Aakash
Medical | IIT-JEE | Foundations

Edition: 2024-25

© **Aakash Educational Services Limited [AESL]**

PREFACE

What is Knowledge Bytes ?

Knowledge Bytes is a collection of riddles, interesting facts, mnemonics and puzzles that will make your learning fun and engaging.

We want you to be delighted about studying. Knowledge Bytes helps you to know more about the subject in a fun, motivating and educational way and helps to implement what you learn in a creative way.

Benefits

Saves Time

Develops Learning Skills

Stimulates Interest

Leads to Increased Comprehension

EXPLORE

Polynomials

Crossword
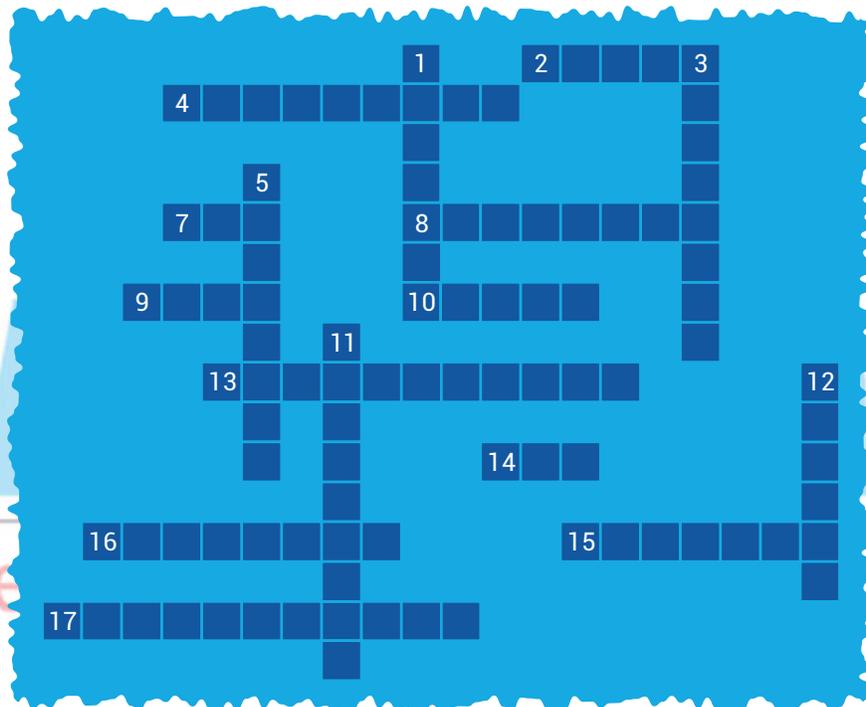
Across

2. A polynomial of degree three. [5]

4. A polynomial with three terms. [9]

7. If the graph of polynomial f(x) intersects x-axis in two distinct points, then the polynomial has _____ zeroes. [3]

8. 2 in the expression "seven square" is. [8]

9. Zero of the polynomial is the value of x for which the value of the polynomial becomes _____. [4]

10. Cubic polynomial has degree _____. [5]

13. A polynomial of degree four. [11]

14. When a quadratic polynomial has only one zero, then the graph of the polynomial meets X-axis in only _____ point(s). [3]

15. Dividend = _____ × Quotient + Remainder. [7]

16. A polynomial with two terms is called _____. [8]

17. A constant that appears along with the variable is called _____. [11]

Down

1. The degree of the polynomial is the _____ power of x in the polynomial f(x). [7]

3. A non-zero polynomial of degree zero is known as a _____ polynomial. [8]

5. A non-zero polynomial having only one term is known as a _____. [8]

11. A polynomial of degree two is known as a _____ polynomial. [9]

12. For a > 0, the graph of the parabola of polynomial $ax^2 + bx + c$ will open in _____ direction. [6]

Factorize 1 $(a^2 - 2a)^2 - 23(a^2 - 2a) + 120$

Let $a^2 - 2a = y$

$= y^2 - 23y + 120$

$= y^2 - 15y - 8y + 120$

$= y(y - 15) - 8(y - 15)$

$= (y - 15)(y - 8)$

Replace y by $a^2 - 2a$

$= (a^2 - 2a - 15)(a^2 - 2a - 8)$

$= (a^2 - 5a + 3a - 15)(a^2 - 4a + 2a - 8)$

$= (a(a - 5) + 3(a - 5))(a(a - 4) + 2(a - 4))$

$= (a - 5)(a + 3)(a - 4)(a + 2)$

Factorize 2

$x^4 + x^2 + 1$

Subtract & Add x^2 then

$= x^4 + x^2 + 1 + x^2 - x^2$

$= x^4 + 2x^2 + 1 - x^2$

$= (x^2 + 1)^2 - (x)^2$

$= (x^2 + 1 + x)(x^2 + 1 - x)$

Factorize 3

$8a^3 - 2a^2b - 15ab^2$

$= a(8a^2 - 2ab - 15b^2)$

$= a(8a^2 - 12ab + 10ab - 15b^2)$

$= a(4a(2a - 3b) + 5b(2a - 3b))$

$= a(2a - 3b)(4a + 5b)$

Factorize 4

$7\sqrt{2}x^2 - 10x - 4\sqrt{2}$ $= 7\sqrt{2}x(x - \sqrt{2}) + 4(x - \sqrt{2})$

$= 7\sqrt{2}x^2 - 14x + 4x - 4\sqrt{2}$ $= (x - \sqrt{2})(7\sqrt{2}x + 4)$

Factorize 5

$3y^3 + y^2 - 3y - 1$

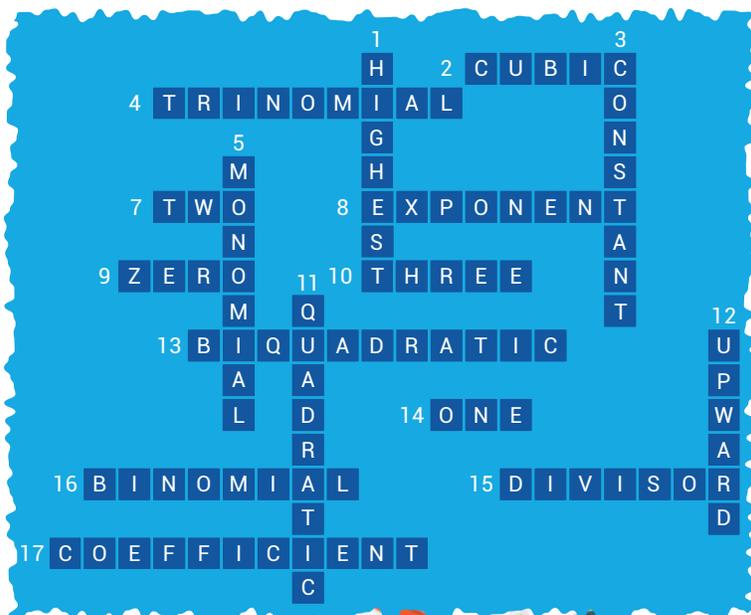We have to apply hit & trial method

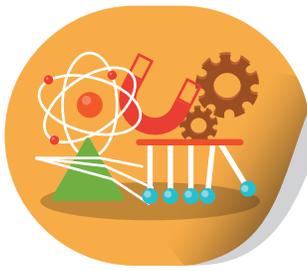Put $\quad y = 1$

$\qquad 3 + 1 - 3 - 1 = 0$

So, $(y - 1)$ is a factor of $3y^3 + y^2 - 3y - 1$

$$
\begin{array}{r}
3y^2 + 4y + 1 \\
\hline
y - 1 \,\big|\, 3y^3 + y^2 - 3y - 1 \\
\underline{3y^3 - 3y^2} \\
\underset{-\quad +}{} \\
4y^2 - 3y - 1 \\
\underline{4y^2 - 4y} \\
\underset{-\quad +}{} \\
y - 1 \\
\underline{y - 1} \\
\underset{-\quad +}{} \\
X
\end{array}
$$

So, $3y^3 + y^2 - 3y - 1$

$= (y - 1)\,(3y^2 + 4y + 1)$

$= (y - 1)\,(3y^2 + 3y + y + 1)$

$= (y - 1)\,(3y(y + 1) + 1\,(y + 1))$

$= (y - 1)\,(y + 1)\,(3y + 1)$

Answer (Crossword)

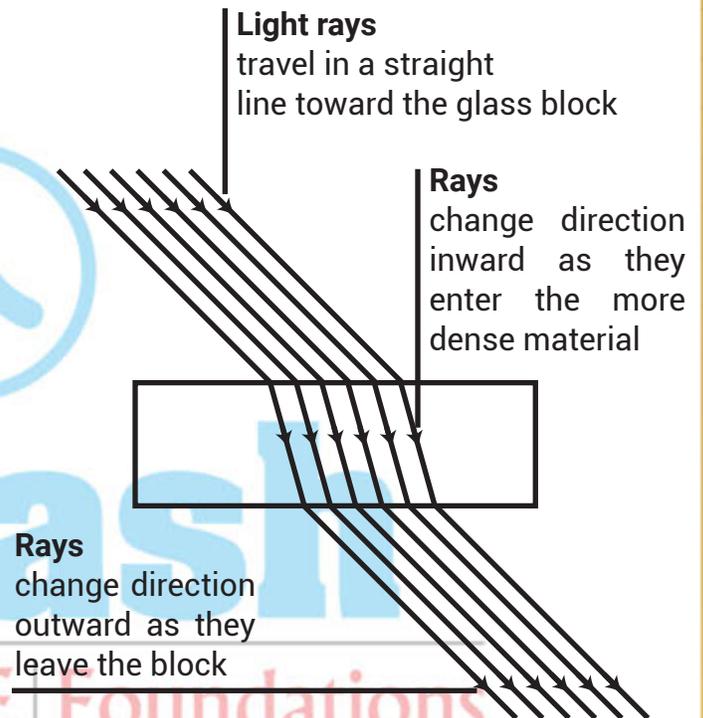|					1		2				3
					H		C	U	B	I	C
4 T	R	I	N	O	M	I	A	L			O
		5			G						N
		M			H						S
7 T	W	O		8 E	X	P	O	N	E	N	T
		N		S							A
9 Z	E	R	O	10 T	H	R	E	E			N
		M	11 Q								T
13 B	I	Q	U	A	D	R	A	T	I	C	12 U
		A	A								P
		L	D		14 O	N	E				W
			R								A
16 B	I	N	O	M	I	A	L	15 D	I	V	I	S	O	R
			T								D
17 C	O	E	F	F	I	C	I	E	N	T
			C							

4

Light : Refraction

Light rays usually travel in straight lines, but when they pass from one medium to another they can be forced to bend (change direction and continue on a new straight path). The bending is called refraction. It happens because light travels at different speeds in different media. If light rays travel through air and enter a more dense medium, such as water, they slow down and bend into the more dense medium. Light rays moving into a less dense medium, such as from water to air, speed up and bend outwards.

Light rays travel in a straight line toward the glass block

Rays change direction inward as they enter the more dense material

Rays change direction outward as they leave the block

Light rays bend or refract if they enter a glass block at an angle. When they pass from air into glass, they bend inwards and slow down. They travel in a straight line through the glass at an angle to their original direction. As they pass out from the glass into air, they bend outwards and speed up again.

Puzzle For The Eye

If you kept a straw in a glass of water, the top and the bottom of the straw no longer seem to fit together. This trick of the light is caused by refraction. Light bends outwards when it travels from water to air, so the eye sees the bottom of the straw (in the water) as deeper than the top of the straw (in the air).
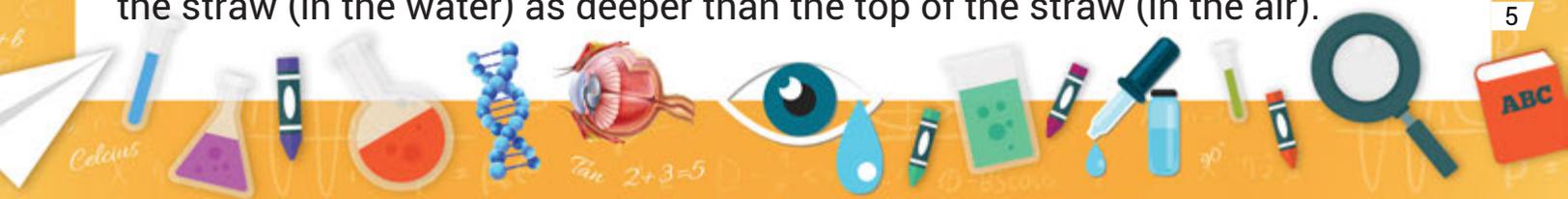
Refraction in Heat Haze

On hot days, the surface of the Earth is warmer than the air above it. This means that air close to the ground is generally much warmer than the air higher up. Hot air rising from the ground can bend and distort the light rays passing through it. This gives a very hazy appearance to objects.

Mirage

People who travel through hot deserts often think they can see water or trees on the ground ahead of them, when really there is nothing. This trick of the light is called mirage. Layers of warm and cold air bend or refract light rays coming from distant objects. Our eyes are fooled into thinking the light rays come from objects on the ground instead of from the sky.

Cool air
(Denser)

Warm air
(Rarer)

Hot surface
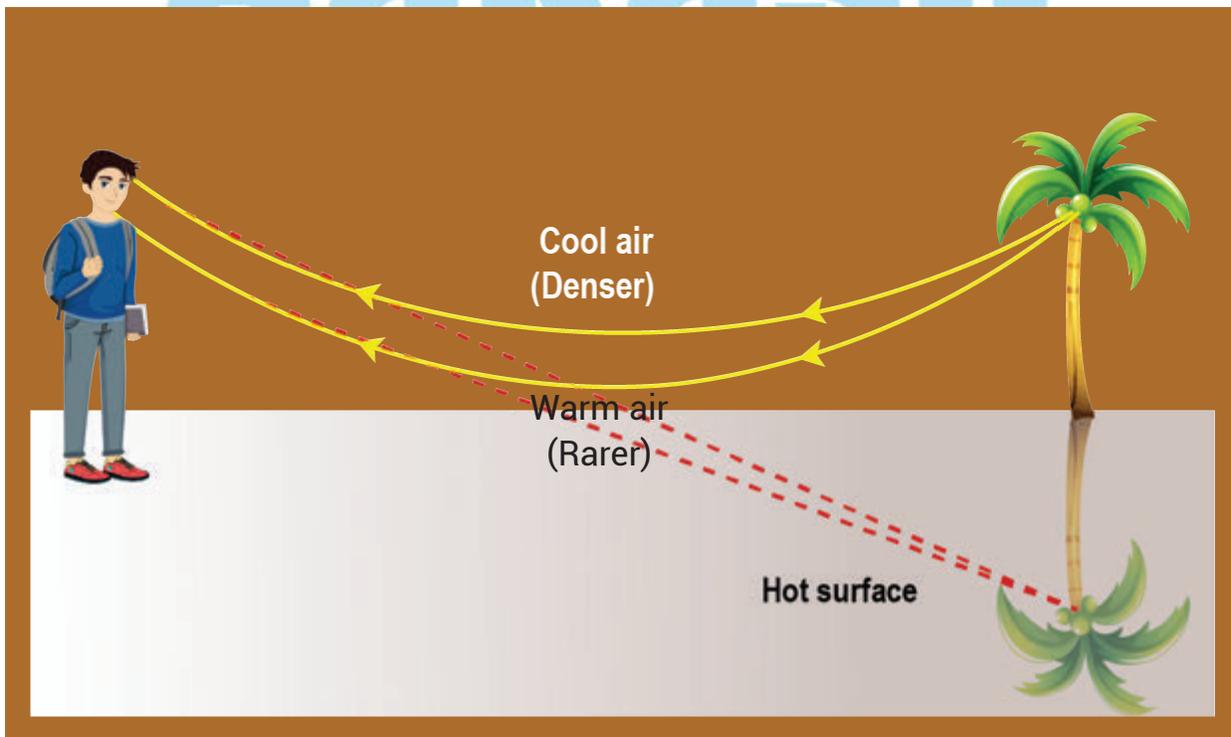
Real Life Refraction Examples

1. The lenses of glasses or contacts are made of a plastic that purposely bends light in specific ways. This is used to improve vision.

2. Human eye have a lens. Lens or cornea works to refract light onto the retina. The image is then sent through your optic nerve to brain. Without refraction, you wouldn't be able to see.

HEALTHY CORNEA

Iris
Lens
Pupil
Cornea
Anterior Chamber
Focal Point
Retina
Optic Nerve
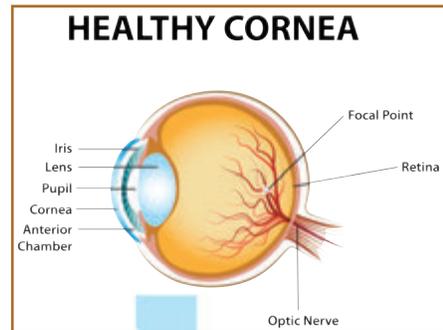
3. The lens of a telescope or microscope uses a refraction of light to make things look closer than they really are.

4. Cameras use refraction to capture pictures.

Simple diagram of a camera

object to be photographed
convex lens
film or array of photosite sensors
Real, inverted image
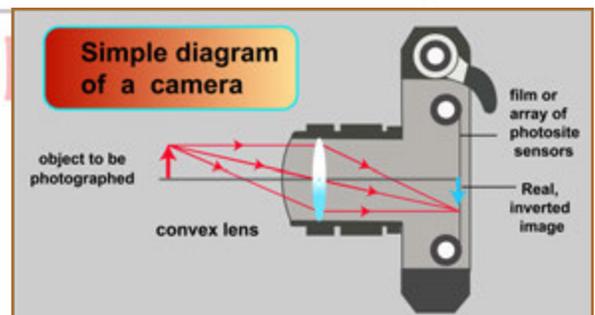
5. The twinkling of stars is due to atmospheric refraction.

Apparent star position
Star
Ray path
Refractive index increasing

Scientific Contribution

Nature of Light

The debate over whether light is a wave or a particle goes back many centuries. In the 17th century, Isaac Newton believed light was composed of a stream of corpuscles. At that time, a few scientists most notably Dutch physicist and astronomer Christiaan Huygens, thought light was a wave vibrating in some sort of ether.
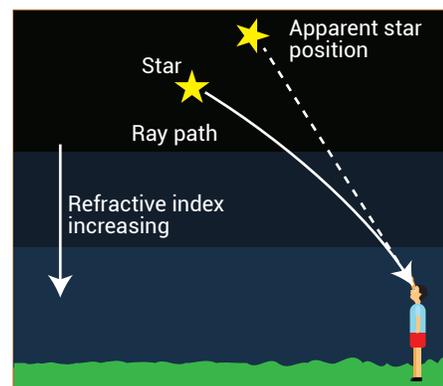

Thomas Young

There was evidence for both pictures. Newton was so greatly reversed as a scientist that it was nearly impossible for anyone to dispute his theory. In 1801 Thomas Young presented a serious challenge to Newton's ideas on the nature of light.

While pondering some of Newton's experiments, Young came up with the basic idea for the now famous double-slit experiment to demonstrate the interference of light waves. The demonstration would provide solid evidence that light was a wave, not a particle.

Isaac Newton

Acids, Bases and Salts

Crossword

Across

5. Reaction of an acid with base is called _____ reaction. (14)

6. Water soluble base is called _____. (6)

7. Acid present in apple is _____ acid. (5)

8. Strength of an acid is measured in terms of degree of _____. (12)

10. Reaction of a highly reactive metal with acid releases _____ gas. (8)
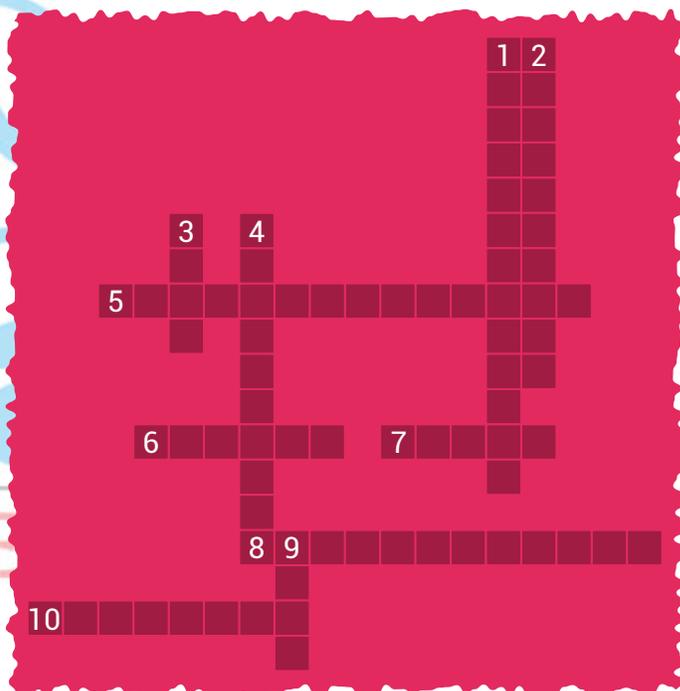
Down

1. The atmosphere of venus is made up of thick and yellowish clouds of _____. (13)

2. Chemicals which are used for the identification of an acid or base are called _____. (10)

3. Acids are _____ in taste. (4)

4. Methanoic acid is present in red ants. It is also known as _____. (10)

9. Aqueous solution of an acid or base is a good conductor of electricity due to the presence of free _____. (4)

Universal Indicator pH Colour Chart

Acidic

pH	Left	Right
0		Battery acid
1	Gastric juice (Hydrochloric acid)	
2		Vinegar (Acetic acid)
3	Orange juice (Ascorbic acid)	
4		Tomato (Oxalic acid)
5	Black coffee	
6		Urine
7	Pure water	**Neutral**
8		Sea water
9	Baking soda (Sodium bicarbonate)	
10		Antacid tablet (Magnesium hydroxide)
11	Ammonia solution	
12		Soap solution
13	Bleach	
14		Drain cleaner (Sodium hydroxide)

Alkaline
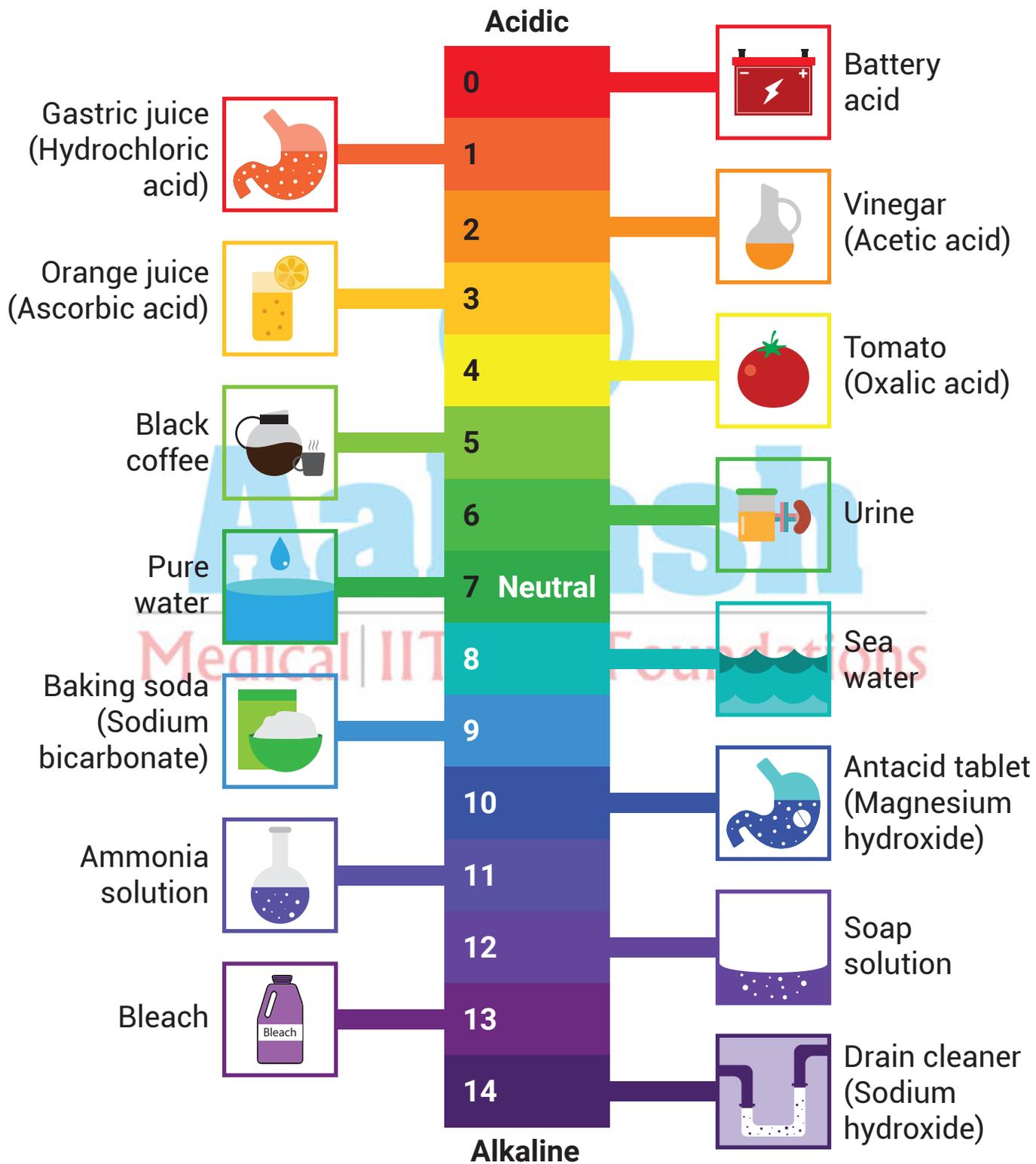
SUMMARY OF ACID-BASE THEORIES

Theory	Acid Definition	Base Definition
Arrhenius Theory	Any substance which releases H^+ ions in aqueous solution.	Any substance which releases OH^- ions in aqueous solution.
Bronsted-Lowry Theory	Any substance which donates a proton (H^+).	Any substance which accepts a proton (H^+).
Lewis Theory	Any substance which can accept an electron pair.	Any substance which can donate an electron pair.

Indicators in Different Medium

Indicator	Original Colour	Acid	Base
Red litmus	Red	No change	Turns blue
Blue litmus	Blue	Turns red	No change
Turmeric	Yellow	No change	Turns reddish brown
Red cabbage juice	Purple	Reddish	Greenish-yellow
Phenolphthalein	Colourless	Colourless	Turns pink
Methyl orange	Orange	Turns red	Turns yellow

FunTime

Take this ! And That ! Moahahahahah

Ahhh.. my milk it's curdling !

YOU'RE A 10?

ON THE pH SCALE MAYBE, CAUSE YOU ARE BASIC
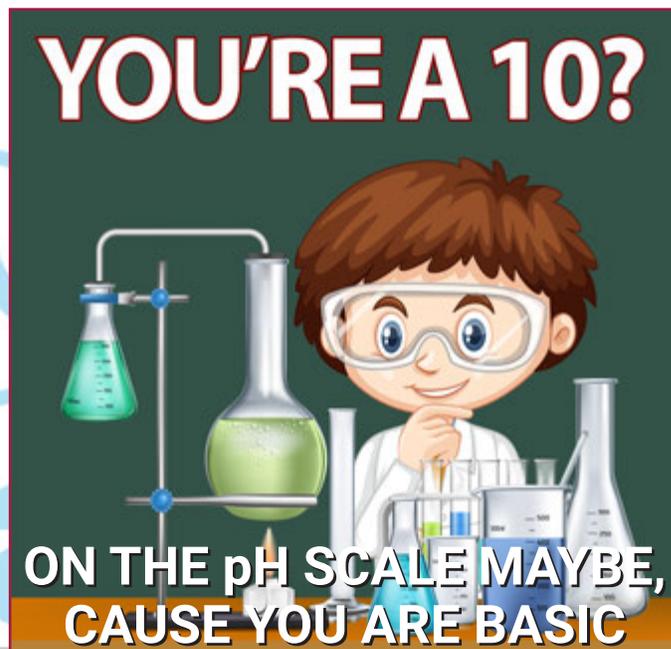
Medical | IIT-JEE | Foundations

1
What do you call an acid with an attitude?

2
What do heart burn chewables and formic acid have in common?

3
What is the pH of the most acidic soup?

Celcius

Quiz Time?

1. What is the nature of a solution that has an excess of H^+(hydrogen) ions?

   A Alkaline   B Acidic

   C Neutral   D Basic

2. _____ solution has a pH of 7.

   A An acidic   B A basic

   C A neutral   D None of these

3. Distilled water is _____ in nature.

   A Acidic   B Basic

   C Neutral   D Salty

4. _____ feel slippery to touch

   A Acids   B Bases

   C Salts   D All

5. An acid-base reaction always produces

   A H_2 B H_2O

   C NaCl   D H_3O^+

Answer (Crossword)

```
                                    1     2
                                    S     I
                                    U     N
                                    L     D
                                    P     I
              3        4            H     C
              S        F            U     A
              O        O            R     T
          5 N E U T R A L I Z A T I O N
              R        M            C     R
              R        I            A     S
          6 A L K A L I   7 M A L I C
              C        C            D
              I        9
          8 D I S S O C I A T I O N
              I        O
    10 H Y D R O G E N S
              S
```

Answer (Fun Time)

1. A-Mean-Oh Acid

2. They're both ant acids.

3. pH = 0

Answer (Quiz Time)

1. Acidic   **2.** A neutral   **3.** Neutral   **4.** Bases   **5.** H_2O
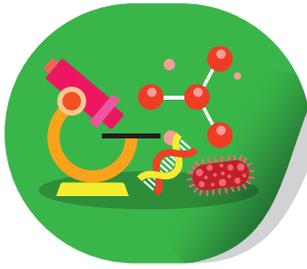
Life Processes

1. **Identify the parts of heart depending upon the statements given below.**
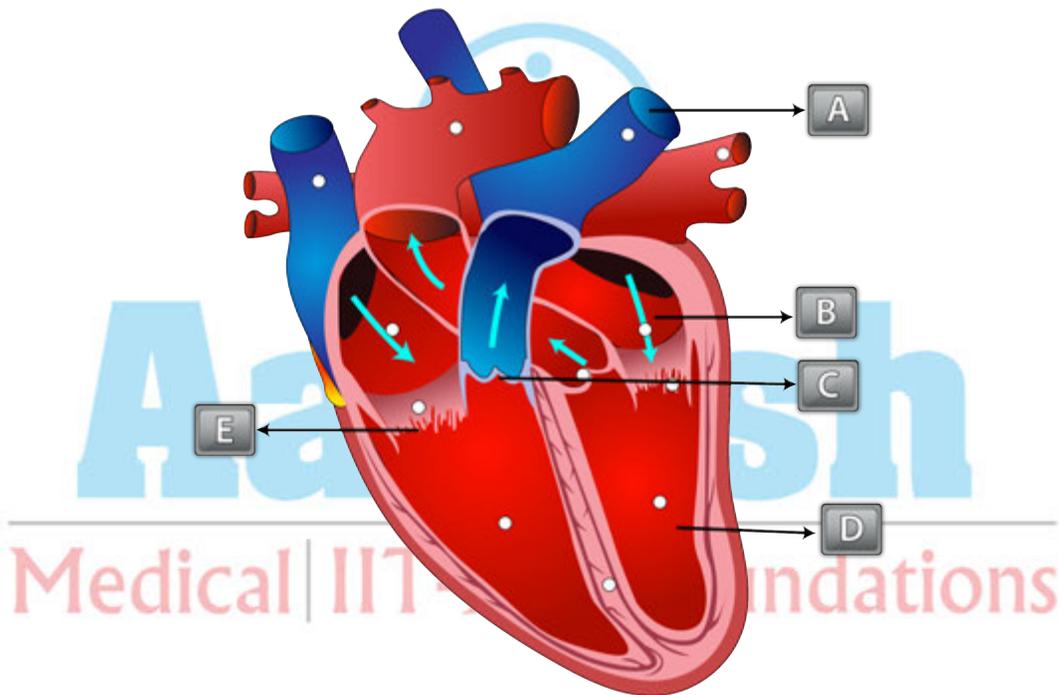
1
Which chamber has the thickest wall?

2
Identify the part labelled as E.

3
Which part upon closing produces dub sound?

4
Which is the first chamber to receive oxygenated blood?

5
Identify the part labelled as A.

Riddles

1 Plants require me for breathing and transpiration. Who am I ?

2 I have cytostome for eating and cytopyge for egestion and I move by cilia. Who am I ?

3 Light reaction takes place in my membrane. Who am I ?

4 I becomes dome shaped when you exhale. Who am I ?

5 You cannot survive without me as I am your blood pumping organ. Who am I ?

6 I am graveyard of your RBCs. Who am I ?

7 You require me when your kidneys stop working. Who am I ?

8 I am acidic and I made your urine yellow coloured. Who am I ?

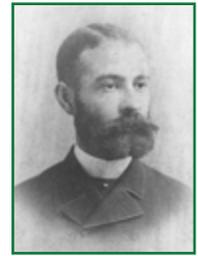**9** Heart patients use me for normal heart beat. Who am I ?

10 I acts as a 'Middle man' and transports materials from blood to the body cells.

Interesting Facts

1. The first open-heart surgery occurred in 1893. It was performed by Daniel Hale Williams, who was one of the few black cardiologists in the United States at the time.

2. The first implantable pacemaker was used in 1958. Arne Larsson, who received the pacemaker, lived longer than the surgeon who implanted it. Larsson died at 86 of a disease that was unrelated to his heart.

3. The youngest person to receive heart surgery was only a minute old. She had a heart defect that many babies don't survive. Her surgery was successful, but she'll eventually need a heart transplant.

4. The American pygmy shrew is the smallest mammal, but it has the fastest heartbeat at 1,200 beats per minute.

5. It is possible to have a broken heart. It's called broken heart syndrome and can have similar symptoms as a heart attack. The difference is that a heart attack is from heart disease and broken heart syndrome is caused by the rush of stress hormones from an emotional or physical stress event.
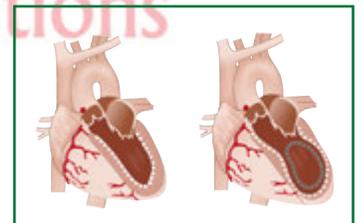
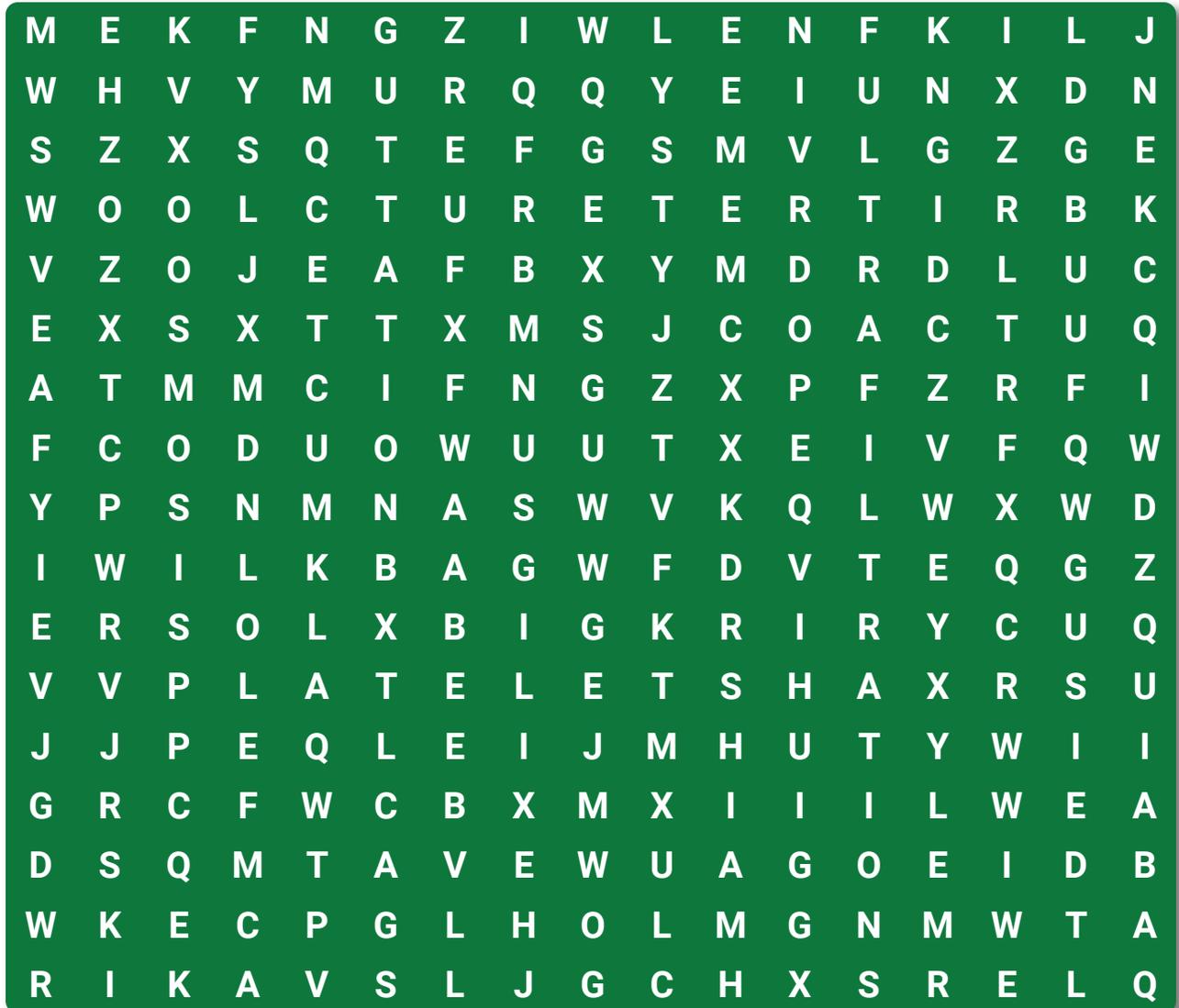6. Kidney stones are normally millimetres in size; however, according to the 'Guinness Book of Records', the largest recorded kidney stone measured 13 cm at its widest point. It was removed from the left kidney of Vilas Ghuge by Dr. Hemendra Shah on 18 February 2004 in Mumbai, India.

7. You don't need both kidneys. One-half of a kidney can do the work of two, and 75% of one kidney can sustain life comfortably.

2. Identify the correct terms by using hints given below and find them in the jumbled letters.

M	E	K	F	N	G	Z	I	W	L	E	N	F	K	I	L	J
W	H	V	Y	M	U	R	Q	Q	Y	E	I	U	N	X	D	N
S	Z	X	S	Q	T	E	F	G	S	M	V	L	G	Z	G	E
W	O	O	L	C	T	U	R	E	T	E	R	T	I	R	B	K
V	Z	O	J	E	A	F	B	X	Y	M	D	R	D	L	U	C
E	X	S	X	T	T	X	M	S	J	C	O	A	C	T	U	Q
A	T	M	M	C	I	F	N	G	Z	X	P	F	Z	R	F	I
F	C	O	D	U	O	W	U	U	T	X	E	I	V	F	Q	W
Y	P	S	N	M	N	A	S	W	V	K	Q	L	W	X	W	D
I	W	I	L	K	B	A	G	W	F	D	V	T	E	Q	G	Z
E	R	S	O	L	X	B	I	G	K	R	I	R	Y	C	U	Q
V	V	P	L	A	T	E	L	E	T	S	H	A	X	R	S	U
J	J	P	E	Q	L	E	I	J	M	H	U	T	Y	W	I	I
G	R	C	F	W	C	B	X	M	X	I	I	I	L	W	E	A
D	S	Q	M	T	A	V	E	W	U	A	G	O	E	I	D	B
W	K	E	C	P	G	L	H	O	L	M	G	N	M	W	T	A
R	I	K	A	V	S	L	J	G	C	H	X	S	R	E	L	Q

1. Blood cells responsible for clotting.

2. Plant tissues responsible for conduction of water and minerals.

3. Loss of water in the form of water droplets by plants.

4. Structure responsible for transfer of urine to urinary bladder.

5. First process in the formation of urine.

6. Process through which water enters into roots of plants.

3. **Identify these jumbled words by using the hints below.**

SHADEHYDOT — **1** — Structures in plants responsible for guttation

OONIRTCNSLATA — **2** — The process by which transfer of photosynthetic food in plant body occurs

NNEHROP — **3** — Structural unit of kidney

LTYSPEOMHYC — **4** — Cells that form antibodies

Tmooamhspyeermgn — **5** — The instrument by which blood pressure is measured

Answers

1. | 1. D | 2. Tricuspid valve | 3. C | 4. B | 5. Pulmonary artery

Answer (Riddles)

| 1. Stomata | 2. *Paramoecium* | 3. Thylakoids | 4. Diaphragm | 5. Heart |

| 6. Spleen | 7. Hemodialysis | 8. Urochrome | 9. Pacemaker | 10. Lymph |

2.

```
M  E  K  F  N  G  Z  I  W  L  E  N  F  K  I  L  J
W  H  V  Y  M  U  R  Q  Q  Y  E  I  U  N  X  D  N
S  Z  X  S  Q  T  E  F  G  S  M  V  L  G  Z  G  E
W  O  O  L  C  T  U  R  E  T  E  R  T  I  R  B  K
V  Z  O  J  E  A  F  B  X  Y  M  D  R  D  L  U  C
E  X  S  X  T  T  X  M  S  J  C  O  A  C  T  U  Q
A  T  M  M  C  I  F  N  G  Z  X  P  F  Z  R  F  I
F  C  O  D  U  O  W  U  U  T  X  E  I  V  F  Q  W
Y  P  S  N  M  N  A  S  W  V  K  Q  L  W  X  W  D
I  W  I  L  K  B  A  G  W  F  D  V  T  E  Q  G  Z
E  R  S  O  L  X  B  I  G  K  R  I  R  Y  C  U  Q
V  V  P  L  A  T  E  L  E  T  S  H  A  X  R  S  U
J  J  P  E  Q  L  E  I  J  M  H  U  T  Y  W  I  I
G  R  C  F  W  C  B  X  M  X  I  I  I  L  W  E  A
D  S  Q  M  T  A  V  E  W  U  A  G  O  E  I  D  B
W  K  E  C  P  G  L  H  O  L  M  G  N  M  W  T  A
R  I  K  A  V  S  L  J  G  C  H  X  S  R  E  L  Q
```

1. Platelets
2. Xylem
3. Guttation
4. Ureter
5. Ultrafiltration
6. Osmosis

3. | 1. Hydathodes | 2. Translocation | 3. Nephron
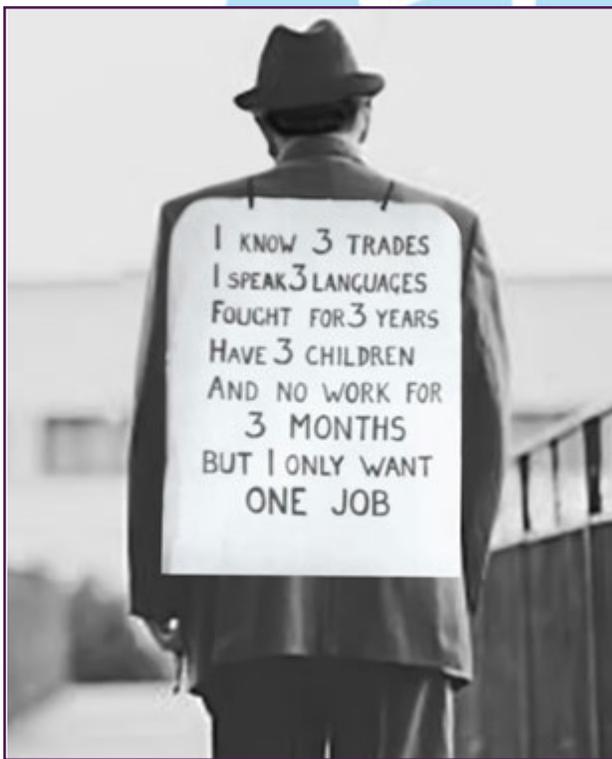
| 4. Lymphocytes | 5. Sphygmomanometer

The Making of A Global World

The Great Depression of 1929

- Period - 1929 to mid 1930s.

- During this period most parts of the world experienced major declines in production, employment, incomes and trade.

- Worst Affected - Agricultural Sector (Fall in agricultural prices).

I KNOW 3 TRADES
I SPEAK 3 LANGUAGES
FOUGHT FOR 3 YEARS
HAVE 3 CHILDREN
AND NO WORK FOR
3 MONTHS
BUT I ONLY WANT
ONE JOB

At its highest peak, the unempolyment rate hit an estimated 25% in 1933.

People lining up for unemployment benefits, US, photograph by Dorothea Lange, 1938.

When an unemployment census showed 10 million people out of work, the local government in many US states began making small allowances to the unemployed. These long queues came to symbolise the poverty and unemployment of the depression years.
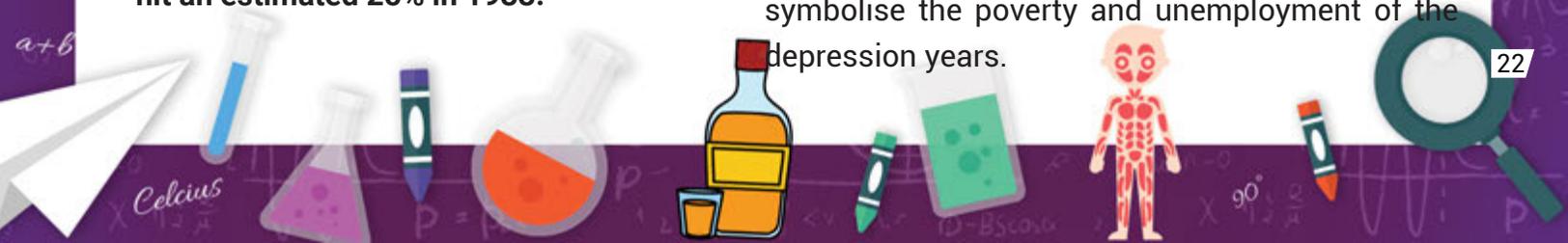
Reason

- Agricultural Overproduction.

- Over dependence of countries on US loans.

- US attempt to protect its economy by doubling import duties.

India and the Great Depression

Effect of Depression on India

- India's exports and imports nearly halved between 1928 and 1934.

- Peasants and farmers suffered most due to fall in prices of crop.

- Not much impact on middle-class salaried employees because fall in prices of food.

Subject-Verb Agreement

Fundamental Rule of Subject-Verb Agreement:

'Verb should be as per the Number and the Person of its Subject.'

- Singular Subject carries Singular Verb.
- Plural Subject carries Plural Verb.

Ex.:- He goes to his office every day.   We help our parents in everything.

Subject Verb Agreement is of Two Types

Formal Subject Verb Agreement

As discussed, Verb must be singular if the subject is Singular and it must be Plural if the Subject is Plural.

E.g. He is eating lunch.

They are eating lunch.

Notional Subject Verb Agreement

Several Subjects look plural but they are singular or uncountable in meaning. So Singular verbs are used.

E.g. News is good.

For Example:

1. The Professor and the scientist _____ coming. [be]

2. The Professor and scientist _____ coming. [be]

Ans. 1. are 2. is

24

Explanation : Q 1

⇨ If **both the subjects** have a/an/the, then Plural verb is used.

⇨ There are two subjects.

Explanation : Q 2

⇨ If out of the two nouns, the first one carries article a/an/the, then Singular verb is used.

⇨ There is only one subject here.

---

3. Rice and Curry _____ my favourite food.

4. Bread and butter _____ our essential commodities.

Ans. 3. is   4. are

Explanation : Q 3

⇨ If two Singular Subjects are connected with 'and' BUT express **SINGLE IDEA** or **ENTITY** then Singular Verb is used.

Explanation : Q 4

⇨ Two singular subjects connected with 'and' showing different nouns carry Plural Verb.

Fill in the blanks using the correct verb form.

1. Many an inkpot _____ (be) empty.

2. The congregation _____ issued its report.

3. Neither we nor he _____ (be) guilty.

4. Riddhi along with her parents _____ (arrive) recently.

5. Not only Kiran but also her cousins _____ (be) responsible for the project.
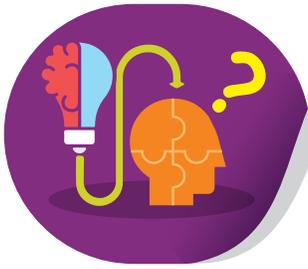
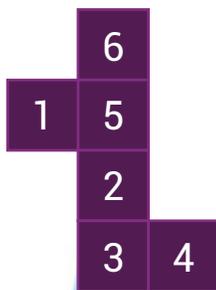**Answers**   1. is   2. has   3. is   4. has arrived   5. are

Cubes and Dice

1. The figure (X) was given on the left-hand of the problem is folded to form a dice. Choose a dice from the alternatives (a), (b), (c) and (d) which is similar to the dice formed.
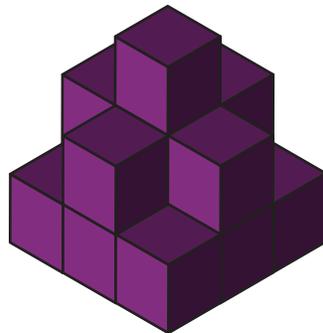

(X)   (a)   (b)   (c)   (d)

(1) (a)   (2) (b)

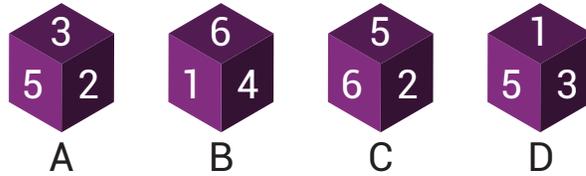(3) (c)   (4) (d)

2. Count the number of Cubes in the following figure :

(1) 8   (2) 9

(3) 12   (4) 15

3. Four positions of a dice are given, then which number is opposite to 5 in the given dice ?

A   B   C   D

(1) 1

(2) 4

(3) 3

(4) 6

4. Four positions of a dice are given below. Identify the number at the bottom when the top is 3 ?
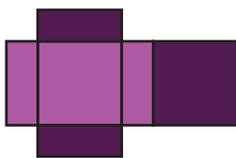

(1) 5

(2) 1

(3) 2

(4) 6

5. Choose the box that is similar to the box formed from the given sheet of paper (X).

(X)   1   2   3   4

(1) 1 and 3 only

(2) 2 and 4 only

(3) 3 and 4 only

(4) 1 and 4 only

Directions (Qs. 6-10) : A wooden cube is painted Blue on all the four adjoining sides and Green on two opposite sides i.e. top and bottom. It is then cut at equal distances at right angles four times vertically (top to bottom) and two times horizontally (along the sides) as shown in the figure where the dotted lines represents the cuts made. Study the diagram and answer the following questions.
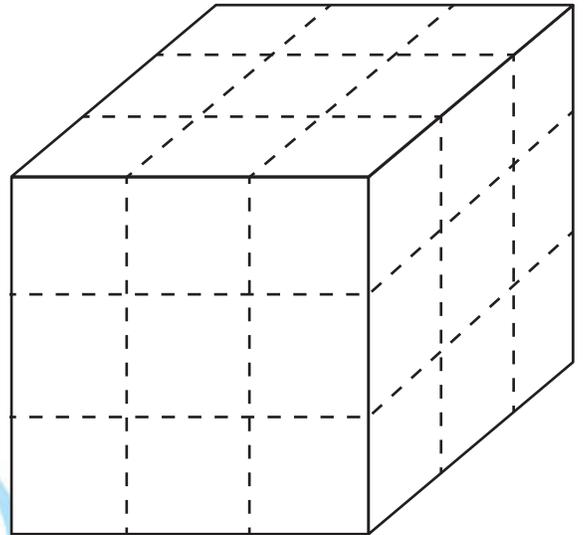
6. How many cubes will have one face painted only in Blue ?

   (1) 1   (2) 2

   (3) 3   (4) 4

7. How many cubes will have one face painted only in Green ?

   (1) 1   (2) 2

   (3) 3   (4) 4

8. How many cubes are formed in all ?

   (1) 16   (2) 24

   (3) 27   (4) 32

9. How many cubes will have at least three sides painted ?

(1) 8   (2) 6

(3) 3   (4) 2

10. How many cubes will have no face painted at all ?

(1) 2   (2) 3

(3) 4   (4) 1

Answers

1.	(4)	6.	(4)
2.	(4)	7.	(2)
3.	(2)	8.	(3)
4.	(1)	9.	(1)
5.	(1)	10.	(4)

Stephen Hawking

" The greatest enemy of knowledge is not IGNORANCE, it is the ILLUSION of knowledge. "

Born - 8 Jan 1942
Died - 14 Mar 2018

Stephen Hawking was born in Oxford, England on January 8, 1942. He grew up in a highly educated family. Both of his parents had attended Oxford University and his father, Frank, was a medical researcher.

Hawking's contributions to physics earned him many exceptional honours. In 1974 the Royal Society elected him one of its youngest fellows. He became professor of gravitational physics at Cambridge in 1977, and in 1979 he was appointed to Cambridge's Lucasian professorship of mathematics, a post once held by Isaac Newton.

OUR RESULTS 2024

NEET (UG) 2024

AIR 1

State Topper Delhi	State Topper Uttar Pradesh	State Topper West Bengal	State Topper Uttar Pradesh	State Topper Maharashtra	State Topper Rajasthan
720/720	720/720	720/720	720/720	720/720	720/720
Mridul M Anand 3 Year Classroom	**Ayush Naugraiya** 4 Year Classroom	**Arghyadeep Dutta** 2 Year Classroom	**Aryan Yadav** 1 Year Classroom	**Palansha Agarwal** 2 Year Classroom	**Iram Quazi** 1 Year Classroom

JEE (Advanced) 2024

AIR 25	AIR 67	AIR 78	AIR 93	AIR 95
Rishi Shekher Shukla 2 Year Classroom	**Krishna Sai Shishir** 4 Year Classroom	**Abhishek Jain** 4 Year Classroom	**Hardik Aggarwal** 2 Year Classroom	**Ujjwal Singh** 4 Year Classroom

1430 Students Scored Above MAS

344 Classroom Students **Qualified in NSEs* 2023-24**

(Group A & B) **34+30** NSEA*	**156** NSEB*	**72** NSEC*	**23** NSEP*	**29** NSEJS*

Aakashians Qualified for INO-2024

Diptanshu Sharma	Priyanshu Sarkar	Mridul Garg	Zaman Hussain	Shubhradeep Paul	Samvit Shandilya
NSEB | NSEC | NSEP	NSEB | NSEC | NSEP	NSEB | NSEC | NSEP	NSEA | NSEC | NSEP	NSEA | NSEC | NSEP	NSEA | NSEC | NSEP

and many more...

*NSEA-National Standard Examination in Astronomy | NSEB-National Standard Examination in Biology | NSEC-National Standard Examination in Chemistry
NSEP-National Standard Examination in Physics | NSEJS-National Standard Examination in Junior Science | INO-Indian National Olympiad

Aakashians Qualified for OCSC/IMOTC-2024

32 Classroom Students **Qualified in INOs 2024**

Aneesh Shastri	Sanvi Jain	Mridul M Anand	Zaman Hussain	Sushant Agarwal	Archit Kumar
Qualified INAO	Qualified INChO	Qualified INBO	Qualified INMO	Qualified INJSO	Qualified INAO Jr

and many more...

OCSCs - Orientation cum Selection Camps | **IMOTC** - International Mathematical Olympiad Training Camp

Aakashians Qualified for RMO from Classroom Programs

869 Classroom Students **Qualified in IOQM 2024**

Class VIII	Class VIII	Class VIII	Class VIII	Class VIII	Class IX
Joish Achyuta 2 Year Classroom	**Pranava NS** 3 Year Classroom	**Bruteshwar Rajguru** 3 Year Classroom	**Hardik Mishra** 2 Year Classroom	**Hardik Dhariwal** 2 Year Classroom	**Dhanush Damu** 4 Year Classroom

and many more...

IOQM - Indian Olympiad Qualifier in Mathematics

Board Exam Results 2024

Top Performers from Class X

Devidyuti K Pisharody	P Harini	Jiya Dugar V
Marks 500/500	Marks 499/500	Marks 498/500
CBSE	CBSE	CBSE

and many more...

Top Performers from Class XII

Ananthan R	Ansh Agrawal	Himanshu Agarwal
Marks 496/500	Marks 495/500	Marks 495/500
CBSE	CBSE	CBSE

and many more...

Scan the QR Code to **Download Aakash** App

GET IT ON Google Play