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In the Name of God

A. We call God by various names. A variety of adjectives are used for gods and goddesses. Read carefully the given clues and write suitable adjectives starting with prefix 'omni' in the space provided.

Clues

1. present everywhere
2. all powerful
3. knows everything
4. total
5. parent of all

Words

- omni
- omni
- omni
- omni
- omni



B. 'Oh God!' is a common exclamation we often use. Given below in Column A are some words. Match them with their correct meanings given in Column B.

A

1. god-willing
2. god-sent
3. god-fearing
4. god-like (godly)
5. god's gift

B

- a. a very religious person
- b. having great qualities
- c. hopeful of good times ahead
- d. a good help or opportunity
- e. in-born skill or talent

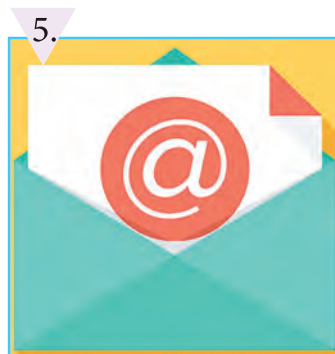
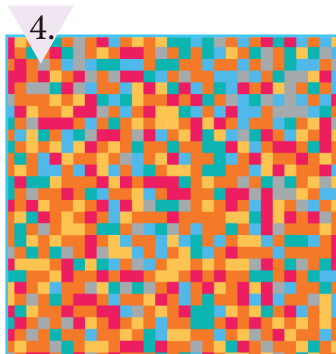
? DO YOU KNOW?

'Theology' is the systematic study of the concept of God and religious beliefs. It explains the nature of God. Theology originated from Greek words - 'theos' meaning 'God' and 'logia' meaning 'word' or 'saying'. The words were also passed on to Latin as 'theologia' and French as 'Theologie'. Theology was first used in fourteenth century. It is taught as a subject in schools, universities and seminaries.

Terrific Two's

Many new words in English have been formed out of need in modern life. Complete the following words formed from terrific two situations given. The first one has been done for you.

1. A documentary and a drama d o c u d r a m a
2. Breakfast and lunch together b _ _ _ _ h
3. Smoke and fog together s _ _ _ g
4. A picture and an element p _ _ _ _ l
5. An electronic mail e _ _ _ _ l
6. A situation in a comedy s _ _ _ c _ m
7. A kid's video k _ _ _ v _ d
8. A camera and a recorder c _ _ _ _ _ r _ _ _ _
9. Information and commercial i _ _ _ _ _ _ _ _ _ _ l
10. Education and entertainment e _ _ _ _ _ _ _ _ _ _ t



B. Carefully observe the following Word Pyramids and write the clues for the given words formed by using a prefix and a suffix respectively. One has been done for you.

C **Clues**

re	
redo	to do again
recall	
rewrite	
reverse	
reshuffle	

D **Clues**

able	
unable	not able to
capable	
eatable	
readable	
agreeable	



▶ Values Are Invaluable

The values we imbibe enable us to deal effectively with the challenges of everyday life. Read the following situations and accordingly, unjumble the values or skills presented in these situations. Write the answer in the space provided.

1. You give your old books, pens, pencils and school bag to a poor student living near your house. *sikndnes*
2. Along with other students of your school, you visit an old people's home and give gifts to the old people staying there. *pemathy*
3. For the school competition, you design a beautiful poster, highlighting the theme – 'Say No to Child Labour'. *tacretiviy*
4. There is a fight between two of your friends. You pacify them and encourage them to be friendly. *ebprolm vsoling*
5. During the examination, your friend asks you to see his answers and copy them in your answersheet, but you refuse. *tshoney*
6. You, along with other students, decorate your class display board. *ocraopetion*
7. Your teacher is absent but you manage the class and ask your friends to maintain self-control and do their learning work. *inidiscple*
8. You lead a rally around the school area to spread awareness about planting trees and caring for the environment. *erdleaship*
9. Along with your friends, you clean up your classroom, school library and corridors, and make them spick and span. *slinecleanes*
10. You make a time-table and devote regular time to study each and every subject. *etim amganement*

Work Is Workship

Now-a-days, we have a plethora of possible careers and exciting avenues. Read the following statements and write the name of the professions in the space provided. The first letter of the word is given as a clue.

1. I translate what is said when people do not speak the same language.

I

2. I test eyesight, prescribe lenses and sell them.

O

3. I guide students in their choice of careers and encourage good behaviour pattern.

C

4. I play recorded music or video and entertain on TV or radio.

D

5. I introduce various acts in a live show/programme.

C

6. I am an expert at beautiful and artistic writing.

C

7. I diagnose and treat mental illness.

P

8. I correct speech disorders.

S

9. I make maps.

C

10. I write and compile dictionaries.

L

11. I advise the insurance company and calculate risks and premiums.

A

12. I stuff animal skins to make them look like real animals.

T



Gender Guess

Using correct genders is a sign of good vocabulary. Tick (✓) the correct Feminine Genders from the options given below. One has been done for you.

Masculine Gender	•••••	Feminine Gender
1. Postmaster	•	Postmistress <input type="checkbox"/> / Postmastress <input type="checkbox"/>
2. Man servant	•	Maid servant <input type="checkbox"/> / Woman servant <input type="checkbox"/>
3. Stuntman	•	Stuntmaness <input type="checkbox"/> / Stuntwoman <input type="checkbox"/>
4. Fiancé	•	Fiancée <input checked="" type="checkbox"/> / Fiancéss <input type="checkbox"/>
5. Proprietor	•	Proprietress <input type="checkbox"/> / Proprietori <input type="checkbox"/>
6. Bachelor	•	Spinster <input type="checkbox"/> / Bacheloress <input type="checkbox"/>
7. Ambassador	•	Ambassadors <input type="checkbox"/> / Ambasses <input type="checkbox"/>
8. Lad	•	Lass <input type="checkbox"/> / Ladess <input type="checkbox"/>
9. Comedian	•	Comedienne <input type="checkbox"/> / Comedianess <input type="checkbox"/>
10. Chauffeur	•	Chauffeuse <input type="checkbox"/> / Chauffeuress <input type="checkbox"/>



DO YOU KNOW?

The word, '*Fiancé*' is used for a man, to whom a woman is engaged to be married. It originated from French and was first used in the middle of nineteenth century. A man is called as '*Fiancé*' and the woman engaged to him is called as '*Fiancée*'. The word also has its roots in Latin – '*Fidare*', meaning 'to trust' and is combined with the suffix – 'ance' - to form '*Fiancé*'.



Global Language

English is a global language. It has a number of words and phrases from Greek, Latin, French, Spanish and Italian languages. Match the words or phrases with their meanings given and write the answers in the space provided. One is done for you.











Words or Phrases	Answers	Meanings
1. Ad hoc		a. outline of education/career
2. Alma Mater		b. goodbye
3. Curriculum Vitae (CV)	a	c. in the year of the lord
4. Et Cetera (etc.)		d. otherway round
5. Anno Domini (AD)		e. for a particular purpose
6. Vice Versa		f. human beings
7. Homo sapiens		g. each year
8. Per Capita		h. I've got it
9. Per Annum		i. so on
10. Bona fide		j. each person
11. Numero Uno		k. genuine
12. Adios		l. best of journey
13. Eureka		m. school/college attended
14. Adieu		n. number one
15. Bon Voyage		o. goodbye

Note: Words 1-10 are from Latin, 11 is from Italian, 12 is from Spanish, 13 is from Greek and 14-15 are from French.

Emotions and Expressions

You must have seen 'Emojis' that make our text messages very lively and interesting. These small digital images have become very popular and are used to express an emotion or an idea.




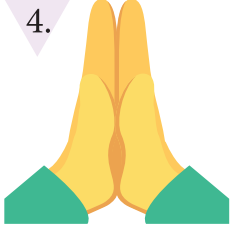






A. Choose the appropriate option from the Help Box to match it with each Emoji below and write it in the space provided.

1.  _____	2.  _____	3.  _____	4.  _____
5.  _____	6.  _____	7.  _____	8.  _____
	9.  _____	10.  _____	

Help Box

grinning	frowning	confused	worried
smiling	astonishment	crying	thinking
disappointment		angry	

B. Hand emojis convey a variety of emotions and messages. Pair the hand emojis below with emotions or messages from the Help Box. Write the answer in the space provided. One is done for you.

1.  <input type="text"/>	2.  <input type="text"/>	3.  <input type="text"/>	4.  <input type="text"/>
5.  <input type="text" value="e"/>	6.  <input type="text"/>	7.  <input type="text"/>	8.  <input type="text"/>
	9.  <input type="text"/>	10.  <input type="text"/>	

Help Box		
a. please stop	e. victory/success	i. openness
b. dislike/disapproval	f. applause	j. handshake
c. high five/gratitude	g. very good/praiseworthy	
d. oh yes/great	h. pointing up	

? DO YOU KNOW?
 Shigetaka Kurita, a Japanese, created the first 'Emojis' to facilitate electronic communication in 1998-99. The emojis were first used by the Japanese mobile phones and then adapted by Google, Apple Inc. and many others.

Food for Thought

The articles of food and drink enhance the meanings of common words. They add a special flavour. Fill in the correct words in the boxes provided to complete the statements. Take help of the hints given.

- You cannot have your **c** and eat it too!
[enjoy all the benefits of a situation]
- He is a **s** coated pill.
[a deceptive person]
- We must take our problems with a grain of **s** .
[bear improper behaviour or situation]
- I paid just **p** for the second hand computer.
[to pay the least]
- Studying science is not everybody's cup of **t** .
[having no liking or aptitude]
- He looked as though **b** won't melt in his mouth.
[to appear very innocent]
- It is no use crying over spilt **m** .
[worrying over something that cannot be changed]
- We must take the minister's word like a **p** in the sky.
[promise that can never be fulfilled]
- The son was the **a** of his mother's eye.
[great favourite]
- He was in a thick **s** as he had lost his father's money.
[to be in trouble]



? DO YOU KNOW?

The word 'menu' originated from French. It was also derived from 'minutes', meaning something made very small. In a restaurant, 'Menu' refers to a detailed list of food items and beverages on offer with their price. The French word – 'a la Carte' used with menu means food items can be ordered separately from the options provided. The French word – 'table d'hote' means food items chosen by Chef/Proprietor are served at a fixed price.



Tangible Talk

English language has a variety of expressions using numbers to create an 'added' effect. Match the following expressions with their meanings. The first one has been done for you.

- | | | |
|----------------------------|----------------------------------|---|
| 1. First and foremost | → <input type="text" value="c"/> | ← a. to wear glamorous clothes |
| 2. On second thoughts | → <input type="text"/> | ← b. very happy |
| 3. Three-D effect | → <input type="text"/> | ← c. most important |
| 4. The fourth estate | → <input type="text"/> | ← d. in a difficult situation |
| 5. Five and dime shop | → <input type="text"/> | ← e. to have an intuition |
| 6. Sixth sense | → <input type="text"/> | ← f. rethink or review |
| 7. In seventh heaven | → <input type="text"/> | ← g. the press |
| 8. Behind the eight-ball | → <input type="text"/> | ← h. a store that sells cheap goods |
| 9. Dressed up to the nines | → <input type="text"/> | ← i. most probably |
| 10. Ten to one | → <input type="text"/> | ← j. quality of length, width and depth |

FIND OUT

Find out the meanings of the following—

- (i) a two-faced person
- (ii) the fifth column
- (iii) a nine-day wonder
- (iv) at the eleventh hour



▶ Wardrobe Vocabulary

The usage of names of clothes and accessories like hat, belt, etc., can bring forth an array of expressions in English language. Read the given meanings and complete the following expressions.

1. An action successfully done three times.

A _____ trick.

2. To reflect and analyse something.

Put on one's thinking _____.

3. To get ready for action.

Pull up one's _____.

4. To economise or save money by cutting down expenses.

Tighten one's _____.

5. To be patient.

Keep one's _____.

6. To flatter for selfish purpose.

Lick someone's _____.

7. To plan according to the availability of funds.

Cut one's _____ according to the cloth.

8. To have very little money.

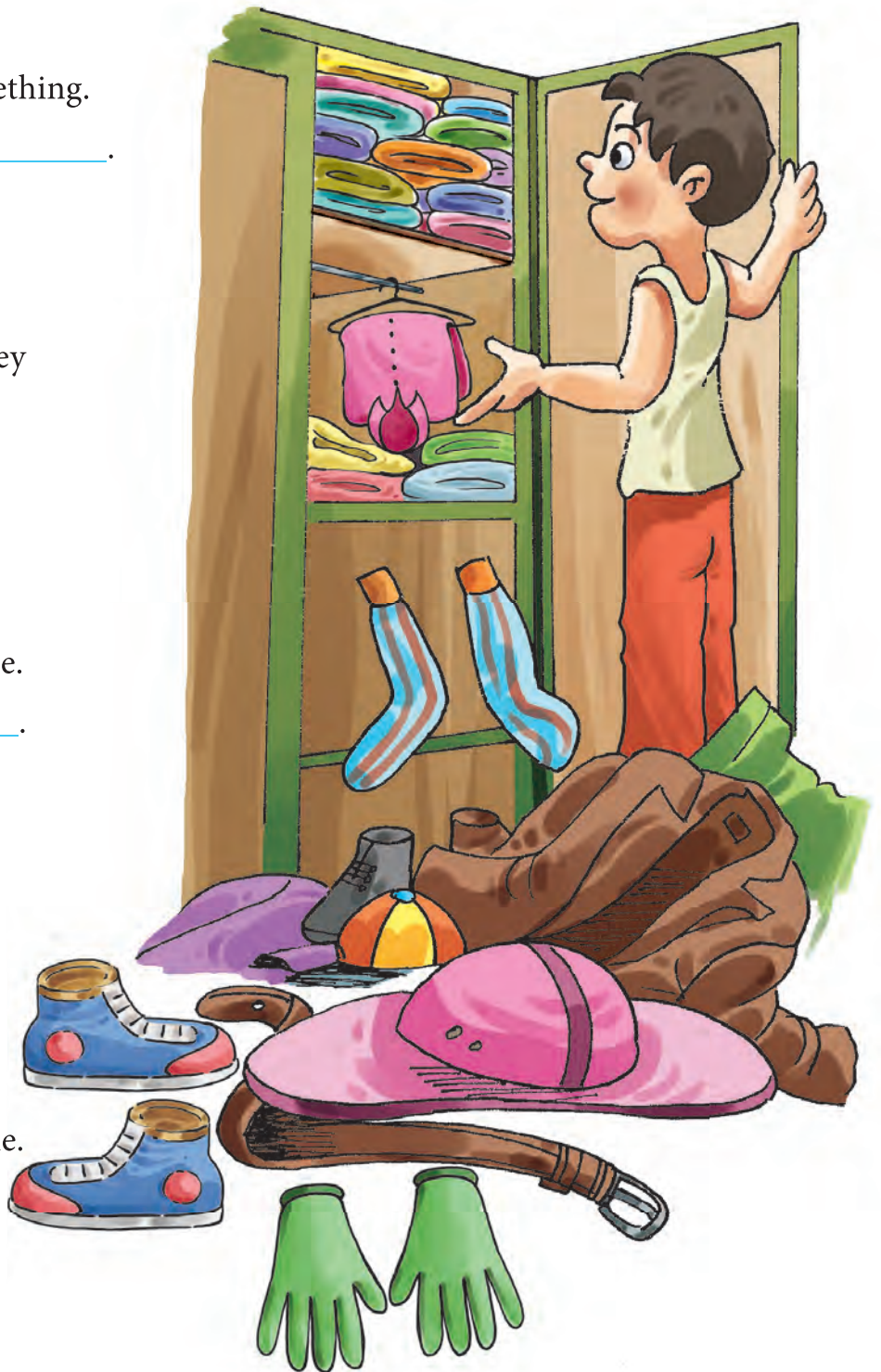
On a _____ string.

9. To be very close to someone.

Hand in _____.

10. To be a very young person.

In short _____.



▶ Know Your ABC....

The use of letters in different contexts lends a deeper understanding to one's mind. Write the correct meanings of the following phrases from the Help Box. One is done for you.

1. From A to Z

2. Dot your i's and cross your t's

3. Take a U-turn

4. Mind your p's and q's

5. Generation Z

6. Learn the ABC of

7. To catch Z's

to sleep.

8. Suit to a 'T'

9. A 'U' certificate

10. The three R's

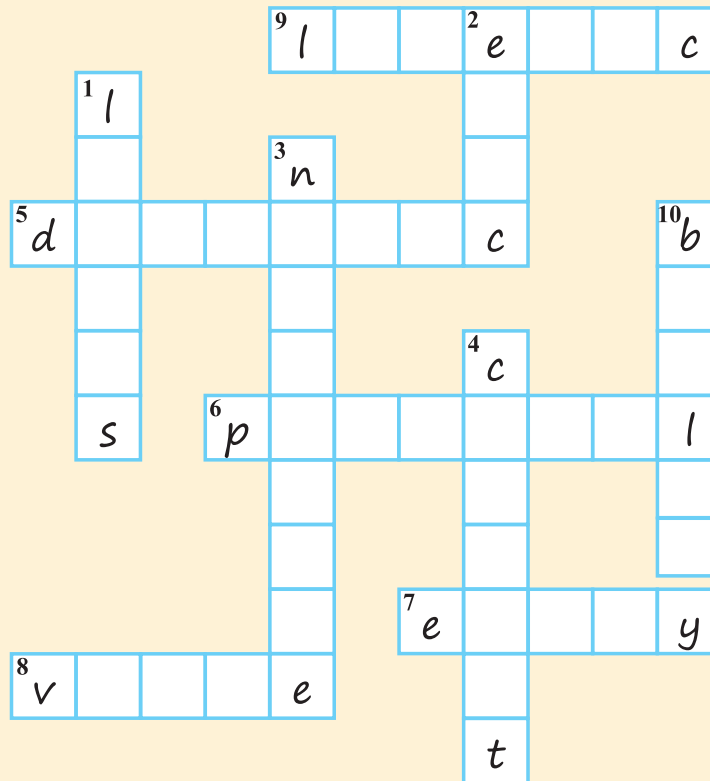
Help Box

- a. to know the very basics.
- b. to change one's decision.
- c. to do or know something very thoroughly.
- d. to be very careful and cautious.
- e. to be young or be in twenties.
- f. to perform a task completely and correctly.
- g. to sleep.
- h. to be universal - that can be viewed by all.
- i. to suit exactly.
- j. to know - reading, writing, arithmetic.



▶ Praising Poetry

Poetry is the heart and soul of any language. Complete the given crossword by using the clues provided.



Down ↓

1. words expressing feelings or thoughts which can be sung
2. long detailed poem describing brave acts
3. a poem that narrates a tale
4. couple of lines that rhyme together
10. a poem that can be sung like a song

Across →

5. shakespearean style of poetry
6. poetry based on nature (as by T.S. Eliot)
7. poem expressing sadness at death
8. stanza of a poem
9. five line funny poem

FIND OUT

Who is popularly called as the 'Poet of Nature'?

Dramatic Style

A play is written with different characters and their roles. It exhibits various shades of human emotions. Read the clues given below and unjumble the terms, related to drama. Write the answers in the space provided.

1. The main story or plan of the play –

l p o t



2. A raised platform for performance –

t s a g e



3. The actors in a play are called –

t h c a r a c e r s



4. The end point/stage of a play –

x l c i m a



5. A humorous play is a –

e c o m d y



6. A play depicting romance is –

t n r o m a i c



7. A sorrowful play is a –

r t a g e d y



8. The conversation among the actors forms –

s g o d i a l u e



9. The style of criticising a person or an idea is –

i s a t r e



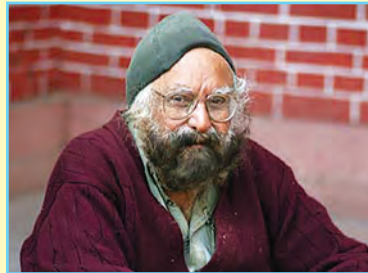
10. A person who writes plays is known as –

g l p a y w r i t



Fact File

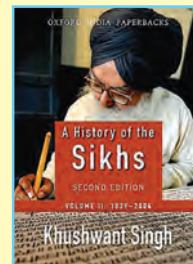
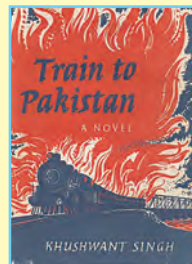
Khushwant Singh



(2 February 1915 – 20 March 2014)

- ▶ Khushwant Singh was a famous Indian novelist, journalist, lawyer and politician.
- ▶ Born in Hadali (Punjab), now in Pakistan, he studied Law at St. Stephen's college, Delhi and later at King's College, London.
- ▶ After working as a lawyer, he joined Indian Foreign Services in 1947, All India Radio in 1951 and UNESCO in 1956. Finally, he took up writing.
- ▶ His writing reflected real-life experiences. He was well-known for his wit, humour, sarcasm and poetic expression.

- ▶ His famous books are –
The Mark of Vishnu,
Train to Pakistan,
A History of The Sikhs,
Not A Nice Man to Know,
Delhi: A Novel,
I Shall Not Hear The Nightingale, etc.



- ▶ He was also the editor of the *Illustrated Weekly* and the newspaper, *Hindustan Times*. His humorous columns in various magazines and newspapers were very popular.
- ▶ He was honoured with 'Padma Bhushan' in 1974 and 'Padma Vibhushan' in 2007.
- ▶ Khushwant Singh, like a true writer, kept writing till the end of his life.

Test Your Wisdom

1. Read the given clues and answer them in one word.

- a. one who knows everything is known as _____
- b. in-born skill or talent is a _____
- c. a very religious person is called _____
- d. a good help or opportunity is _____
- e. one who is all powerful is called _____
- f. one who is present everywhere is _____

2. Write the two words that join together to form the following words.

- a. brunch = _____ + _____
- b. smog = _____ + _____
- c. email = _____ + _____
- d. camcorder = _____ + _____
- e. pixel = _____ + _____
- f. edutainment = _____ + _____

3. Match the columns.

A

- a. Bon Voyage →
- b. First and foremost →
- c. Sixth sense →
- d. Pull up one's socks →
- e. To catch Z's →
- f. Five line funny poem →

B

- ← (i) most important
- ← (ii) to sleep
- ← (iii) lymeric
- ← (iv) best of journey
- ← (v) to get ready for action
- ← (vi) to have an intuition

4. Complete the following analogy.

- a. (i) lexicographer : dictionary :: cartographer : _____
 (ii) calligrapher : _____ :: _____ : music
- b. (i) bachelor : spinster :: _____ : lass
 (ii) fiancé : _____ :: _____ : maid servant

5. Read the given hints carefully and form words that begin with 'sq'–

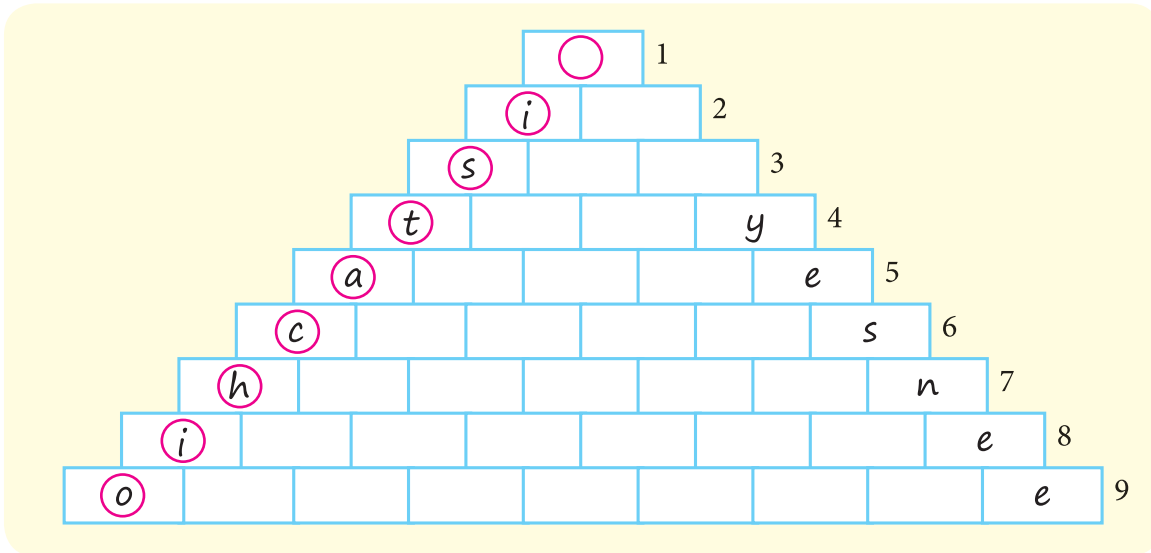
- a. a small group of policemen. s q
- b. a game played with a racket and a rubber ball. s q
- c. a shape having four sides. s q
- d. the noise made by a mouse. s q
- e. to exert pressure in order to extract juice. s q
- f. a furry animal. s q

6. Write the names of the objects which are associated with the following sounds.

- a. the ticking of a _____
- b. the screeching of _____
- c. the wail of a _____
- d. the banging of _____
- e. the honking of _____
- f. the jingle of _____



7. Complete the pyramid using the following clues. The number of letters forming the words are given on the right side.



- a. a letter to show parking
- b. the preposition used for things
- c. a title or word of respect for a man
- d. very small
- e. without company
- f. short form of champions
- g. line at which earth and sky appear to meet
- h. very close
- i. regular movement from side to side, between two limits

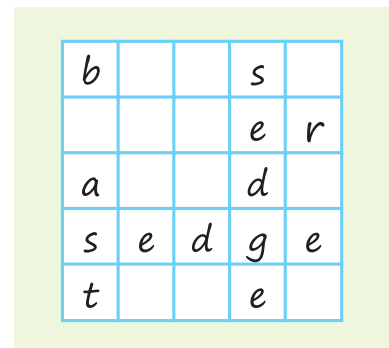


Now, read the encircled letters on the left that form a word.

Word formed : _____

8. Read the given clues and fill in the words in the Magic Square so that the same words can be read both across and down.

- a. Sound made by a bomb _____ .
- b. An important kind of light or beam _____ .
- c. By the side means _____ .
- d. A grass that grows near wet ground _____ .
- e. Green 'gifts' of nature _____ .



Heal with Herbs

Nature has provided us with numerous medicinal plants. They are often referred to as 'Green gold'. Since ancient times, plants have been used to treat ailments. Given below are the descriptions of a few such plants with their jumbled name in the boxes. Unscramble them to find out the name of the plant.

1. It is also known as 'Night shade'. It is used as sedative or antispasmodics. Modern day atropine is derived from this.

l	a	b	o	e	n	l	d	a



2. It is a perennial plant with aromatic leaves. It is well-known as a cooking spice with rich aroma and flavour. It improves digestion, beats bad breath, improves appetite, detoxifies the body and regularises heart beat.

m	a	m	c	o	r	a	d



3. It is regarded as a master healing plant, popularly known as 'Gwarpatta'. It is highly effective for treating burns, cuts and many inflammatory conditions of the digestive system. It also helps to restore bone growth and improve the delivery of nutrients in the body. Application of its gel on skin helps to control the ageing process of the skin.

l	e	a	o

a	r	e	v



4. It is also known as 'Fever grass'. It is a perennial plant with thin and long leaves. It has many medicinal properties like anti-inflammatory, antiseptic, antifungal, anti-bacterial, and anti-cancer and also used as analgesic and diuretics.

n	o	l	m	e

s	a	g	s	r



5. It is also known as 'Linseed'. It is a rich source of several vitamins and minerals. When mixed with water, it acts as a natural laxative and prevents constipation. It also helps to regulate blood sugar and cholesterol levels.

a	l	f	x

e	d	s	e



6. Its name comes from the peculiar odour of this herb which is like a sweaty horse. It stimulates immune system, inhibits inflammation, improves memory and reduces stress.

h	s	d	a	g	w	a	a	n	h



7. It is commonly known as 'Eye bright'. It is used in the treatment of eye problems, other infections and allergic conditions affecting eyes, middle ear, sinuses and nasal passage.

e	u	a	p	r	i	s	h	a



8. It is also known by different names, such as 'Reed gram' or 'Pigeon pea'. It is used for expelling worms (parasites) from the body. It helps to cure early stages of leprosy, ulcers of the mouth, tumours, bronchitis and vomiting. It is useful in obesity and rheumatism.

n	i	l	t	e	l



9. It is a biennial plant, commonly used as a spice. It is useful for preventing malaria, dysentery and other stomach disorders. It is also used to check leucodermas, and to improve taste and eyesight.

a	a	a	r	y	w	c



10. It is medicinally useful sweet root of a herb that commonly grows in sandy places near the sea. It is used as a remedy for peptic ulcers, sore throats, coughs, etc. It is also known by the name 'Honey stick'. It detoxifies and protects the liver.

l	i	r	o	i	c	c	e



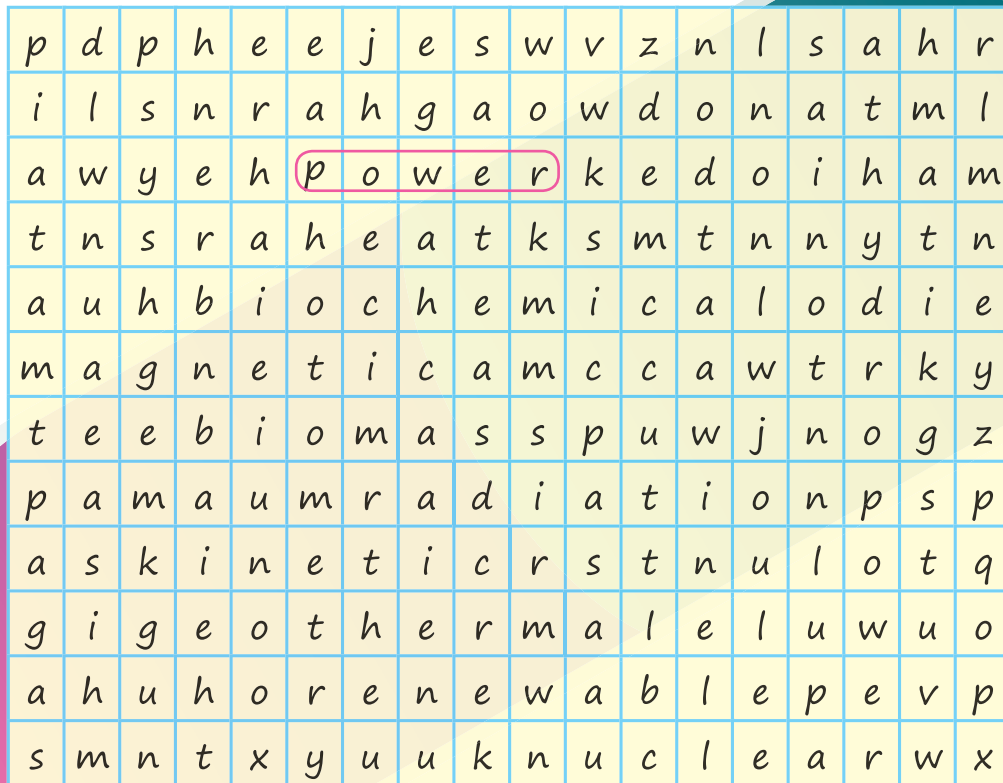
DO YOU KNOW?

The natural astringent and antibacterial properties of lemon juice are great for cleaning up skin, reducing appearance of scars and preventing pimples.



Energy Capsule

All living and non-living things are dependent on energy. Given below is the Energy Capsule containing various terms related to energy. Read the given clues and encircle the related terms within the capsule. One is done for you.



Clues:

- It is the amount of energy used every second and measured in watts.
[5-letter word →]

- It is the form of energy which is transferred between two bodies due to the difference in temperature.
[4-letter word →]

- It is the form of energy to which light energy gets converted into during the process of photosynthesis.
[11-letter word →]

4. It is the form of energy to which electrical energy gets converted into an electromagnet.
[8-letter word →]

5. It is the renewable form of energy which can be converted into biogas.
[7-letter word →]

6. It is the mode of transmission of heat energy from the sun to the earth.
[9-letter word →]

7. It is the type of energy possessed by flowing water which is used to turn a water wheel.
[7-letter word →]

8. This energy occurs in the form of steam and hot water that emerge from some places on the earth.
[10-letter word →]

9. The sources of energy that are also known as 'alternative sources' of energy.
[9-letter word →]

10. It is the expenditure of energy.
[4-letter word ↓]

11. The standard unit which is a measure of energy, released during the breakdown of food.
[7-letter word →]

12. It is the huge amount of energy, stored inside the nucleus of an atom, which can be liberated by two methods — fission and fusion.
[7-letter word →]

13. It is the power generated by constructing dams on the rivers which convert kinetic energy of flowing water into electrical energy.
[10-letter word ↓]

14. It is the standard unit of measuring energy.
[5-letter word ↓]

15. It is a branch of Physics dealing with the measurement of light energy.
[10-letter word ↓]

Chemistry Mystery

Many advances, both great and small, in the history of civilisation were preceded by the development in Chemistry. These advances are numerous and it is virtually impossible to spend even a single day without experiencing them. Given below are a few questions related to the role of chemistry in our lives. Tick (✓) the best option out of the four alternatives given.

1. What is the chemical name of the preservative that is added to preserve squashes for a long time?

potassium metabisulphide
 calcium metabisulphide
 sodium metabisulphide
 sulphur metabisulphide



2. Which fibre is cotton made up of?

polythene synthetic fibre
 rayon cellulose

3. What do soft drinks, such as colas contain in significant quantities?

caffeine nicotine
 tanin renin

4. Which iron-based alloy containing chromium and carbon is resistant to rusting?

steel pig iron
 chromium gun metal

5. Which precious metals, compounds are used in photography?

gold silver
 lead platinum


6. Which micro-elements are needed to increase soil fertility?

nitrogen, hydrogen, calcium
 nitrogen, phosphorous, potassium
 iron, calcium, potassium
 manganese, copper, zinc



7. Which is the most commonly used source of energy for cooking and lighting purposes in rural India?

biogas solar energy
 nuclear energy tidal energy

8. Which chemical is used to coat the tape of tape recorder?
 copper sulphate mica
 ferromagnetic powder zinc oxide
9. What is the composition of LPG (Liquefied Petroleum Gas)?
 methane, ethane and acetylene
 methane, propane and hexane
 methane, ethane and hexane
 butane, heptane and pentane
- 
10. Which acid does not contain oxygen?
 hydrochloric acid sulphuric acid
 nitric acid all of these
11. Which atomic rich mineral is largely found in India?
 uranium thorium
 radium none of these
12. Why is helium preferred to hydrogen in airships?
 it does not form explosive mixture with air it has greater lifting power
 it is cheaper it is less dense
13. Which acid is responsible for watering of eyes when we chop onions?
 hydrochloric acid hydrocyanic acid
 nitric acid sulphuric acid
14. Which of the following has the strongest bond?
 graphite limestone
 oxygen diamond
15. Which is the main chemical compound found in human kidney stones?
 uric acid calcium oxalate
 ammonium hydroxide calcium sulphate



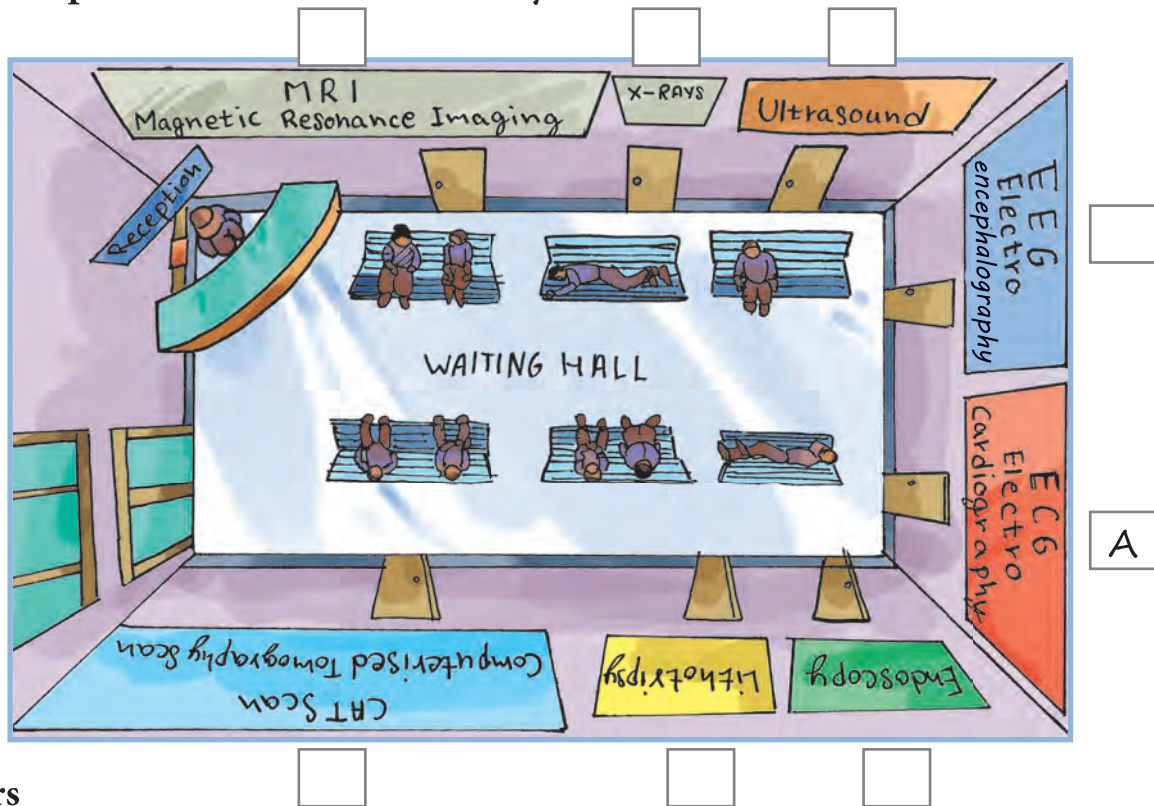
DO YOU KNOW?

Monosodium Glutamate (MSG), commonly known as 'Ajinomoto', is one of the main ingredients of Chinese food items as it enhances the flavour. Excessive intake of this ingredient can over stimulate the nerve cells and upset the balance of neurotransmitter. It also leads to problems like irregular heart beats, blood pressure, diabetes and even obesity.



Treatment Technologies

Given below is the layout of the hospital waiting hall showing the placement of various chambers or units where specific techniques of diagnosis and treatment are carried out. Read carefully the description and label each chamber according to the description. First one is done for you.



Chambers

- This technique is useful in ascertaining various disorders of heart functioning. It is a process of graphic recording of the heart's activity in the form of a wave pattern.
- This technique helps in diagnosing several neurological disorders, like epilepsy. In this technique, graphic recording of the electrical activity of neurons — the brain cells — is recorded.
- This technique is used to evaluate many internal organs, thus, detecting gall bladder stones, liver and kidney abnormalities and also monitoring foetal growth. In this technique high frequency sound waves are used (as in SONAR) for imaging the body organs. The pattern of reflected waves is converted into diagnostic information through a device called 'Transducer', that is, run over the area being imaged.
- This technique allows doctors to directly peep into the patient's body (only hollow organs like food pipe, wind pipe, bladder, intestine and uterus) using a sophisticated tool which consists of light emitting fibres, viewing lens and a steering device on one end. Besides viewing, surgical attachments on its end help in performing minor operations.

- E. This technique is important in the evaluation of head, chest, spine, organs of the abdomen, like liver, gall bladder, pancreas, kidneys, urinary bladder and also pelvis. It can also accurately depict abnormalities within the bone marrow, arteries, etc. This technique utilises the physical properties of magnetic fields, radio waves and computers to generate images of the body in any plane.
- F. This technique is used for imaging various body organs for evaluating the extent of trauma injuries and disease progression. It allows physicians to view wafer thin cross-sections of internal anatomy, all without the need of surgery. Imaging capabilities of the X-rays with highly sophisticated processing power of computers are used for accomplishing this task.
- G. This technique helps in the crushing of certain types of kidney stones and stones of other organs like gall bladder or liver by shock waves. It does not require surgery. It is simple, short procedure of about 45 minutes to one hour that requires no formal hospitalisation.
- H. This technique is the oldest and the most frequently used form of medical imaging. It uses a very small dose of ionising radiation to produce pictures of body's internal structures. It is often used to help diagnose fractured bones, look for injury and to locate foreign objects in soft tissues.



DO YOU KNOW?

- PET – Positron Emission Tomography is a modern non-invasive imaging technique that uses a radioactive drug (tracer) to create images of body function and metabolism. The tracer may be injected, swallowed or inhaled, depending on which organ is being studied by the PET scan.
- Mammography – It is a specific type of breast imaging that uses low-dose X-rays to detect cancer early (before women experience symptoms).

Major Endocrine Glands

A. Endocrine System, also known as Hormonal System, is a group of endocrine glands which produce various hormones that help in coordinating the activities of our body. These glands are located in different parts of our body. Let us know more about the major endocrine glands, their hormonal secretions and functions by completing the given table.

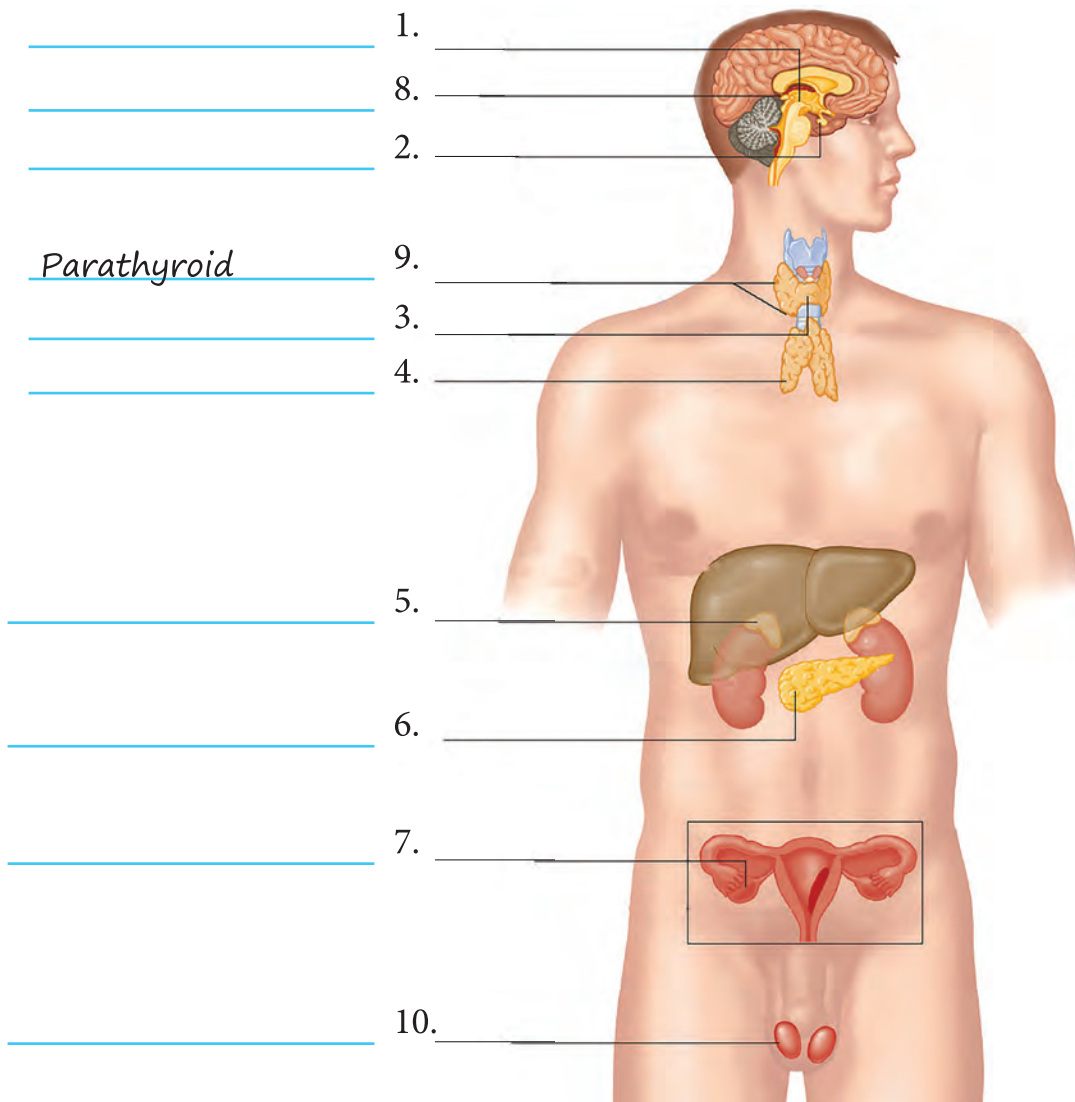
S.No.	Gland	Hormone Secreted	Function
1.	Hypothalamus	Releasing and inhibiting hormones	Controls the pituitary hormones
2.	a. _____	b. • _____ hormone • Trophic hormone	• Controls the growth of human body. • Regulates the secretion of hormones from other endocrine glands
3.	Pineal	c. _____	Controls mood and sleep.
4.	d. _____	Parathormone	Regulates calcium and phosphate levels in the blood.
5.	Thyroid	e. _____	f. Controls rate of _____
6.	g. _____	Thymosin	Regulates formation of lymphocytes, provides resistance to infection and allergy.
7.	Adrenal	h. _____ and _____	Regulates heart beat, breathing rate, blood pressure, carbohydrate metabolism and mineral balance.
8.	i. _____	Insulin and j. _____	k. Lowers _____ • Increases the blood glucose.
9.	Ovaries	l. _____ • Progesterone	• Controls the development of female sex organs and female features. m. Helps in _____

10.	n. _____	Testosterone	<ul style="list-style-type: none"> Controls the development of male sex organs and male features.
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Help Box

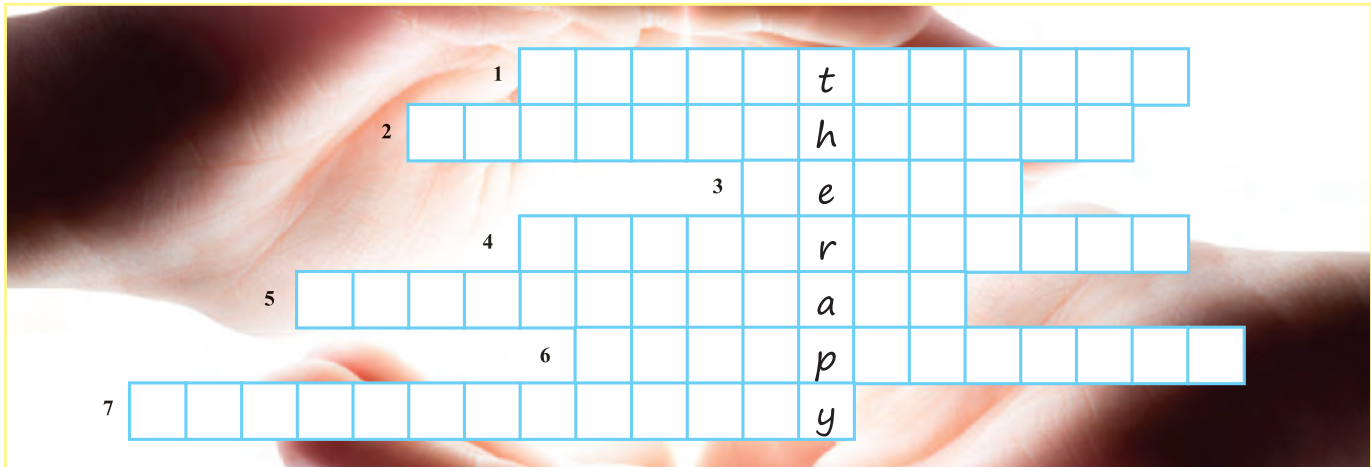
growth	glucagon	pituitary	blood sugar
melatonin	parathyroid	pancreas	estrogen
metabolism of carbohydrates, fats and proteins	thyroxine	adrenaline and corticoids	maintenance of pregnancy
thymus		testes	

B. In the diagram of human body below, identify and label the endocrine glands.



Spectrum of Therapies

These days various forms of healing are practised which can cure a person without any side effects. Find out the names of some such therapies by completing the puzzle on the basis of the clues given below.



1.
 - This technique is based on the skilled and controlled use of plant essences and essential oils.
 - These oils are extracted from different parts (flowers, leaves, stems roots, seeds, etc.) of a plant possessing healing qualities.
2.
 - This technique involves the practice of spending time with a trained therapist to help diagnose, and treat mental and emotional problems.
 - It aims to improve an individual's well-being, to resolve troublesome behaviours, beliefs and thoughts, to improve relationships and social skills.
3.
 - This technique is based on the application of universal life force energy. In this, the practitioner places his hand upon the person to be healed to make the energy flow, which is capable of healing anything.
 - It is a Japanese system of natural healing.
4.
 - This technique involves the use of finger pressure on specific points along the body. It is a way of accessing and releasing blocked energy centres in the body to fight illness and restore harmony.
 - It is an ancient Chinese technique.
5.
 - This technique uses injections of natural substances, such as dextrose, glycerin and phenol in order to stimulate the growth of connective tissue.

- It is used to treat degenerative arthritis, lower back pain, torn ligaments and cartilage.
6. • This technique involves insertion of fine needles at specific points in the body to stimulate, disperse and regulate the flow of vital energy and to restore a healthy energy balance.
- It originated about 2,500 years ago in China.
7. • This technique involves a form of gentle exercise composed of movements, that are repeated a number of times, often stretching the body, increasing fluid movement.
- It is China's 3,000 years old system of self-healing.



DO YOU KNOW?

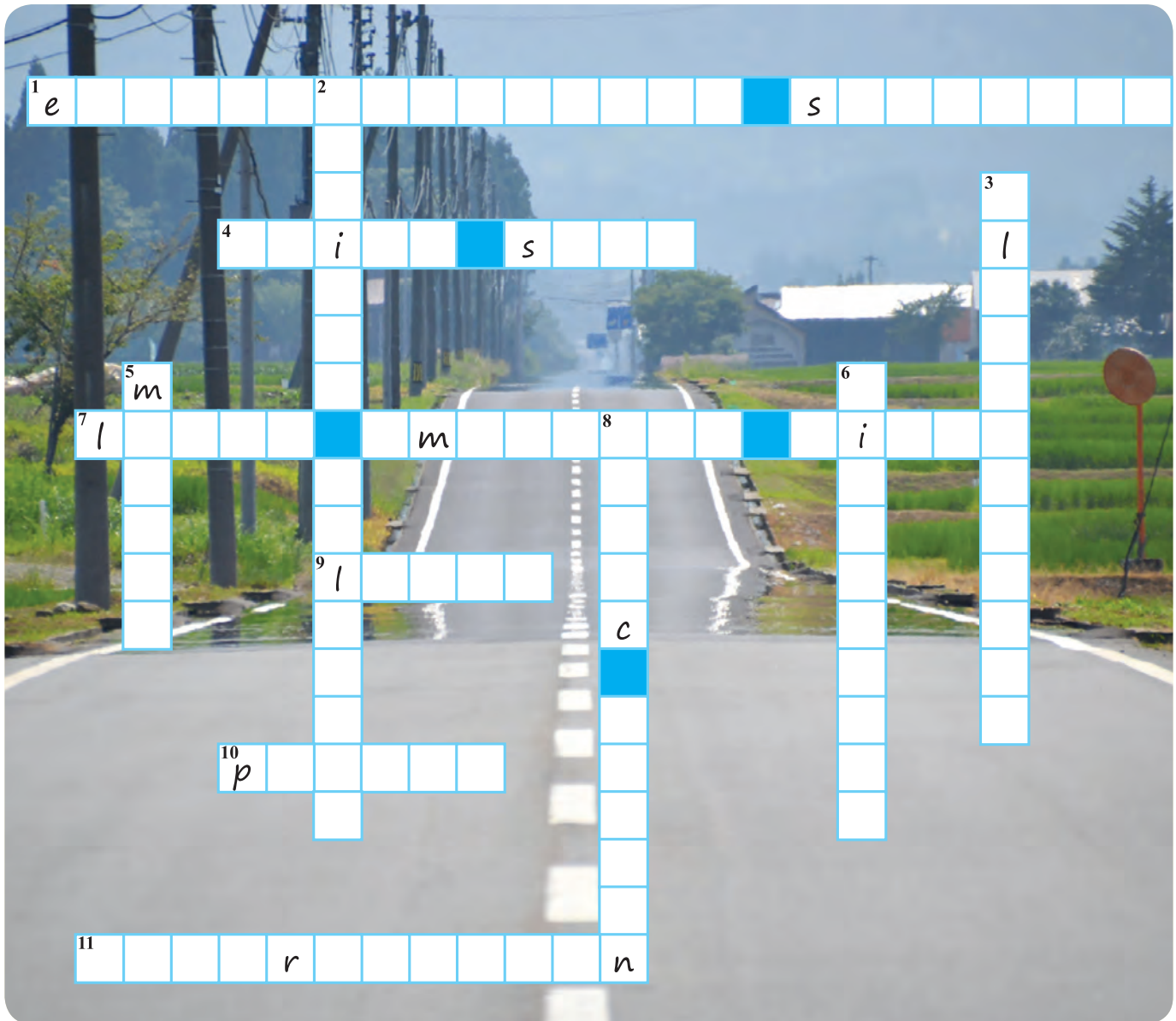
- Once a French chemist, Rene Maurice Gattefosse in 1920, was working in his lab. Accidentally, he burnt his hand and more out of reflex than reason, he immediately immersed his hand in a vat of pure lavender oil. To his immense surprise, there was an immediate cooling effect and also oil healed his hand without any blister or scar. This motivated him to pursue research for other possible therapeutic effects of essential oils and hence, originated aroma therapy.
- In water therapy, hot water is avoided and cold water is used for treatment. A short cold water application acts as a tonic while an extended application acts as a depressant. Cold water is restorative, re-energising and helps build resistance to diseases.

FIND OUT

Many alternative treatments are attractive because of their novelty or style. It must always be remembered that a few offer any genuine scientific evidence for their effects, and most are suspected in conventional medical eye. Try to find out scientific logic behind these treatments. You can consult a specialist of each area.

Miracles of Light

Light is something we see and use every day, but do not often think about. Many years ago, light was described as the opposite of darkness. But today, light is considered as a form of energy that radiates rays. Let us now solve the crossword puzzle on light using the clues given below.



Across →

1. It is the complete range of Electromagnetic waves. It includes radio waves, microwaves, ultraviolet waves and the colours of rainbow which we can see through only this part of spectrum.

4. It is the point where optic nerve is attached to the retina, and no image is formed.
7. This device changes electrical energy into light energy and gives out light when current flows through it. It is small, consumes very less power and lasts longer than filament lamps.
9. It is a device that produces a narrow beam of intense light. It was invented in 1960 and in recent times, it is used in medical fields to vaporise tumours.
10. It is an elementary particle of light. It is massless and has no electric charge.
11. It is the process of transforming unpolarised light into polarised light.
(Polarised light waves are the light waves in which the vibrations occur at a single plane.)

Down 

2. This phenomenon can use colour, light and patterns to create images. The information gathered by an eye is processed by the brain, which creates a perception that, in reality, does not match the true image.
3. It is the phenomenon due to which some chemicals absorb UV light and then release energy as visible light.
5. It is a false image (of a distant object) which is formed when light is refracted in a curved path. This happens as light travels more quickly through warmer air near the ground than it does through the cooler air above. It is commonly seen in deserts.
6. It is an optical instrument that uses a lens or a combination of lenses to produce magnified images of small objects, especially of objects, too small to be seen by an unaided eye.
8. He is a famous English scientist who found that when a narrow beam of sunlight is passed through a triangular prism, white light splits into multi-coloured beam (spectrum). When he passed the coloured spectrum through another triangular prism, he could produce white light.

Great Scientists

The credit of our country's progress and development goes to hard work, dedication and intelligence of our scientists to a large extent. Given below in Column A are the contributions of some of the leading scientists and in Column B, are their names. Match the contribution with the correct name.

A

B

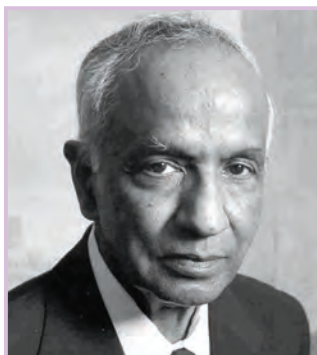
1. He was an Indian-American biochemist who received the Nobel Prize for Physiology in 1968 for interpretation of the genetic code and its function in protein synthesis.
2. He was an Indian physicist born in Tamil Nadu. In 1930, he was honoured with Nobel Prize in Physics for his work on scattering of light and for the discovery of the Raman Effect.
3. He was India born US physicist who was awarded the Nobel Prize for Physics in 1983 for his work on astrophysics.
4. In 2009, he was awarded the Nobel Prize for chemistry for the study of structures and functions of the ribosomes.

V. Ramakrishnan

Subrahmanyam
Chandra Sekhar

Har Gobind Khorana

C.V. Raman



A

5. In 1975, India's first satellite 'Aryabhata' was launched under his guidance.

6. He was an eminent Indian scientist, also known as the 'Father of Indian Pharmaceuticals'. He invented mercurous nitrite and also extracted several of its derivatives.

7. He was an Indian ornithologist and naturalist popularly known as the 'Birdman of India'. He was awarded the Padma Bhushan in 1958 and the Padma Vibhushan in 1976.

8. A renowned Indian nuclear physicist who is regarded as the 'Father of Nuclear Programme' of the country. He was the founding director of two research institutions — Tata Institute of Fundamental Research (TIFR) and Bhabha Atomic Research Centre.

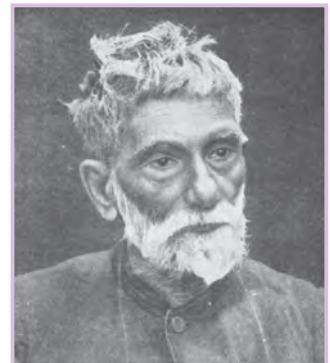
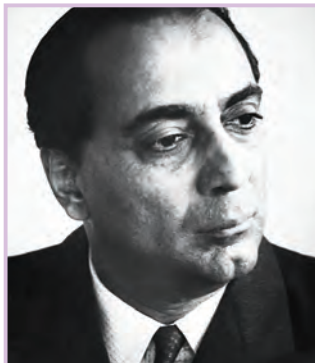
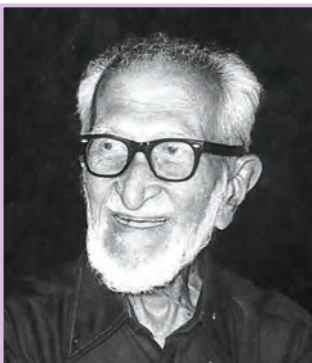
B

Salim Ali

Homi Jehangir Bhabha

Vikram Sarabhai

Prafful Chander Ray



Close Encounter with Planets

With the advent of space age, many fascinating facts related to the mysterious planets have appeared before us. Given below are a few facts regarding the Giant planet and Red Planet. Read carefully the given statements and fill in the blanks with appropriate answers from the Help Box.

A. Jupiter (Brihaspati)

1. Jupiter is the _____ planet from the Sun.
2. Jupiter takes _____ earth years to complete one orbit.
3. Jupiter is the largest planet in the solar system. Its diameter is _____ km.
4. Jupiter is so big that _____ Earths could fit within its volume.
5. Jupiter, despite its massive size, is only _____ times heavier than Earth because of its density.
6. A day on Jupiter is just _____ hours and 50 minutes long making it the shortest day in the solar system.
7. Jupiter has _____ known moons. It has four major moons which are collectively known as the Galilean Moons. Its _____ moon is the largest in the solar system.
8. An year on Jupiter lasts for almost _____ days.

Help Box

9

11.86

318

13,000

67

Ganymede

fifth

10,400

1,42,800



B. Mars (Mangal)

1. Mars is the _____ planet from the Sun. It is named after Mars, the Roman god of war.
2. The period of revolution of Mars around Sun is _____ earth days.
3. The diameter of Mars is _____ km.
4. The surface gravity of Mars is about _____ % of the gravity found on Earth.
5. The average temperature on Mars ranges widely from _____ K (at the winter pole) to _____ K (on the day side during summer).
6. Mars has seasons like the Earth has, but they last _____ as long. This is because Mars is tilted on its axis by about 25.19°.
7. Mars has two moons, _____ and _____ which were discovered in 1877 by an American astronomer Asaph Hall.
8. The atmosphere of Mars is about _____ times thinner than the Earth and it has _____ % carbon dioxide.

Help Box

687
twice
150
95
Phobos
100
fourth
310
6,787
38
Deimos



DO YOU KNOW?

The Kuiper belt is a circumstellar disc in the Solar System beyond the planets. It extends from the orbit of Neptune and is 20 times wider than Asteroid belt. It is largely composed of frozen volatiles like methane, ammonia and water. Dwarf planets like Pluto and Haumea also lie in this belt.



Plant Diseases

Plant disease is defined as the abnormal growth of a plant. Different plants are susceptible to different microorganisms that can cause diseases. Read the given information about some common plant diseases. Identify the disease and write the correct answer in the space provided. You can take help from the Help Box.

1. It is a physiological disease which is usually seen on tomatoes planted in cold, heavy soils as they have poorly developed root system. It appears as a dark spot at the blossom end of the fruit. The skin of the affected area becomes black and leathery.

o o e o



2. This is a fungal disease which appears as roundish, black spots with fringed margins on rose leaves. The infected leaves turn yellow and fall from the plant. The optimal conditions for the disease to develop are temperature ranging 75°F – 85°F and high relative humidity.

a o



3. It is a fungal disease affecting large flowered clematis hybrids. The leaves turn black and leaf veins develop a purple colouration. This is followed by discolouration and wilting of the stem.

e a i



4. This is a fungal disease mostly seen on roses, tomatoes and cucumbers. Environment with high humidity and moderate temperatures favours this disease. Infected plants display white powdery spots on leaves and stems.

o e l e



5. It is a fungal disease usually found on grasses. It is usually found from early summer till autumn, when soil moisture is low. Affected grasses show white or straw coloured lesions across the grass blades. As the blades begin to die, the area enlarges until there are dead circles, 2-3 inches, in diameter.

o a o



6. This is a highly destructive disease of grapevines where there is spring and summer rainfall at temperature above 10°C. The leaves get yellow spots with an oily appearance and eventually the entire leaf turns yellow. Spots appear between veins on the leaves and the plant dies very quickly once attacked.

o l e



7. This is a fungal disease that usually attacks ornamental and fruit trees. It occurs often in mild and moist conditions. Dry, reddish orange blister-like swellings are usually found on the underside of leaves. In some cases, plant growth and productivity get reduced, while in others, the plants wither and die.

u



8. This is a horticultural disease which attacks seedlings as they emerge. It thrives in wet, poorly drained and cool soils. The affected seedlings discolour, wilt and collapse.

a i o



9. It is a bacterial disease affecting pears, apples and raspberry in the spring season. Blossoms and leaves suddenly turn brown or black, but they usually stay attached to the plant. Young twigs and branches die from the terminal end and appear deep rust coloured.

i e i



10. It is a fungal disease that affects peach and almond trees. Symptoms appear in the spring season as reddish areas on developing leaves. These become thick causing leaves to curl and distort.

e a u



Help Box

Powdery mildew	Damping off	Dollar spot	Black spot	Downy mildew
Leaf curl	Blossom end rot	Rust	Fire blight	Clematis wilt

▶ Hydro Puzzle

There are many terms in science, with 'Hydro' as their prefix. Given below are a few statements, answers to which are the terms prefixed with 'Hydro'. Read these statements carefully and write the answers in the space provided. You can take help from the Help Box.

1. A compound of hydrogen and carbon. _____
2. A highly poisonous volatile liquid having an odour of bitter almonds. _____
3. The process of generating electricity by the utilisation of water. _____
4. A gel in which liquid component is water. Hydrogel
5. A colourless gaseous element, without taste or odour. It is the lightest of the elements which occur in water and all organic compounds. _____
6. A chemical reaction of a substance with water usually resulting in decomposition.

7. An instrument for measuring the density of liquids. _____
8. It is the term used to describe - 'having an affinity for water'. _____
9. A microphone to detect sound waves in water. _____
10. The action of heated water on the earth's crust. _____
11. Tendency of plant roots to turn towards the moisture. _____
12. Accumulation of fluid in the brain, especially in young children, which enlarges the head and can cause mental handicap. _____

Help Box

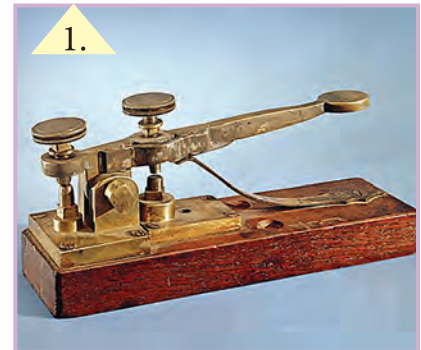
H Y D R O

carbon	meter	cephalus	cyanic acid
electric	philic	tropism	phone
thermal	gel	lysis	gen

▶ Important Inventions

Today's conveniences come from great inventions of the past. These inventions have changed the way of our lives. Read the given information about some of the inventions. Identify the invention and write the correct answer in the space provided.

1. It is a communication system in which information is transmitted over a wire through a series of electrical current pulses, usually, in the form of Morse code. The basic components include a source of direct current, a length of wire or cable, and a current-indicating device, such as a relay, buzzer, or light bulb.



2. This machine is used to harvest grains like wheat, rye, barley, oats, corn, flax and soyabeans. Instead of using separate machines for reaping, threshing and winnowing the grain, it combines all these functions into one machine.



3. It was designed by Johann Zahn in 1685. It is a hardware device that takes photographs and consists of a lightproof box with photosensitive film or plate within the box. When a picture is taken, its shutter opens and closes, exposing the photosensitive film with light recording the image onto the film.



4. In 1942, German scientist Wernher von Braun led the team to produce this vehicle, which was 14 metres long and 1.65 metres in diameter. It made its first successful test flight from Peenemunde, Germany across the Baltic Sea. In five minutes, it travelled a distance of 187 kilometres and reached the maximum altitude of about 80 kilometres.



5. It was invented in 1921 by John Augustus Larson. Popularly referred to as a lie detector, it measures and records several physiological indices, such as blood pressure, pulse, respiration and skin conductivity while the subject is asked and answers a series of questions. The principle behind the working of this machine is that deceptive answers will produce physiological responses that can be differentiated from those associated with non-deceptive answers.



6. The first modern coin-operated machine was introduced in London, England in the early 1880s, dispensing postcards. The machine was invented by Percival Everitt in 1883 and soon became a widespread feature at railway stations and post offices, dispensing envelopes, postcards and notepaper. Now-a-days, it is commonly used to dispense beverages and snack items.



7. Charles G. Pravaz and Alexander Wood were the first to develop this in 1853. This word is derived from the Greek word 'syrinx' meaning 'tube'. It was first used to inject morphine as a pain killer. It has a fine needle to pierce the skin and a simple pump consisting of a plunger that fits tightly into a cylindrical tube. The plunger can be pulled and pushed along inside the tube, allowing a liquid to flow through the opening at the end of the tube.



8. This instrument uses a beam of accelerated electrons as a source of illumination. As the wavelength of an electron can be up to 100,000 times shorter than that of visible light photons, it has a higher resolving power and can reveal the structure of smaller objects.



Vital Vitamins

Vitamins are the organic compounds which are needed in small quantities to sustain life. We need to take vitamins through food because the human body either does not produce enough of them or none at all. Read carefully the description of some vitamins in the given table and complete the remaining information.

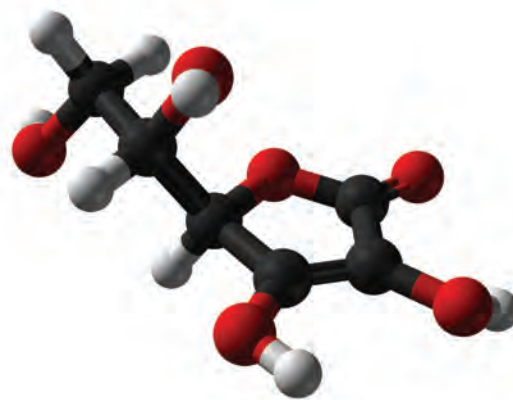
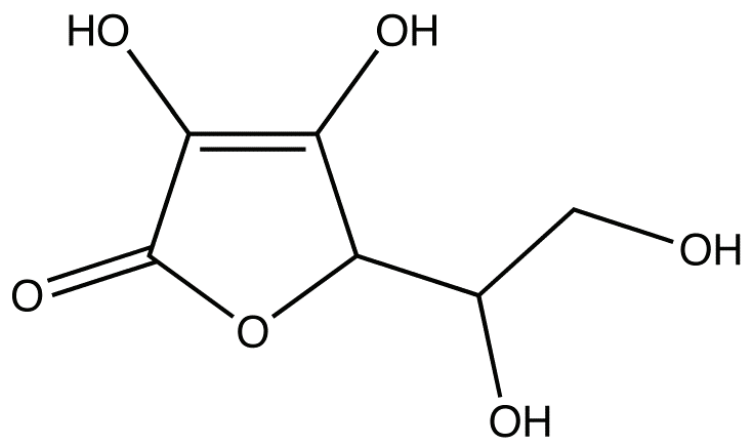
S. No.	Vitamin	Chemical Name	Nature (Water or Fat Soluble)	Functions	Deficiency Disease or Symptoms
1.	Vitamin B1	a. _____ _____	Water soluble	<ul style="list-style-type: none"> For body functions, including nervous system and muscle function. Carbohydrate metabolism 	b. _____ _____
2.	a. _____	Folic acid	Water soluble	<ul style="list-style-type: none"> For synthesis and repair of DNA and RNA. To produce healthy red blood cells. 	b. _____ _____
3.	Vitamin C	a. _____ _____	b. _____ _____	<ul style="list-style-type: none"> For synthesis of collagen, an important protein used to make skin, cartilage, tendons, ligaments and blood vessels. Needed for repairing and maintaining healthy bones and teeth. 	c. _____ _____
4.	a. _____	Riboflavin	b. _____ _____	<ul style="list-style-type: none"> Crucial for breaking down food components and absorbing other nutrients. 	Ariboflavinosis
5.	Vitamin D	a. _____ _____	b. _____ _____	<ul style="list-style-type: none"> To maintain normal blood levels of calcium and phosphorus. Helps the body absorb c. _____ which forms and maintains strong bones. 	Rickets

6.	a. _____	b. _____	Fat soluble	<ul style="list-style-type: none"> • For normal functioning of the visual system. • Cell growth and development. • Healthy skin. 	Night blindness
7.	Vitamin B3	a. _____	Water soluble	<ul style="list-style-type: none"> • For proper functioning of the nervous system and brain. • Lowers cholesterol levels and control them. 	b. _____
8.	a. _____	Phylloquinone	Fat soluble	<ul style="list-style-type: none"> • Plays an important role in blood clotting. • Prevents heart disease. 	b. _____
9.	Vitamin B6	a. _____	b. _____	<ul style="list-style-type: none"> • Helps body to maintain a healthy nervous system. • Makes haemoglobin that carries oxygen in red blood cells throughout the body. 	<ul style="list-style-type: none"> • Poor growth • Kidney stones • Depression • General fatigue • Dizziness • Nerve problems
10.	a. _____	Tocopherol	b. _____	<ul style="list-style-type: none"> • Acts as an antioxidant to slow down processes that damage cells. 	<ul style="list-style-type: none"> • Poor transmission of nerve impulses • Muscle weakness • Weakened immune system
11.	Vitamin B12	a. _____	b. _____	<ul style="list-style-type: none"> • Maintains healthy nerve cells. • Helps in the production of DNA and RNA, the body's genetic material. 	c. _____

12.	a. _____	Pantothe- nic acid	b) _____ _____	<ul style="list-style-type: none"> Plays an important role in the utilisation of fats and carbohydrates in energy production. Helps in manufacturing of adrenal hormones and red blood cells. 	<ul style="list-style-type: none"> Fatigue Insomnia Depression Irritability Upper respiratory infections
13.	Vitamin B7	a) _____ _____	b) _____ _____	<ul style="list-style-type: none"> For the metabolism of carbohydrates and fats. For healthy metabolic, nerve, digestive and cardiovascular functions. 	<ul style="list-style-type: none"> Impaired growth and neurological disorders in infants. Inflamma- tion of the intestines.

FIND OUT

Citrus fruits are a rich source of Vitamin C. Vitamin C was discovered by Albert Szent-Gyorgyi in 1930s. Its structure is as follows—



Formula is - $C_6H_8O_6$

Try to find out the structure and formula of other vitamins.

Surrounded by Sound

- A. Sound surrounds us all the time. The buzzing of an alarm clock or the chirping of birds may awaken us in the morning. Sound is the vibration that travels through the air or another medium and can be heard when it reaches a person's or animal's ear. Find out a few terms related to sound by reading the clues given below. One is done for you.

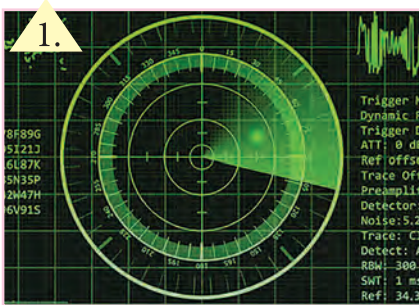
e	c	o	h	p	q	s	d	i	f	f	o	p
u	l	t	r	a	s	o	u	n	d	d	m	b
r	p	g	k	d	b	n	a	o	l	i	n	e
d	t	s	c	n	j	i	g	a	m	f	h	a
a	o	a	f	d	b	c	y	p	a	f	z	t
d	b	q	g	e	a	b	u	o	s	r	x	s
f	h	a	l	t	t	o	k	i	d	a	c	s
g	e	r	k	l	g	o	e	u	f	c	v	a
i	c	y	b	y	a	m	r	y	g	t	b	i
l	h	i	r	e	f	r	a	c	t	i	o	n
y	o	j	v	u	r	a	e	t	h	o	n	r
d	d	h	t	h	y	r	u	f	j	n	m	f
t	h	r	n	f	j	y	i	r	f	z	l	t
d	o	p	p	l	e	r	e	f	f	e	c	t
u	l	q	s	o	k	l	h	w	l	x	c	o
i	p	t	r	n	l	o	u	q	o	c	j	t
r	e	v	e	r	b	e	r	a	t	i	o	n
s	o	u	l	t	r	p	a	i	l	g	h	l

Clues-

1. This is the phenomenon of the bending of sound waves around obstacles, or the spreading of waves by passing through an aperture. [11-letter word ↓]
2. It is a sound with frequencies above the range of human hearing. Dogs and cats are sensitive to this sound. It aids in the diagnosis of tumours, gall stones, heart disease and other disorders. At some frequencies, it can produce enough energy to weld certain metals. [10-letter word →]
3. It is a loud sound which is caused by shock waves created by any object that travels through the air faster than the speed of sound. It creates huge amounts of sound energy. When an object moves through the air, it makes pressure waves in front of and behind it. [9-letter word ↓]

4. This phenomenon causes an increase (or decrease) in the frequency of sound waves as the source and the observer move towards (or away from) each other. This results in the apparent change in pitch produced by moving objects. [13-letter word →]
5. It is a phenomenon which involves a change in the direction of waves as they pass from one medium to another. This bending of the path of waves is accompanied by a change in speed and wavelength of the waves. [10-letter word →]
6. This is the repetition of original sound when a person shouts into a well. This happens because the sound waves reflect from the bottom of the well and travel back to the person's ears. [4-letter word ↓]
7. This phenomenon is created when a sound or signal is reflected causing a large number of reflections to build up and then decay as the sound is absorbed by the surfaces of objects in the space like furniture, people etc. This happens when the sound source stops, but the reflections continue decreasing in amplitude, until they reach zero amplitude. [13-letter word →]
8. These are the periodic variations of loudness which are produced when two sound waves of different frequencies approach our ears. As a result, we hear a single sound that gets louder and softer at regular intervals. [5-letter word ↓]

B. The devices and instruments shown below use sound waves. Identify and name them.













Fact File

Robotics

- ▶ A robot is an electronically controlled programmable mechanical device capable of carrying out a complex series of actions automatically.
- ▶ The branch of technology that deals with the design, construction, operation and application of robots as well as computer systems for their control is known as **Robotics**.
- ▶ The word 'robot' was first used in 1921 by Czech playwright Karel Capek in his play *R.V.R. (Rossum's Universal Robots)*. The play involved a factory that produced artificial people to be servants for humans.
- ▶ In 1926, *Metropolis* became the first movie to portray a humanoid robot on screen.
- ▶ The first electronic autonomous robot was created by William Grey Walter at Bristol, England in 1948.
- ▶ The first digital and programmable robot was invented by George Devol in 1954 and was named 'Unimate'. In 1961, General Motors installed this robot to work in a factory to lift pieces of hot metal.
- ▶ In 1966, the first autonomous intelligent robot was invented at Stanford. It was named 'Shakey'. It made its own decisions about how to behave.
- ▶ Robots can be guided by an external control device or the control may be embedded within.
- ▶ Some popular robots are—



Shakey—the robot

Name	Made by	Height
QRIO	Sony	61 cm
HRP	Kawada industries	1.5 m
ASIMO	Honda	1.2 m

Test Your Wisdom

1. Fill in the blanks.

- The phenomenon of the bending of sound waves around obstacles is known as _____ .
- _____ gland secretes insulin which lowers the glucose level in blood.
- Deficiency of thiamine in our diet can cause _____ disease.
- _____ is a biennial plant and is used as a spice. It is also used to check leucoderma.
- The chemical reaction of a substance with water resulting in decomposition is known as _____ .

2. Match the following.

A	B
a. <u>SI unit of Energy</u>	(i) 1975 _____
b. <u>Affinity for water</u>	(ii) Calcium oxalate _____
c. <u>Vitamin D</u>	(iii) Joule _____
d. <u>Human Kidney stones</u>	(iv) Fat soluble _____
e. <u>Aryabhata satellite</u>	(v) Hydrophilic _____

3. State whether the following statements are True or False.

- Camera was designed by the German scientist Wernher von Braun in 1685.
- Adrenal glands are located on the top of two kidneys.
- Aloe Vera is regarded as the master healing plant.
- Hydrogen is preferred to helium in airships.
- Dollar spot is a fungal disease which is usually found on grasses.

4. Replace the underlined words with the correct one.

- a. The repetition of original sound when sound waves get reflected from a surface is called Ultrasound.
- b. Vending Machine is a lie detector machine.
- c. Deficiency of Vitamin A causes Pellagra.
- d. Fever grass helps to regulate blood sugar and cholesterol levels.
- e. Endoscopy technique is used to detect disorders of heart functioning in the form of wave pattern.

5. Expand the following abbreviations.

- a. GMO —
- b. AIDS —
- c. UHF —
- d. AMU —
- e. TNT —

6. Find out the important events or days and complete the table.

Event	Date
a. World Aids Day	<input style="width: 150px;" type="text"/>
b. <input style="width: 150px;" type="text"/>	April 7
c. National Science Day	<input style="width: 150px;" type="text"/>
d. World Environment Day	<input style="width: 150px;" type="text"/>
e. <input style="width: 150px;" type="text"/>	September 16

7. Unjumble the letters to find the names of branches of science.

a. Branch of science concerned with the chemical processes that occur within the living organisms. s h b e t i m i o r c y

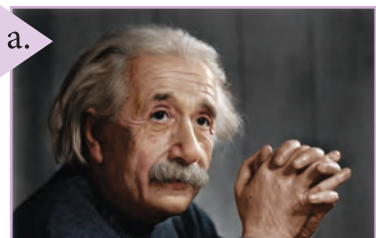
b. Science dealing with the selective genetic improvement of human race. i u n e s c g e

c. Study of the earth's features with the help of the theories of physics in areas like gravity, magnetism, electricity, light, sound and heat. s o s g p i y e c h

d. Legal science used in crime detection. c o n f s i r e c n s e i e c

e. Branch of science which links information technology and biotechnology. a t i n c b o i s f o r m i

8. Given below are the pictures of some eminent scientists and their famous quotes. Identify and name them.



a. *"Imagination is more important than Knowledge."*



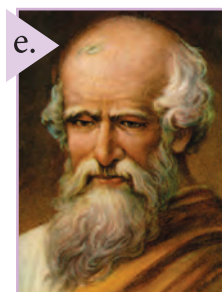
b. *"One thing my pea plants taught me: always do science with things you can make into a soup."*



c. *"All truths are easy to understand once they are discovered; the point is to discover them."*



d. *All are equal
"We must be treated as equals, and communication is the way we can bring this about."*



e. *"Give me a fulcrum and a place to stand, and with a lever I will move the Earth."*
