Aakash

Medical | IIT-JEE | Foundations

KNOWLEDGE BYTES

July 2025

CLASS 8

Aakash

Medical | IIT-JEE | Foundations

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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

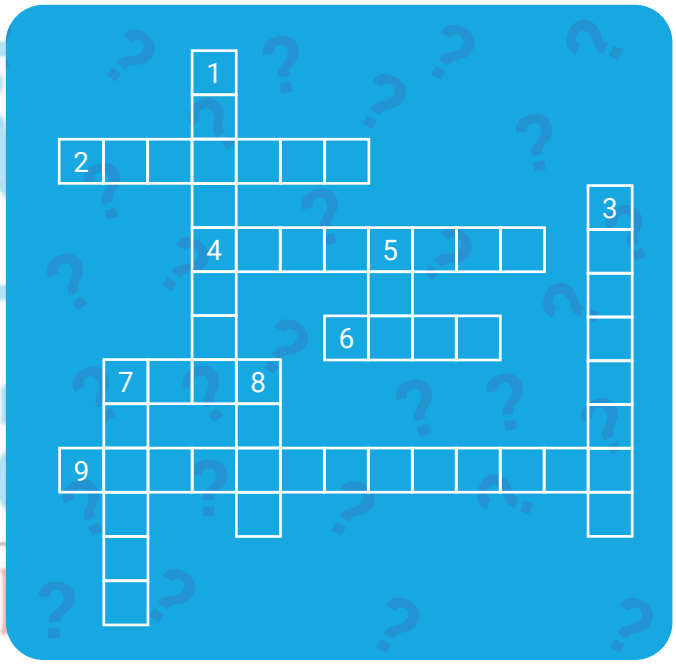

Leads to Increased Comprehension

EXPLORE

Visualizing Solid Shapes, Mensuration

Crossword

ACROSS



2. If all six faces of a cuboid are _____, then it is called a cube. [7]

4. A quadrilateral in which at least one pair of _____ sides is parallel is known as trapezium. [8]

6. The line segment joining the centres of two bases is called the _____ of the cylinder. [4]

7. Area of the rhombus is _____ of the product of its diagonals. [4]

9. Lateral surface area of a cylinder is the product of _____ of base and height of the cylinder. [13]

DOWN

1. Each _____ of a parallelogram divides it into two triangles of equal area. [8]

3. In a right circular cylinder, both circular regions are _____ and congruent. [8]

5. A cuboid is bounded by _____ rectangular plane regions. [3]

7. Area of parallelogram is equal to base × _____. [6]

8. The diagonals of a rhombus divide it into _____ congruent triangles. [4]

A solid metallic cube is melted to form five solid cubes whose volumes are in the ratio 1 : 1 : 8 : 27 : 27. The percentage by which the sum of the total surface areas of these five cubes exceeds the surface area of the original cube is nearest to :

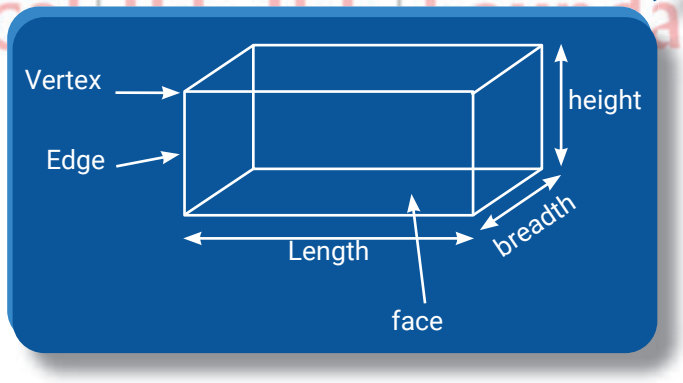
(a) 10 (b) 50 (c) 60 (d) 20

Polyhedrons

Solid shapes bounded by polygons are called polyhedrons. Polygons forming a polyhedron are known as its faces.

The line segments common to the intersecting faces are known as its edges and points of intersection of the edges are known as its vertices.

Cuboid

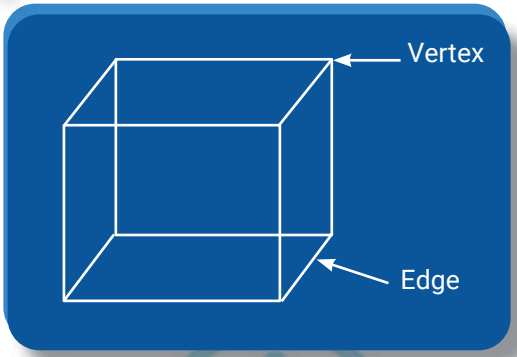


The top view of a cuboid looks like a

(a) Circle (b) Square

(c) Rectangle (d) Triangle

Cube



? The top view of a cube looks like a

(a) Circle (b) Square

(c) Rectangle (d) Triangle

Euler's Formula

The number of faces (F), the number of vertices (V) and the number of edges (E) of a polyhedron are related by the following formula

$$F + V = E + 2$$

Example

Cube

Faces = 6

Edges = 12

Vertices = 8

Hence, F + V

= 6 + 8 = 14

and E + 2

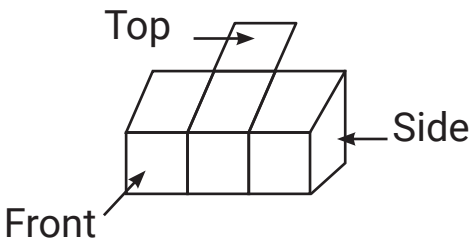
= 12 + 2 = 14 = R.H.S

If a polyhedron has 6 vertices and 12 edges. What is the number of faces it has?

(a) 6 (b) 8

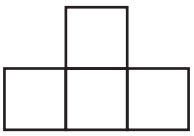
(c) 12 (d) 18

Draw different views of solid made of four cubes :



Side view

Front view



Top view

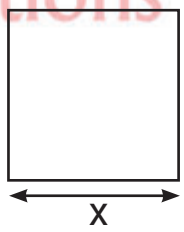
Solid made of four cubes

Mensuration Formula List

1 Square

Area = $(side)^2 = x^2$

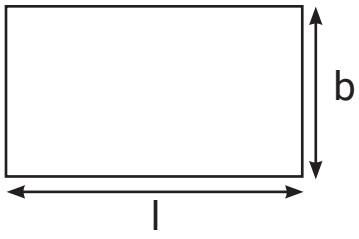
Perimeter = 4 × side



2 Rectangle

Area = length × breadth

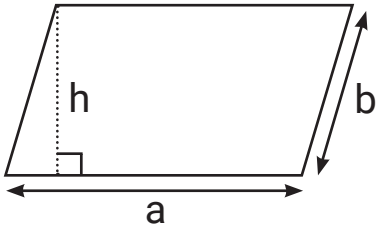
Perimeter = 2 (l + b)



3 Parallelogram

Area = base × height

Perimeter = 2 (a + b)

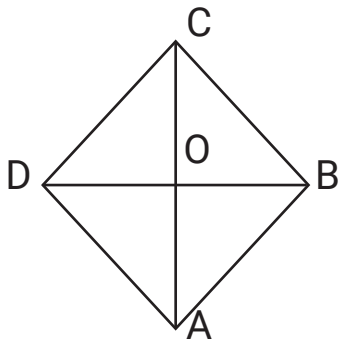


4 Rhombus

Area = ½ (product of diagonals)

= ½ (AC × BD)

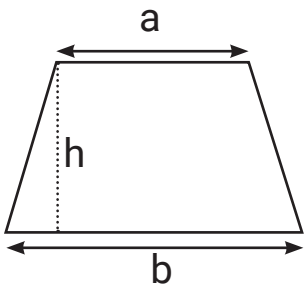
Perimeter = 4 × side



5 Trapezium

Area = ½ (a + b) × h

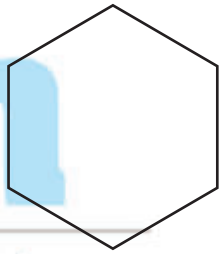
Perimeter = sum of all sides



6 Regular Hexagon

Area = $3 \times \frac{\sqrt{3}}{2} (\text{side})^2$

Perimeter = 6 × side



7 Cube

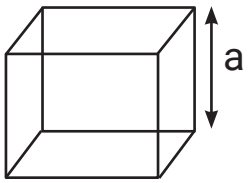
Curved surface area = $4a^2$

Total surface area = $6a^2$

Volume = a^3

Length of longest diagonal = $\sqrt{3}a$

where 'a' is side



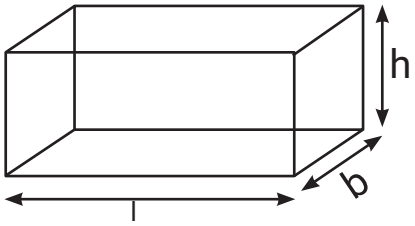
8 Cuboid

Curved surface area = 2(l + b)h

Total surface area = 2(lb + bh + hl)

Volume = l × b × h

Length of longest diagonal = $\sqrt{l^2 + b^2 + h^2}$



9 Cylinder

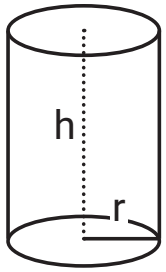
Curved surface area = perimeter of base × height

$= (2\pi r) \times h$

$= 2\pi rh$

Total surface area of cylinder = $2\pi r (h + r)$

Volume = $\pi r^2 h$



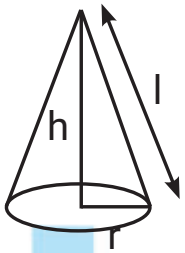
10 Cone

Slant height $l = \sqrt{h^2 + r^2}$

Curved surface area = πrl

Total surface area = $\pi r (r + l)$

Volume = $\frac{1}{3}\pi r^2 h$



h = height
r = radius
l = slant height

Mensuration Short Tricks

1 If the length and the breadth of a rectangle are increased by a% and b%, the area of rectangle will increase by

$$\left(a + b + \frac{a \times b}{100}\right)\%$$

Example

The length and breadth of a rectangle are increased by 20% and 60%. Find the percentage increase in its area.

Solution

a = 20%, b = 60%

% increase in the area of rectangle

$= 20 + 60 + \frac{20 \times 60}{100}$

$= 80 + 12 = 92\%$

2. If the length of a rectangle is increased by a%, then its breadth will have to be decreased by $\frac{100a}{100 + a}$ %, So that it's area remains the same.

Example

The length of a rectangle is increased by 20%, by what percent should its breadth be decreased so as to maintain the same area?

Solution

The breadth must be decreased by $\left(\frac{100 \times 20}{100 + 20}\right)$ %

$$= \frac{100 \times 20}{120} = \frac{100}{6} = 16.6666666.....$$

$$\approx 16.67\%$$

3. If the dimensions or sides of any 2-dimensional figure (Triangle, rectangle, square, circle, pentagon, hexagon etc.) is changed by a% then area changes by

$$a\left(2 + \frac{a}{100}\right)\%$$

Example

If the radius of a circle is decreased by 10%, then % decrease in its area.

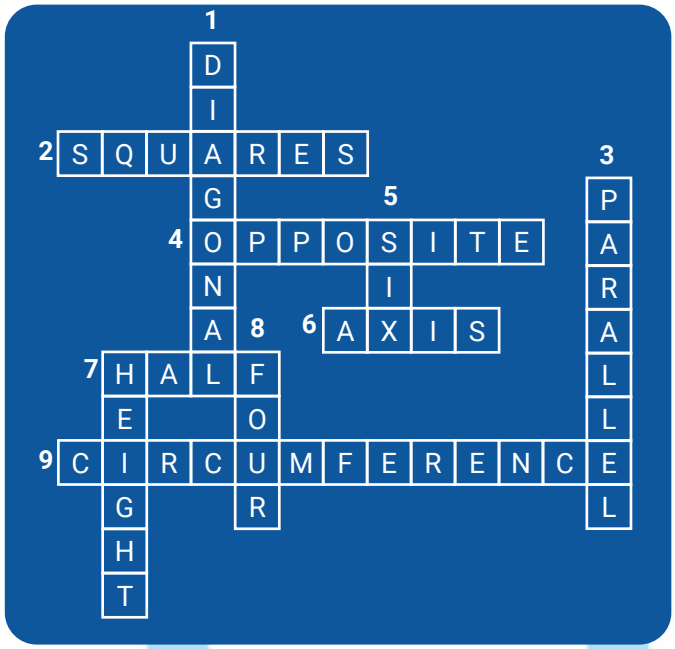
Solution

$$= -10\left(2 - \frac{10}{100}\right)\%$$

$$= -10\left(\frac{20 - 1}{10}\right)\% = -19\%$$

Area decreased by 19%

Crossword



Answer (?)

Let the volume of the 5 cubes = $x^3, x^3, 8x^3, 27x^3, 27x^3$

Volume of original cube = $(1 + 1 + 8 + 27 + 27)x^3$

$= 64x^3$

So, side of original cube = $\sqrt[3]{64x^3} = 4x$

Similarly, sides of the 5 smaller cubes = x, x, 2x, 3x, 3x

Surface area (S.A.) of original cube = $6 \times 16x^2$ ($\because$ $6a^2$ = S.A.)

$= 96x^2$

Surface area (S.A.) of smaller cubes = $6x^2, 6x^2, 6(2x)^2, 6(3x)^2, 6(3x)^2$

$= 6x^2, 6x^2, 24x^2, 54x^2, 54x^2$

Sum of total surface area of the smaller cubes = $x^2(6 + 6 + 24 + 54 + 54)$

$=144x^2$

Change in surface area = $144x^2 - 96x^2 = 48x^2$

$$\text{Percentage increase} = \frac{48x^2}{96x^2} \times 100 = 50\%$$

Cuboid

Ans. (c) Rectangle

Explanation : Since all the faces of a cuboid are rectangular.

Cube

Ans. (b) Square

Explanation : All the faces of a cube are squares.

Ans. (b) 8

Explanation : By Euler's formula for any polyhedron

$$F + V = E + 2$$

$$F + 6 = 12 + 2$$

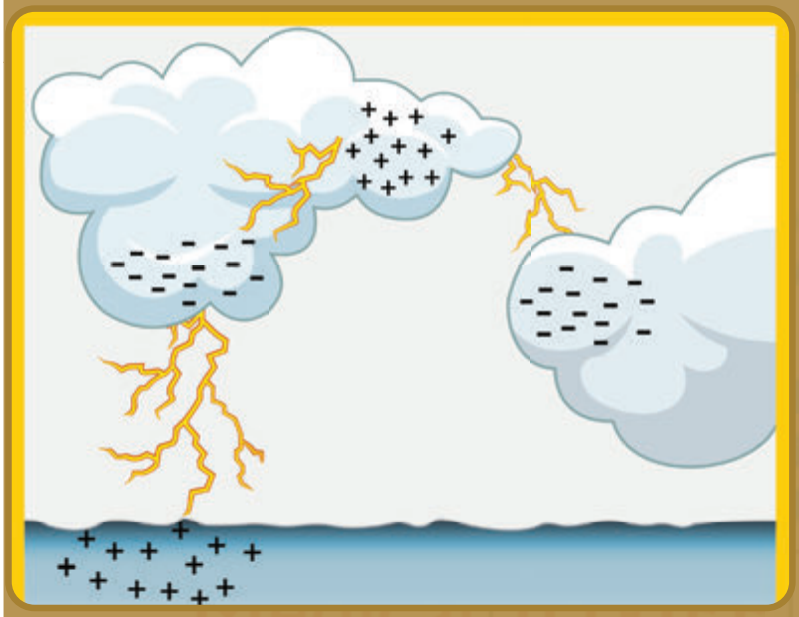
$$F + 6 = 14$$

$$F = 14 - 6$$

$$F = 8$$

Some Natural Phenomena

Lightning

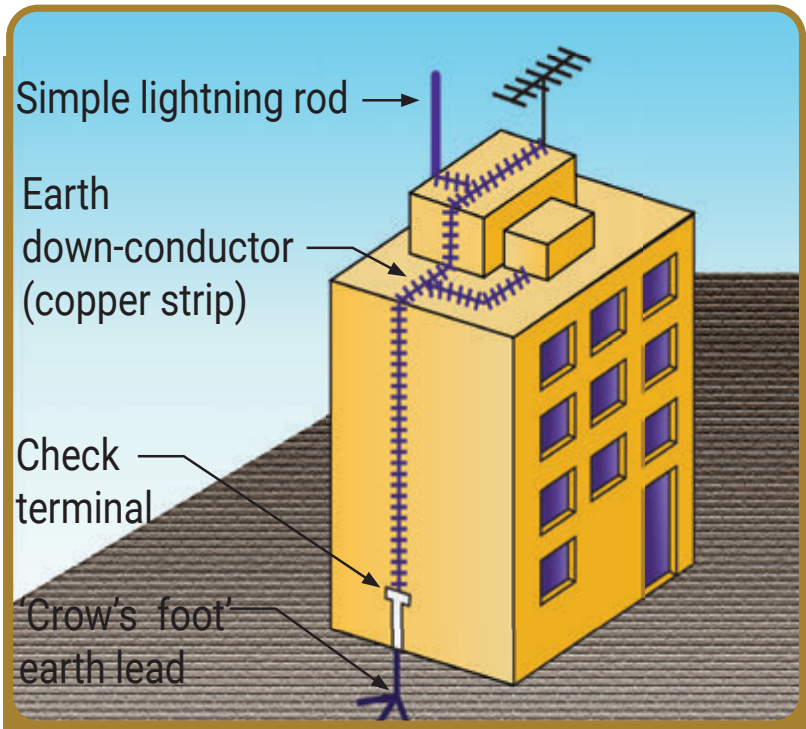


During thunderstorms, the air currents move upward and the water droplets move downward, these movements cause separation of charges. These charges accumulate between two or more clouds or between clouds and earth. When the magnitude of charges increases, air (normally a bad conductor) starts conducting and allows the flow of electricity. This is called lightning, as this flow of charge is accompanied by bright streaks of light and sound.

Electric Discharge

The process of flow of charge from cloud to cloud or from cloud to earth due to the separation of positive and negative charges is called an electric discharge.

Lightning Conductors



Lightning conductors help to protect buildings during lightning.

It is a metal rod that is taller than the building which is installed within the walls during construction. It provides an easy path to the earth and acts as a direct passage for electric discharge during lightning.

Facts About Lightning

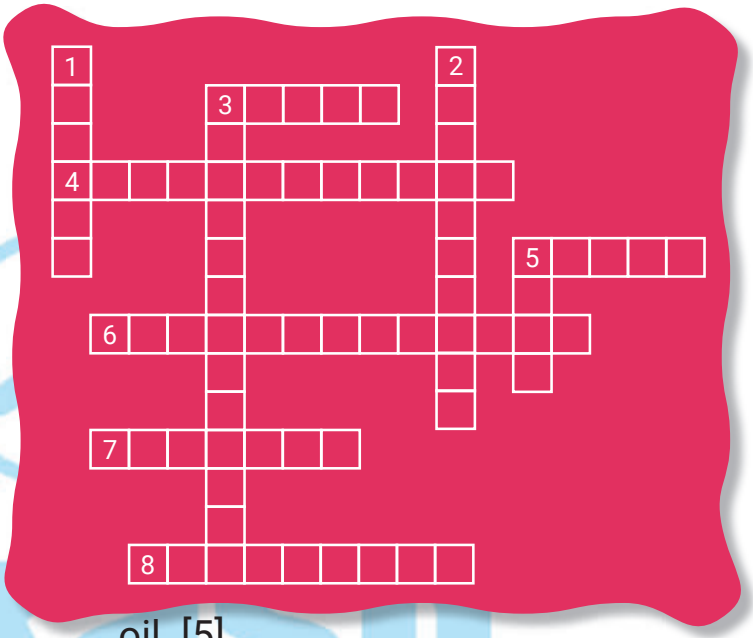
1. An estimate of 16 million thunderstorms and 3 billion lightning strikes on earth each year.
2. A single lightning strike can power a 100 watt light bulb for 90 days.
3. Lightning hits the empire state building about 23 times a year.
4. 90% of lightning strike victims survived.
5. Venezuela experiences more lightning than anywhere on earth.

Facts About Earthquake

1. There are about 5,00,000 detectable earthquake every year.
2. San Francisco is moving towards Los Angeles at the rate of about 2 inches per year. The same as the growth of your fingernails, so the cities will meet in several million years.
3. The sun and moon cause tremors. They can create very minor tides in the planet's crust.
4. There is no such thing as 'earthquake weather'. Statistically there is an equal distribution of earthquake in all weathers.
5. The deadliest earthquake in history shook China in 1556 taking about 8,30,000 lives.
6. The largest earthquake ever recorded was a magnitude 9.5 in Chile back in 1960.
7. Japan suffers 1500 earthquake every year.
8. Scientists use the different speeds of seismic waves to locate the epicentre of earthquake.
9. The 2011 earthquake near Japan increased the Earth's rotational speed, shortening the day by 1.8 microseconds.
10. An earthquake on 18/12/1811 caused parts of the Mississippi river to flow backwards.

Coal and Petroleum

Crossword



ACROSS

3. Fossil fuels are burned in _____stations in order to generate electricity. [5]
4. Coal, petroleum and natural gas are _____ resources. [12]
5. Another name for Petroleum is _____oil. [5]
6. Global warming, acid precipitation and air & water pollution are _____ problems associated with burning of fossil fuels. [13]
7. Petroleum is a _____of various hydrocarbons formed on the ocean floor by ancient marine organisms. [7]
8. A machine that converts mechanical energy to electrical energy is called a_____. [9]

DOWN

1. Coal is formed from the remains of _____ in swamps that were buried hundreds of millions of years ago. [6]
2. One advantage of burning natural gas over petroleum or coal is that it releases less_____. [10]
3. Acid rain is sometimes referred to as acid _____. [13]
5. Both North America and Asia have vast _____ deposits. [4]

Recent Oil Spill In India

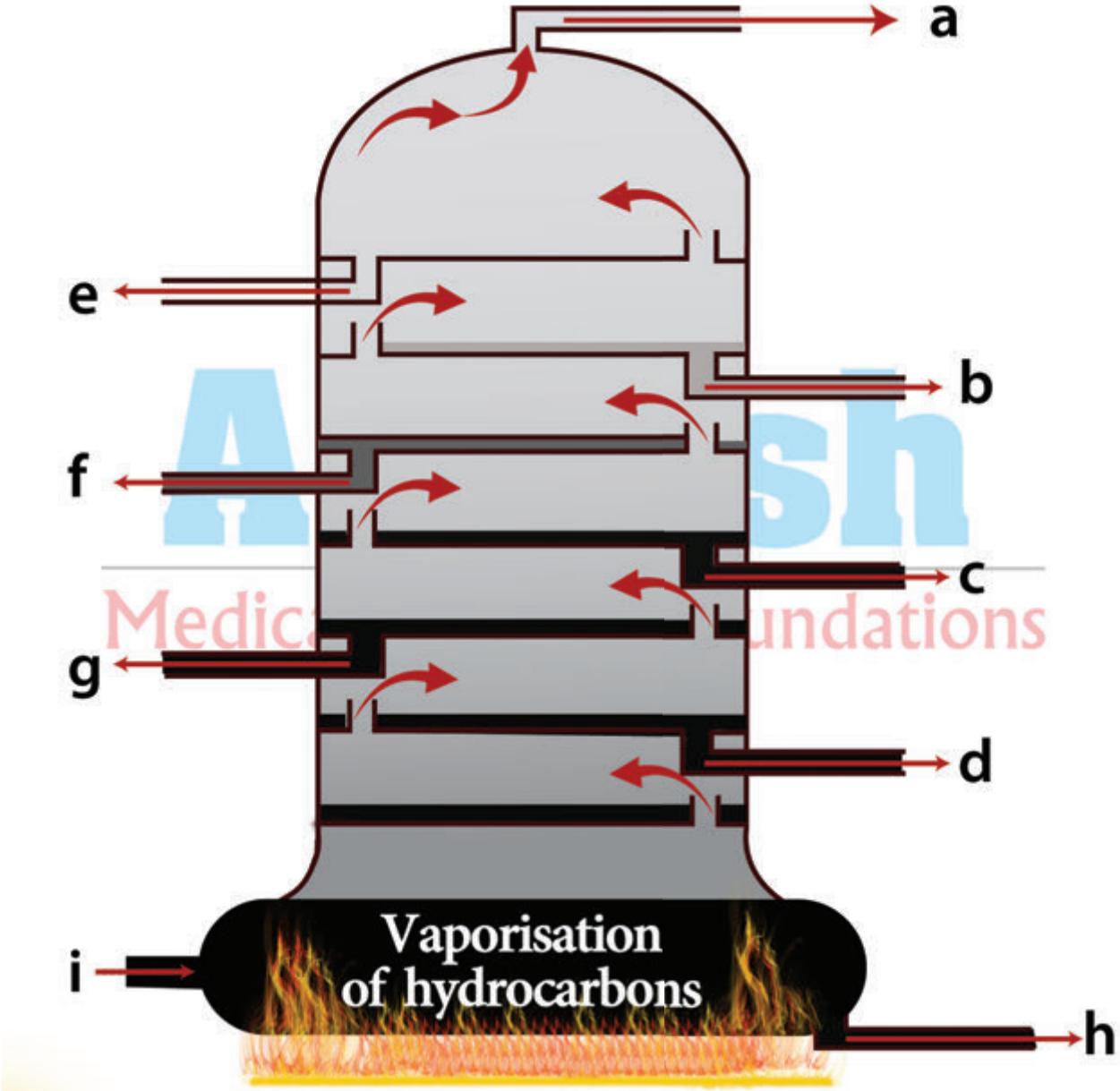
A major oil spill in Chennai took place on January 28, 2017, when the ship BW Maple (UK flag), a LPG tanker, rammed into petroleum tanker. Dawn Kanchipuram (Indian flag) at 17 kmph (nine knots), just two nautical miles off the Kamarajar port at Ennore near Chennai.

The collision ruptured the water ballast tank and a part of the crew cabin, while also snapping the fuel pipeline. Due to this heavy fuel oil leaked into the sea.

Globally

This decade, there have been 62 spills of 7 tonnes and over, resulting in 164,000 tonnes of oil lost; 91% of this amount was spilled in just 10 incidents. One incident is responsible for about 70% of the quantity of oil spill this decade.

Guess the Products



Quiz

Q.1 A useful product of destructive distillation of coal which is used in making drugs and photographic materials is;

(a) Coal gas
(b) Coal tar
(c) Coke
(d) Carbon dioxide

Q.2 Which one among the following is used as a fuel for jet aircrafts?

(a) Petroleum gas
(b) Lubricating oil
(c) Kerosene
(d) Light oil

Q.3 Blackening of base of utensils while cooking food is due to

(a) Black colour discharged from the utensils
(b) Black colour of the utensils
(c) Improper cooking
(d) Sacking of soot particles from incomplete combustion

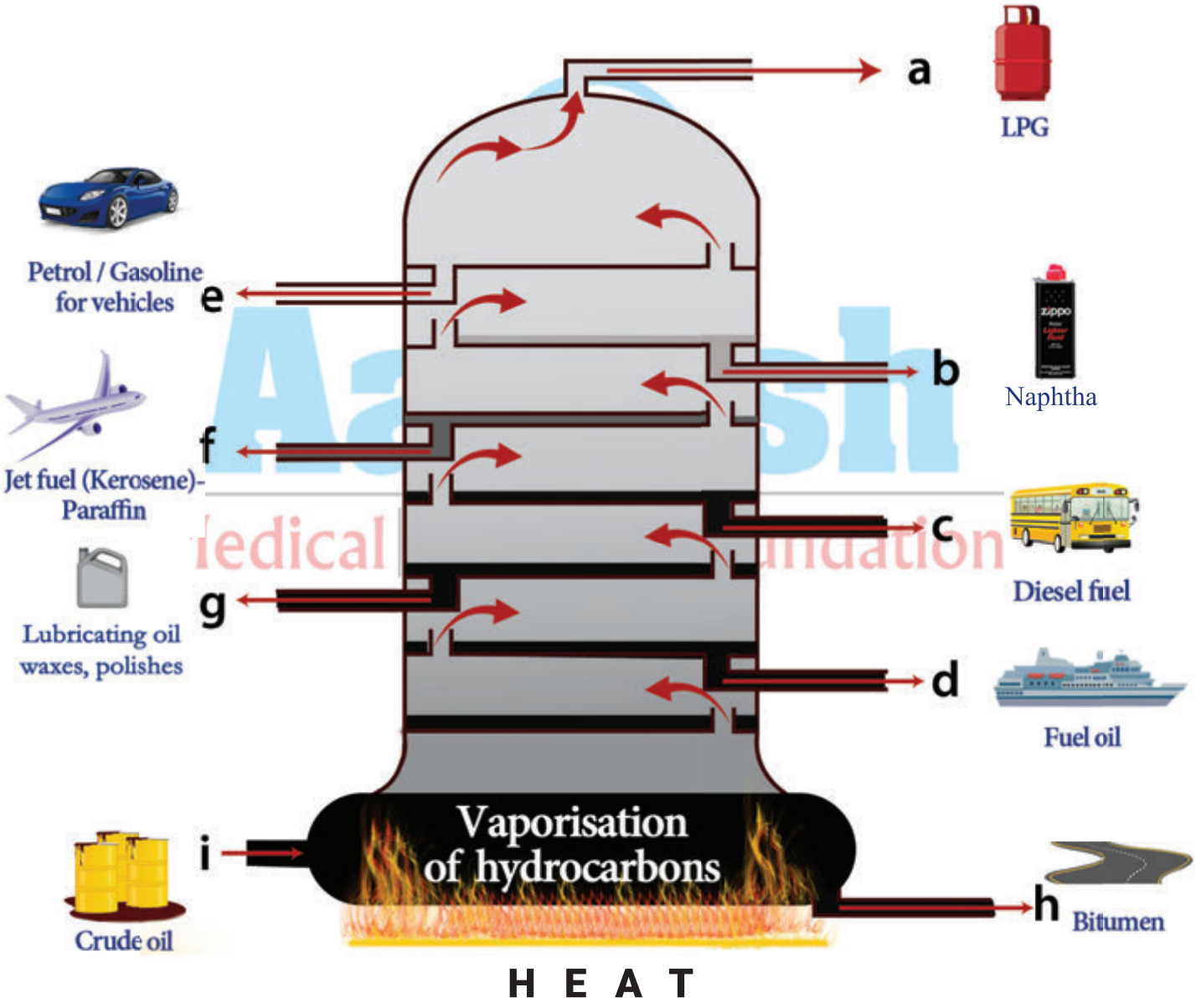
Q.4 ____ is used as a solvent for dry- cleaning of clothes.

(a) CNG
(b) Petrol
(c) Lubricating oil
(d) Asphalt

Q.5 The cleanest fuel among the following is

(a) Kerosene
(b) Petrol
(c) Cow dung cakes
(d) Hydrogen gas

Answer (Guess the Products)



Answer (Quiz)

Ans. 1(b) Coal tar

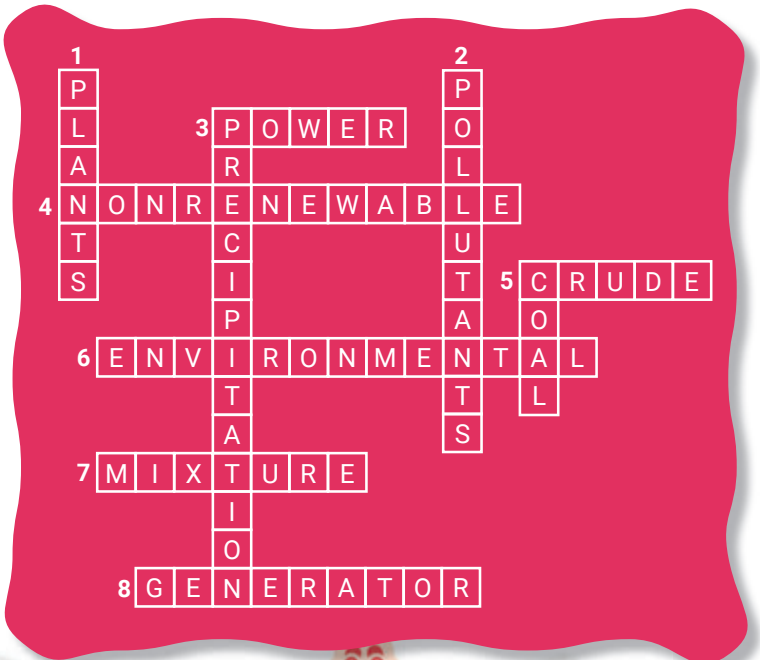
Ans. 2(c) Kerosene

Ans. 3(d) Sacking of soot particles from incomplete combustion

Ans. 4(b) Petrol

Ans. 5(d) Hydrogen gas

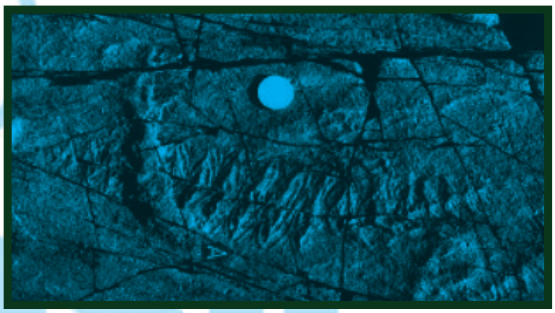
Answer (Crossword)



Reproduction in Animals

Facts

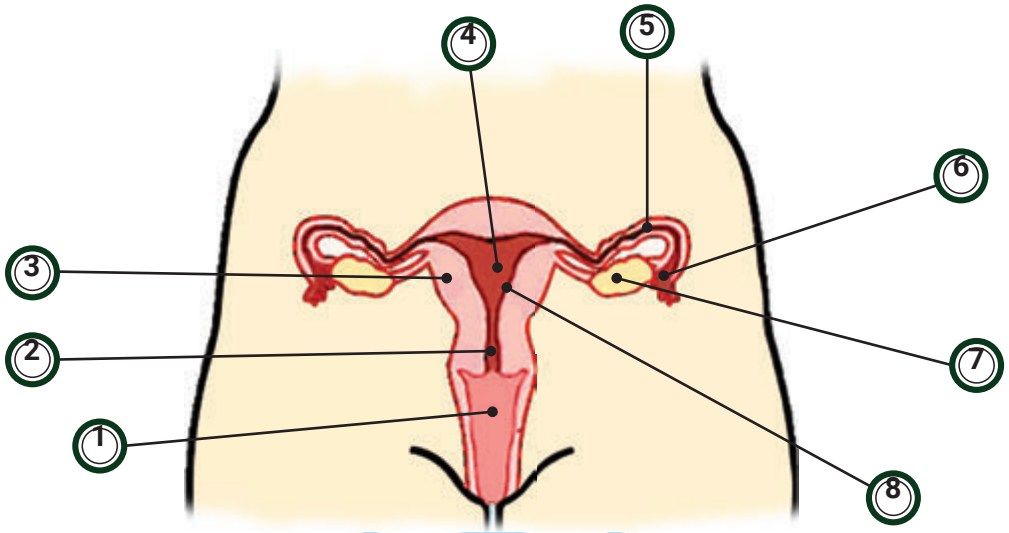
Ancient Reproduction



(a) According to a study of fossils, there were two methods of reproduction used by deep-sea rangemorphs (some of the first macroscopic organisms appear in geological record around) that lived more than 540 million years ago. They were reproducing through remarkably complex way at the bottom of the ocean near modern day Newfoundland about 550 million years ago. The organisms could create clones as plants do, plus bud off progeny that could float away and produce their own clones. Reproduction in this way made rangeomorphs highly successful, since they could both colonise new areas and rapidly spread once they got there.

(b) In a new study, researchers describe how a female swellshark (a kind of shark), one that had been isolated from males for at least three years at National Aquarium facilities in Baltimore, laid eggs that hatched into five baby sharks via parthenogenesis.
This is the first time asexual reproduction has been seen in the swellshark.

Label the Parts of Human Female Reproductive System



Changes occurring in the croaking amphibian

The transformation of the larva into an adult through drastic changes is called metamorphosis. In frogs, the eggs hatch into free-living organisms called tadpoles (larva). During metamorphosis the tadpole undergoes certain changes and modifications to convert into a frog. During metamorphosis the tadpole will develop back legs first, then front legs. Around 6 weeks of life the mouth starts to widen. Sometime around 10 weeks the froglet, as it is now called, eyes start to bulge out and the tail begins to shrink and eventually disappear. When the lungs finish developing, the froglet makes its way onto the land and, croak croak. It is a frog.

Myth: How does the age of males matters for their fertility?

MYTH: The age of the man does not matter while planning pregnancy.

FACT: There's a belief that only women have a ticking biological clock - but recent studies have discredited this belief, warning that the chances of having a baby naturally or through IVF may depend on the age of the male partner as well, and not just the age of the woman.

While the ideal age for women to achieve pregnancy is between 25 to 35 years, female fertility starts declining after 30 years of age. On the other hand, men's fertility potential is at its best till the age of 45-50 years. After that, there is a deterioration in the quality of the sperms and the sperm count.

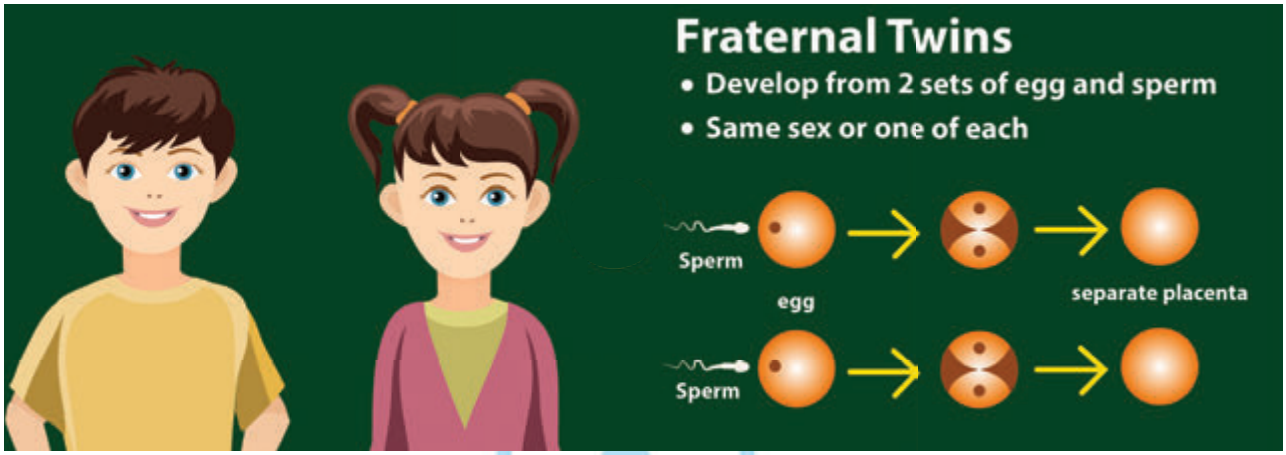
Word Search

Find out the 7 terms related to reproduction in the below group of alphabets.

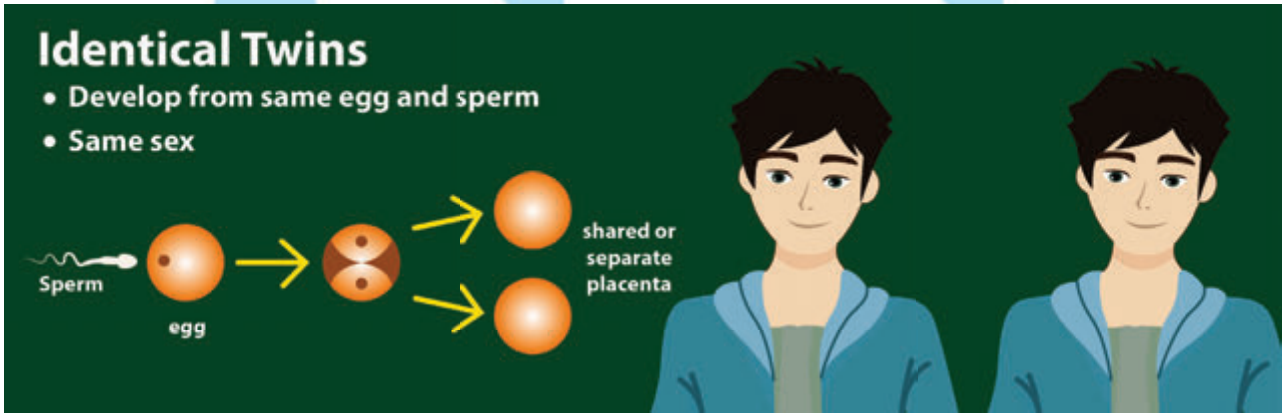
Reproduction in Living Organisms

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

Fraternal Twins

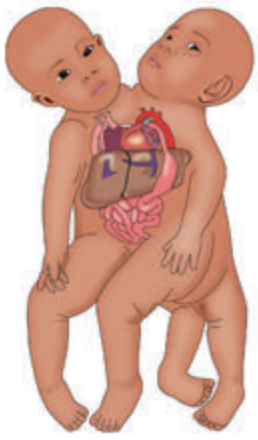


Identical Twins



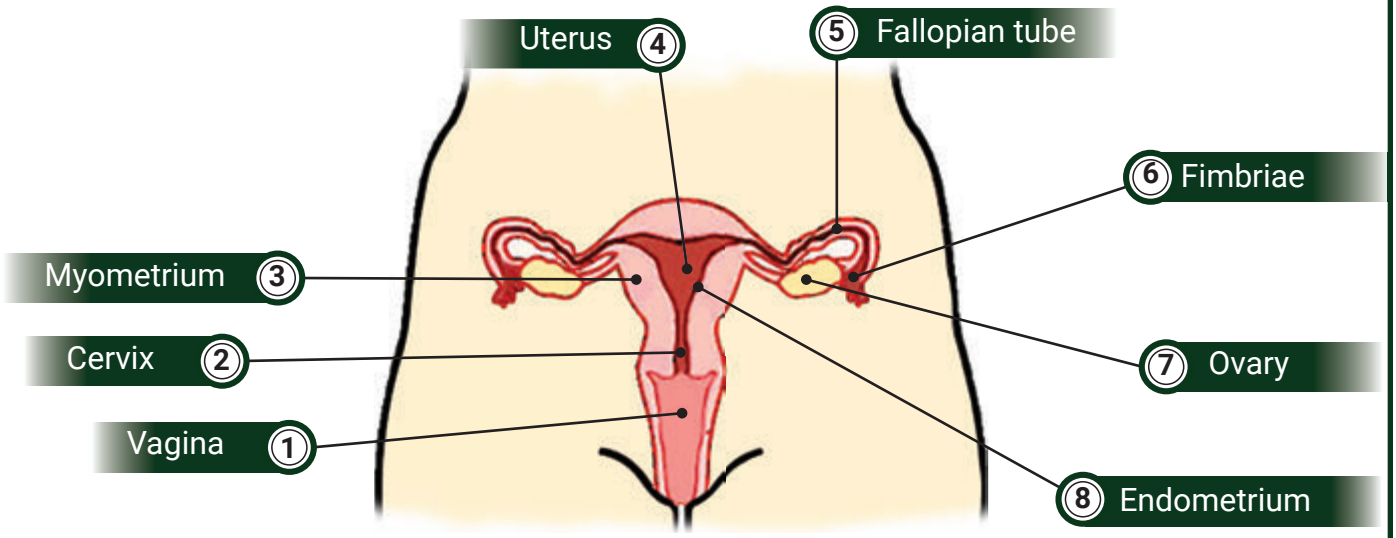
What are conjoined twins ?

- Conjoined or Siamese twins are named for the first well-known pair from Siam (known as Thailand).
- They are formed when identical twinning goes awry.
- The cause of the syndrome is unknown, but it's suspected to be caused by environmental factors.



Answer

Label the Parts of Human Female Reproductive System

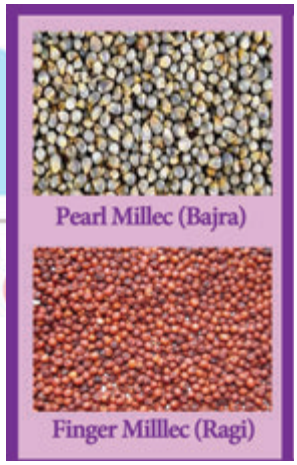


Answer (Word Search)

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

Agriculture

Major Crops of India



Vocabulary

Viticulture — Cultivation of grapes.

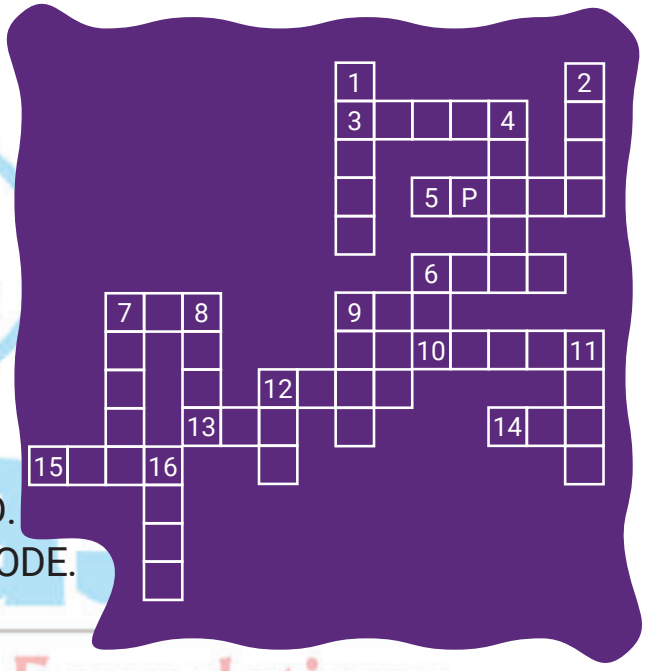
Growing vegetables, flowers and fruits — **Horticulture**

Pisciculture — Breeding of fish

Commercial rearing of silk worms — **Sericulture**

Phonetics

Crossword



ACROSS

3. A travel word that rhymes with ISLE.
5. A time word that rhymes with KNIGHT (soldier).
6. A place word that rhymes with SIGHT.
7. A number word what rhymes with SOME.
9. An insect that rhymes with BE.
10. A sound word that rhymes with ALLOWED.
12. A transportation word that rhymes with RODE.
13. A golf related word that rhymes with TEA.
14. A colour word that rhymes with DIE.
15. A simple past action word that rhymes with NEW.

DOWN

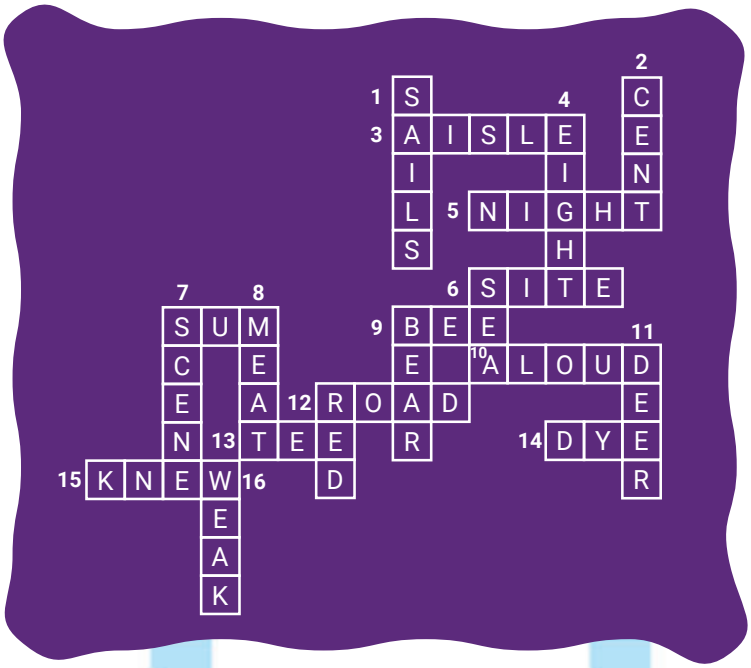
1. A ship related word that rhymes with SALES.
2. A money word that rhymes with SENT.
4. A number word that rhymes with ATE.
6. A water related word that rhymes with SEE.
7. A movies and drama word that rhymes with SEEN.
8. Something we eat that rhymes with MEET.
9. An animal word that rhymes with BARE (naked).
11. An animal name that rhymes with DEAR.
12. A colour that rhymes with READ (simple past form of READ).
16. An adjective that rhymes with WEEK.

Word Puzzle

Find 16 words from the puzzle that are related to sports.

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

Answer (Crossword)



Answer (Word Puzzle)

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

Seating Arrangement and Odd One Out

Q.1 Find out the pair which is different.

(a) Cow and Buffalo
(b) Cock and Hen
(c) Horse and Mare
(d) Dog and Bitch

Q.2 Choose odd one out of the following numbers.
1, 3, 9, 12, 19, 29

(a) 12
(b) 9
(c) 1
(d) 3

Q.3 Choose odd one out of the following numbers.
2, 5, 10, 17, 26, 38, 50

(a) 50
(b) 38
(c) 26
(d) 17

Q.4 Choose odd one.

(a) ZW
(b) TQ
(c) SP
(d) NL

Q.5 Choose the odd one.

(a) L12
(b) M14
(c) Q17
(d) K11

Q.6 A, P, R, X, S and Z are sitting in a row facing north S and Z are in the centre. A and P are at the ends. R is sitting to the immediate left of A. Who is to the immediate right of P?

(a) A
(b) X
(c) S
(d) Z

Directions (7 to 9)

P, Q, R, S, T, U, V and W are sitting around the circle and all are facing the centre.

(a) P is second to the right of T, who is the neighbour of R and V

(b) S and W are not the neighbours of P

(c) V is the neighbour of U

(d) Q is not between S and W. W is not between U and S

Q.7 Which two of the following are not neighbours?

(a) RV (b) UV

(c) RP (d) QW

Q.8 Which one is immediate right of V?

(a) P (b) U

(c) R (d) T

Q.9 Which of the following is correct?

(a) P is to the immediate right of Q (b) R is beween U and V

(c) Q is to the immediate left of W (d) U is between W and S

Q.10 A, B, C, D and E are sitting on a bench facing north. A is sitting next to B. C is sitting next to D, D is not sitting with E, who is sitting on the left end of the bench. C is on the second position from the right. A is to the right of B and E. A and C are sitting together. At which position is A sitting?

(a) Exactly Between B and D (b) Exactly Between B and C

(c) Exactly Between E and D (d) Exactly Between C and E

Seating Arrangement and Odd One Out

Sol.1 **Ans.** (a) Cow and Buffalo

Explanation : Second one is the feminine of the first one.

Sol.2 **Ans.** (a) 12

Explanation : 12 is even other are odd.

Sol.3 **Ans.** (b) 38

Explanation : $1 \times 1 + 1, 2 \times 2 + 1, 3 \times 3 + 1, \ldots$

Sol.4 **Ans.** (d) NL

Explanation : Z – 3 = W, S – 3 = P, T – 3 = Q; but N – 2 = L

Sol.5 **Ans.** (b) M14

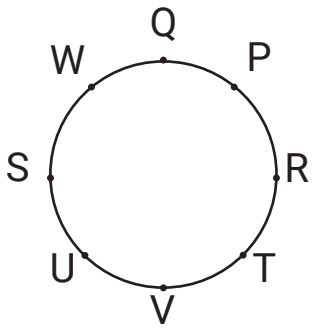
Explanation : Letters and their positions

Sol.6 **Ans.** (b) X

Explanation : P, X, S/Z, Z/S, R, A

Sol.7 **Ans.** (a) RV

Sol.8 **Ans.** (d) T



Sol.9 **Ans.** (c) Q is to the immediate left of W

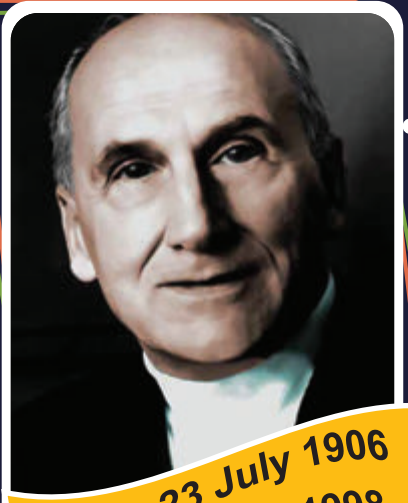
Sol.10 **Ans.** (b) Between B and C

Explanation: E, B, A, C, D

NOBEL PRIZE FOR CHEMISTRY

Happy Birthday

Vladimir Prelog



Born - 23 July 1906
Died - 07 Jan 1998

Yugoslavian-Swiss chemist who shared the 1975 Nobel Prize for chemistry with john W. Comforth for his work on the stereochemisty of organic molecules and reactions. Stereochemistry is the study of the three-dimensional arrangements of atoms within molecules. He authored systematic naming rules for molecules and their mirror-image version, that is, which configuration will be referred to as “dextro” and which will be the “levo” (right or left). Also, by X-ray diffraction, he elucidated the structure of several antibiotics.

NEET 2025 Wasn't Easy. Our Results Say Otherwise.

5 AAKASHIANS IN TOP 10 AIR NEET(UG) 2025

OUR NATIONAL TOPPERS IN NEET (UG) 2025

& many more...

Our Problem *Solvers* shine bright in **JEE (Advanced) 2025**

Our Top 100 AIR

Aakashians Create History in International Olympiads

(Classroom Program Students)

IBO 2023

Gold Medalists

34th International Biology Olympiad

Dhruv Advani | **Rohit Panda**

Chirag Falor

IOAA 2019 Gold Medalist

International Olympiad on Astronomy & Astrophysics

Dhiren Bhardwaj

IBO 2021 Silver Medalist

32nd International Biology Olympiad

Anshul

IBO 2021 Silver Medalist

32nd International Biology Olympiad

Amritansh Nigam

IBO 2022 Silver Medalist

33rd International Biology Olympiad

Prachi Jindal

IBO 2022 Silver Medalist

33rd International Biology Olympiad

Tanishka Kabra

IChO 2022 Silver Medalist

54th International Chemistry Olympiad

420 Classroom Students Qualified in NSEs* 2024-25

1484 Students Scored Above MAS

(Group A & B)	(Group A & B)	(Group A & B)	(Group A & B)	
49 NSEA*	229 NSEB*	70 NSEC*	38 NSEP*	34 NSEJS*

Aakashians Qualified for INO-2025

Krishna Agrawal
NSEA | NSEP | NSEC

Mohit Shekher Shukla
NSEA | NSEP | NSEC

Utkarsh Awadhiya
NSEB | NSEP | NSEC

Rupayan Pal
NSEC | NSEB | NSEP

Devansh Garg
NSEJS

Aaron Thakkar
NSEJS

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 RMO 2024

899
Classroom Students
Qualified in IOQM 2024


Joish Achyuta
Class - VIII


Dhanush Damu
Class - IX


Arnav Singh
Class - X


Pranit Goel
Class - XI


Aayush Agarwal
Class - XII

and many more...

Aakashians Qualified for INMO 2025

161
Classroom Students
Qualified in RMO 2024-25


Kotha D Reddy
Reg. No. 00006657265


Abhipraya Verma
Reg. No. 00010407513


Aditya Singh
Reg. No. 00012631688


Rujul Garg
Reg. No. 00005153903


Mohit Shekher Shukla
Reg. No. 00006093814

and many more...

*

Aakashians Qualified for OCSC/IMOTC-2025

25
Classroom Students
Qualified in INOs 2025


Pranit Goel
Qualified INMO


Harshit Singh
Qualified INJSO


Subhrojit Paul
Qualified INBO


Mohit Shekher Shukla
Qualified INChO


Rujul Garg
Qualified INPhO


Aditya Singh
Qualified INAO Jr

and many more...

Aakashians Qualified for Merit Certificate

1019
Classroom Students
Qualified in IMO (Level-I) 2023-24

Intl. Rank 1

Prisha Miglani
Class - IX

Intl. Rank 2

Sushant Agarwal
Class - X

Intl. Rank 4

Ekaashar Gupta
Class - IX

Intl. Rank 7

Harshit Singh
Class - VIII

438
Classroom Students
Qualified in IMO (Level-II) 2024

and many more...

Aakashians Qualified for Merit Certificate

4902
Classroom Students
Qualified in NSO (Level-I) 2024-25

Intl. Rank 2

Meghav Ladani
Class - X

Intl. Rank 2

Anubhab Manna
Class - VIII

Intl. Rank 3

Arnav Gupta
Class - IX

Intl. Rank 7

Parshti Bajpai
Class - IX

Intl. Rank 10

Shreya
Class - VIII

and many more...

* **RMO** -Regional Mathematical Olympiad | **INMO**-Indian National Mathematical Olympiad | **IOQM -** Indian Olympiad Qualifier in Mathematics | **NSO** - National Science Olympiad
IMO - International Mathematics Olympiad | **INOs** - Indian National Olympiads | **OCSCs** - Orientation cum Selection Camps | **IMOTC** - International Mathematical Olympiad Training Camp