feel uneasy due to the enormous atmospheric pressure, because our blood pressure is slightly more than the atmospheric pressure and it makes the effect of atmospheric pressure ineffective.

5. Water does not run out of a dropper unless its rubber bulb is pressed, because, the water inside the bulb is balanced by the atmospheric pressure, which is greater than the pressure of water. When we press the bulb, the downward pressure increases and then water comes out.

Numericals.

[\* Correction of example number 2.

Given, thrust  $F = 20\text{N}$ .

Area.  $A = 10\text{ cm sq.} = 10/10000\text{ m.sq.}$

Pressure = Thrust  $\div$  area

=  $20\text{N} \div 10/10000\text{ m.sq.}$

$$= 20000\text{N/m.sq.}]$$

$$1. F=200\text{N}$$

$$A=0.02\text{m.sq.}$$

$$P= F/A= 200\text{N}/0.02\text{m.sq.}$$

$$= 200 \times 100 / 0.02 = 10,000 \text{ Pa.}$$

$$2. \text{Pressure} = \text{Thrust}/\text{Area}$$

$$\text{Thrust} = \text{pressure} \times \text{area}$$

$$\text{Area} = 1 \text{ cm.sq.} = 1/10000\text{m.sq.}$$

$$\text{Thrust} = 20000 \times 1/10000 = 2\text{N.}$$

$$3. \text{weight of the body} = 60\text{kgf}$$

$$\text{Area} = 2.5\text{cm} \times 0.5\text{cm} = 1.25\text{cm.sq.}$$

$$1.25/10000\text{m.sq.}$$

$$\text{Pressure} = \text{thrust}/\text{area}$$

$$\text{Thrust} = 60 \times 10\text{N. [1kgf} = 10\text{N]}$$

$$\text{Now, pressure} = 60 \times 10 \div 1.25/10000 \text{ Pa}$$

$$= 600 \times 10000 \times 100 / 1.25 \text{ Pa}$$

$$= 4800000 \text{ Pa.}$$

$$4. \text{Pressure} = \text{thrust}/\text{area}$$

$$\text{So, area} = \text{thrust}/\text{pressure} = 100\text{N}/50000\text{Pa}$$

$$= 1/500 = 0.002\text{m.sq.}$$

$$5. \text{Moment of force} = F \times D$$

$$= 20\text{N} \times 0.5\text{M} = 10\text{Nm.}$$

### 1-निम्नलिखित गद्यांश को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर लिखिए –

एक बार पिकासो चित्र बना रहे थे तो एक मित्र उसके पास आया। उन्हें चित्रकारी करते देख वह वापस लौट गया।

बाद में जब किए बाज़ार में बिकने आया तो उसी मित्र ने उसे खरीद लिया क्योंकि बाज़ार में पिकासो के नकली चित्र बिक रहे थे और वह चित्र उसने पिकासो को बनाते हुए देखा था। उसने उस चित्र की बहुत अधिक कीमत चुकाई और उसे घर लेकर आ गया। एक बार वही मित्र उस चित्र को लेकर पिकासो के पास गया और पूछा, "यह चित्र तो प्रामाणिक है? मैंने स्वयं तुम्हें चित्र को बनाते हुए देखा था।" पिकासो ने कहा, "बनाया तो मैंने ही है, लेकिन प्रामाणिक नहीं है।" मित्र बड़ा हैरान हुआ। इतनी बड़ी राशि व्यय करके उसने चित्र खरीदा था और चित्रकार स्वयं कहा रहा है कि चित्र प्रामाणिक नहीं है। उसने झल्लाकर पूछा, "तुम्हारे कहने का क्या अर्थ है।"

पिकासो बोले, जब हम किसी चीज़ का सृजन करते हैं और सृजन यदि मौलिक है, तो हम ईश्वर के समीप ही होते हैं। पिकासो का ईमानदार सत्य सुनकर मित्र का सिर उसके प्रति श्रद्धा से भर गया।

क- पिकासो का मित्र वापस क्यों लौट गया ?

ख- उसने चित्र के लिए अधिक कीमत क्यों चुकाई ?

ग- पिकासो के मित्र की हैरानी का क्या कारण था ?

घ- पिकासो के प्रति उसके मित्र की श्रद्धा का क्या कारण था ?

ङ- 'दूर' और 'आय' शब्द के विलोम गद्यांश से ढूँढ़ लिखिए।

### 2- निम्नलिखित शब्दों के विलोम शब्द लिखिए –

क- सरल

ख- अँधेरा

ग- ऊपर

घ- लाभ

ङ- सत्य

च- सुख

छ- स्वतंत्र

ज- प्रकाश

झ- राजा

ञ- मित्र

ट- पाप

ठ- जीवन

ड- देव

ढ- आगे

ण- देश

3- नीचे दिए गए वाक्यों में रेखांकित शब्दों के विलोम शब्द छाँटकर रिक्त स्थान की पूर्ति कीजिए –

स्वस्थ      कायर      छाँव      विदेश      कठिन

क- सुबोध धूप में नहीं, \_\_\_\_\_ में बैठो।

ख- एक भाई वीर है और दूसरा \_\_\_\_\_।

ग- हिन्दी का पेपर सरल था और अंग्रेजी का \_\_\_\_\_।

घ- संचित देश छोड़कर \_\_\_\_\_ में जा बसा।

ङ- दादाजी अस्वस्थ हैं, कुछ दिनों में वह \_\_\_\_\_ हो जाएँगे।

CLASS-VIII  
SUBJECT- LOWER BENGALI  
PREVIOUS HOME ASSIGNMENT SOLUTION 2020-21 ( DATE – 22.04.2020)

DATE – 29.04.2020  
WEDNESDAY

HOMEWORK

Q.1 . ক থেকে ঁ পর্যন্ত লেখো । ( ২ বার )

( Write ক to ঁ 2 times )

উঃ- ক খ গ ঘ ঙ  
চ ছ জ ঝ ঞ  
ট ঠ ড ঢ ণ  
ত থ দ ধ ন  
প ফ ব ভ ম  
য র ল ব শ  
ষ স হ ড ঢ  
য় ং ঁ ং ঃ ঄

Q.2 . ৫ টি পশু ও ৫ টি পাখির নাম লেখো ।

( Write 5 animals and 5 birds name )

উঃ- ৫ টি পশুর নাম - সিংহ , বাঘ , হাতি , জিরাফ , গন্ডার ।

৫ টি পাখির নাম - চড়ুই , কাক , বক , মাছরাঙা , কোকিল ।

CLASS-VIII  
SUBJECT- LOWER BENGALI  
HOME ASSIGNMENT NO.2 2020-21

DATE – 29.04.2020  
WEDNESDAY

CLASSWORK

১ পাঠ  
বড়ো গাছ।  
ভালো জন।  
লাল ফুল।  
ছোটো পাতা।

২ পাঠ  
পথ ছাড়ো।  
জন খাও।  
হাত ধরো।  
বাড়ী\* যাও।

৩ পাঠ  
কথা কয়।  
জল পড়ে।  
মেঘ ডাকে।  
হাত নাড়ে।  
খেলা করে।

৪ পাঠ  
কি পড় ?  
কোথা যাও ?  
ধীরে চল।  
কাছে এস।  
বই দেখ।

৫ পাঠ  
নূতন ঘটি\*।  
পুরাতন বাটি\*।  
কালো পাথর।  
সাদা কাপড়।  
শীতল জল।

৬ পাঠ  
বাহিরে যাও।  
ভিতরে এস।  
কপাট খোল।  
কাগজ রাখ।  
কলম দাও।

৭ পাঠ  
আমি যাইব।  
সে আসিবে।  
তোমরা যাও।  
তিনি গিয়াছেন।  
আমরা যাইতেছি।  
তাহারা আসিতেছে।

৮ পাঠ  
কাক ডাকিতেছে।  
গোরু চরিতেছে।  
পাখী\* উড়িতেছে।  
জল পড়িতেছে।  
পাতা নড়িতেছে।  
ফল ঝুলিতেছে।

\* বর্তমানে এই বানানগুলি ই-কার ( ি ) দিয়ে লেখা হয়।

HOMEWORK

নীচের সঠিক উত্তরটির পাশে টিকচিহ্ন (✓) বসানো: Tick (✓) the correct words. (M.C.Q.): (প্রতিটির ম)

ক) গাছ	— ( ছোটো	<input type="checkbox"/>	বড়ো	<input type="checkbox"/>	মাঝারি	<input type="checkbox"/>
খ) ফুলের রং	— ( নীল	<input type="checkbox"/>	হলুদ	<input type="checkbox"/>	লাল	<input type="checkbox"/>
গ) বাড়ি	— ( এসো	<input type="checkbox"/>	যাও	<input type="checkbox"/>	যাবে	<input type="checkbox"/>
ঘ) হাত	— ( বাড়াও	<input type="checkbox"/>	ধরো	<input type="checkbox"/>	ছাড়ো	<input type="checkbox"/>
ঙ) মেঘ	— ( ভাসে	<input type="checkbox"/>	উড়ে	<input type="checkbox"/>	ডাকে	<input type="checkbox"/>
চ) শীতল	— ( দুধ	<input type="checkbox"/>	জল	<input type="checkbox"/>	মধু	<input type="checkbox"/>
ছ) বই	— ( দেখ	<input type="checkbox"/>	পড়ো	<input type="checkbox"/>	খোল	<input type="checkbox"/>
জ) পুরাতন	— ( খালা	<input type="checkbox"/>	ঘটি	<input type="checkbox"/>	বাটি	<input type="checkbox"/>
ঝ) কপাট	— ( বন্ধ করো	<input type="checkbox"/>	খোলো	<input type="checkbox"/>	ভেজিয়ে দাও	<input type="checkbox"/>
ঞ) কলম	— ( দাও	<input type="checkbox"/>	নাও	<input type="checkbox"/>	খোলো	<input type="checkbox"/>
ট) কাক	— ( উড়িতেছে	<input type="checkbox"/>	খাইতেছে	<input type="checkbox"/>	ডাকিতেছে	<input type="checkbox"/>
ঠ) ফল	— ( পড়িতেছে	<input type="checkbox"/>	ঝুলিতেছে	<input type="checkbox"/>	খাইতেছে	<input type="checkbox"/>

নীচের প্রশ্নগুলির উত্তর লেখো: (Answer the following questions): (প্রতিটির ম)

ক) কী পড়ে ? .....

খ) কী নাড়ে ? .....

গ) কী করে ? .....

ঘ) কেমন ঘটি ? .....

ঙ) কেমন বাটি ? .....

চ) কী রংয়ের পাথর ? .....

ছ) কী রংয়ের কাপড় ? .....

জ) কোথায় যাও ? .....

ঝ) কী রাখো ? .....

ঞ) কী দাও ? .....

ট) কী উড়িতেছে ? .....

ঠ) কী পড়িতেছে ? .....

ড) কী নড়িতেছে ? .....

CLASS 8  
HISTORY

DATE: 29/04/20

A PERIOD OF TRANSITION

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CONTINUED.....

HOME WORK QUESTIONS AND ANSWERS

1. Define the Primary Sources and the Secondary Sources.
2. What is colonialism?
3. Name the three important European explorers of the modern period. What did each of them discover?
4. What do you mean by Renaissance?
5. What were the causes for the rise of imperialism?
6. What was the basic philosophical thought of the humanists?
7. How did the spirit of inquiry become an important feature of the Renaissance?
8. How the invention of printing press revolutionised the world?
9. Who was 'Martin Luther'?
10. What was the contribution of coal and iron in the growth of industrial revolution?

CLASS WORK QUESTIONS AND ANSWERS

A: With reference to the Industrial Revolution:

1. Analyse how the English Revolution eventually led to the Industrial Revolution.

Ans- The English Revolution that took place between 1640 and 1660 limited the powers of the monarchy and put the English Parliament under the control of traders and manufacturers. Trade prospered and rapid economic progress began to be made in England. As a result of the booming trade, an enormous amount of wealth accumulated in England. A large part of wealth was spent on the development of factories and on inventing new machines that improved production. Several new machines were invented. These machines revolutionised the ways goods were made and resulted in the Industrial Revolution.

2. Explain how the Industrial Revolution led to urbanisation.

Ans- The Industrial Revolution led to industrialisation or the development of industries on a large scale. Many people began to move from the rural areas to the cities in search of jobs in factories. The Industrial Revolution thus resulted in rapid urbanisation. However, though the cities began to grow, their growth happened in an unplanned manner.

3. Discuss the negative impact of the Industrial Revolution on India.

Ans- Before the Industrial Revolution, India was one of the most economically advanced countries in the world. Its textiles and handicrafts were world famous. However, after it became a colony of Britain, its industries were destroyed. Under the British rule, India was forced to export agricultural raw materials to the industries in Britain and import factory made goods from Britain. This ruined the handicrafts industry in India.

B. With reference to Imperialism:

4. Analyse how the Industrial Revolution led to the formal establishment of colonies in Asia.

Ans- The Industrial Revolution created a sudden surge in demand for raw materials from Asia. It also necessitated large markets for goods that were now being produced on a large scale. Imperialist powers, which were focused on trade and indirect rule till then, began capturing vast overseas territories and ruling them as if they were part of colonising country. Thus the Industrial Revolution led to the formal establishment of colonies in Asia, which would serve as source of raw materials and markets for the goods.

5. Discuss slavery as one of the worst results of imperialism.

Ans- Slavery was one of the worst results of imperialism. Millions of people from Africa were taken to Europe and North America as slaves. The people taken as captive were exploited and treated very badly. This caused immense suffering to them and their families and also damaged the economy of the African nations.

6. Explain how imperialism destroyed the self-esteem of the colonised people.

Ans- The European imperialists believed that they were superior to the colonised people and criticised their culture and customs. They believed that it was the 'White Man's Burden' and responsibility to 'civilise' and take care of the 'savages' of the non-European world. This destroyed the self-esteem of the colonised people.

This chapter has 2 indexes- 1 class work and 1 home work- questions answers.

Also see question B reference in class work will be Q-1,2,3 and not Q- 4,5,6. I am unable to rectify these nos. so sorry children.

Stay safe and hope to see you all soon. Chapter finishes here.

## 6TH HOME ASSIGNMENT – 2020-2021

CLASS –VIII SUBJECT – ENGLISH LANGUAGE

DATE – 29.04.20.

(SOLUTIONS TO THE EXERCISES OF CHAPTER- 4 DETERMINERS DATE- 27.04.20 .)

### HOME ASSIGNMENT

Fill in the banks with the article the . put a cross where you feel it is not required :-

1. The sun threw an orange glow onto the ocean water .
2. The Himalayas are the highest mountain range in the world . They protect x India from the icy winds coming from x centra Asia and People’s Republic of China. Many beautiful cities and hill resorts like x Shimla, x Rishikesh are situated in the Himalayas .
3. She was as attractive in real life as on the screen .
4. x Australia is the home of the kangaroos .
5. The train leaves x Meerut at five in the morning .
6. The expedition sailed out into the Pacific yesterday .
7. The Chawlas were not in the house .
8. She dropped the curry on the table .
9. We stopped the van in front of the bakery .
10. He wasted a lot of money in the past

### CHAPTER – 4 DETERMINERS ( CONTINUED )

DEMONSTRATIVE DETERMINERS -The words this, that, these and those are called demonstrative determiners . They help to identify which particular person, animal or thing we are speaking about . They also tell us whether the things they point to are close by or far away . e.g. Those trees bear sweet mangoes .

#### USE OF DEMONSTRATIVE DETERMINERS

1. To talk about people or things that are close by . e.g. The file is in this cupboard .
2. To talk about people or things that are near in terms of time . e.g. Have you seen these pictures before ?
3. To talk about people or things that are far from us . e.g. Can I have one of those forms ?
4. When it is clear who or what we are referring . e.g. Could you just hold that ?
5. To indicate that we are referring to the same person or thing we havw just mentioned . e.g. That girl you met yesterday is on leave today .
6. Before a noun to indicate that something had just happened . e.g. I knew that meeting her would be difficult .

POSSESSIVE DETERMINERS – Words like my, our, his and their which show possession

are called **possessive determiners** . e.g. Ted bought **his** jeans from a showroom .

### **USE OF POSSESSIVE DETERMINERS**

1. To tell who owns the thing we are speaking about . e.g. I have brought **your** bicycle .
2. To show a relationship or a sense of belonging . e.g. She is **our** teacher .
3. To refer to an action in order to indicate who or what is doing the action .  
e.g. They left not long after **our** arrival .
4. To refer to a specific part of someone's body . e.g. The bird held a worm in **its** beak .
5. In titles . e.g. **Your** Majesty .

**NOTE :- WE CHOOSE THE POSSESSIVE DETERMINERS ACCORDING TO THE GENDER AND NUMBERS OF THE OWNER.** e.g. The association held **its** meeting last Monday .

**GENERAL DETERMINERS - We use general determiners when we are talking about people or things in a general or indefinite way without identifying them specifically .**

**LIST OF GENERAL DETERMINERS : a, all, an, another, any, each, either, enough, every, few, little, many, more, most, much, neither, no, other, several, some .**

**INDEFINITE ARTICLES – The article a and an are the most common general determiners. They are known as Indefinite Articles because they do not point to any definite person, thing or animal .**

### **USE OF A AND AN**

1. Before a singular noun which is countable e.g. **A** leopard can run very fast .
2. Before a singular countable noun which represents a class of thing .e.g. **A** dog is a faithful animal .
3. With names of professions .e.g. Bill wants to be **a** scientist .
4. With nationalities and names of religions .e.g. Gary is **an** Englishman .
5. With musical instruments . e.g. He is playing **a** violin .
6. To refer to things that are one in number . e.g. She gave me **a** hundred-rupee note .
7. In expressions with the words **little** and **few**, when they are used to mean **some** .  
e.g. I have **a** few minutes to spare .
8. In expressions with the words **what** and **such** . e.g. Such **a** shame !

### **HOME ASSIGNMENT**

**EXERCISE 1. Fill in the blanks using this, that, these and those . Follow the clues given in brackets :-**

1. Just walk up \_\_\_\_\_ steps and enter the first room to your left . (near the speaker )
2. Can you move \_\_\_\_\_ files off there ?
3. \_\_\_\_\_ horse you see over there, runs very fast .
4. \_\_\_\_\_ mangoes lying here are very sweet .
5. Teachers and students suggest books for the library, and generally we're rather pleased to get \_\_\_\_\_ books .
6. \_\_\_\_\_ naughty Anand has gone and locked our cabin door .

7. Who had broken \_\_\_\_\_ chair ? ( near the speaker )
8. Look at \_\_\_\_\_ penguins over there , they look like soldiers in white trousers ! The island is full of \_\_\_\_\_ strange birds .
9. Do you know \_\_\_\_\_ two men sitting next to you ?
10. I recall hiding in \_\_\_\_\_ scary attic in grandma's haveli .

**EXERCISE 2. Fill in the blanks using my, our, your, his, her, its, their etc.**

1. I remember \_\_\_\_\_ name now .
2. It took me a long time to park \_\_\_\_\_ car .
3. Ritu fell and hurt \_\_\_\_\_ little finger .
4. The hideous creature lifted \_\_\_\_\_ head .
5. I heard the wonderful news with \_\_\_\_\_ own ears .
6. Anuradha returned the ring to \_\_\_\_\_ owner .
7. As soon as I opened the cupboard, the bag fell on \_\_\_\_\_ head .
8. Hearing the shocking news, my brother's body went limp, \_\_\_\_\_ eyes shut and he began to roll off the chair .
9. The doctor said, 'There's no need to worry, \_\_\_\_\_ son will be fine very soon .'
10. I served \_\_\_\_\_ some more coffee but left \_\_\_\_\_ own cup untouched .

**EXERCISE 3. Rewrite the sentences after correcting the errors :-**

1. Please keep a egg in my plate .
2. An car going at the speed of 150 kilometres a hour whizzed past us .
3. The girl who topped the school and was awarded an scholarship is the daughter of an poor cobbler .
4. These bananas cost rupees thirty an dozen .
5. An Russian and an Indian were sitting together in the park . The Russian is an taxi driver married to a Austrian .The Indian is a shopkeeper and still an bachelor .
6. We have an budding Wordsworth in this young poet . An Wordsworth means ' an poet whose poems have the merits or the qualities of Wordsworth's poems ' .
7. Add just little sugar to my cup of tea .
8. They were amazed by the richness of music and our culture .
9. During a Kumbh Mela, millions of people take the holy dip in the Ganga .
10. I know an few of participants who have come to attend this seminar .