

## WHAT IS IQ?

### Intelligence Quotient

Intelligence Quotient is a measure of one's intelligence. Listed below are the thirteen different mental abilities that together comprise a person's intelligence.

#### Arithmetic

Solving many problems requires the ability to add, subtract, multiply, and divide numbers mentally. Many mental tasks require arithmetical operations and concepts even though numbers may not be involved, and thus number manipulation abilities can be a strong indicator of general intelligence.

#### Algebraic Ability

This is the ability of the mind to abstractly handle quantities and qualities. Persons who are strong in this ability can understand analogies, stories, derivations, equalities, and hierarchical structures more quickly and more deeply.

#### Rote Utilisation

This is the ability to take a set of memorized facts and mentally extract from the set those facts that are relevant to the problem at hand. Persons with more of this ability can be expected to spell well, remember telephone and other numbers easily, be more adroit in procedural operations and have a stronger foundation for tasks that require the use of memorized material.

#### Logic

This is the ability to determine whether a set of rules has been correctly followed or not. This ability is most useful in combination with other mental skills listed above. Those with a strong logical ability are quicker to see where a given set of conditions is going to lead, have a strong sense of justice and understand better from an intellectual analysis, the benefits of harmony.

#### Visual Comprehension

This is the ability of the mind to mentally picture visual information and to be able to extract portions of that information for separate use. A person whose visual comprehension is strong enjoys a richer, more creative appreciation of the visual aspects of experiences.

## Concepts of Area and Space (Spatial Analysis)

Understanding what changes will occur when conditions vary is a deep and powerful ability of the mind. All invention and creativity of every sort is based upon this ability. Test problems usually involve manipulation of objects in space. Persons with a stronger ability to manipulate spatially can also be expected to use this ability to better predict how social and psychological situations would change due to variation.

## Intuition

Intuition is defined as the ability of the mind to develop answers to questions without consciously dealing with the problem at hand. Often a question will provoke your mind to answer without using conscious processing time, and the answer is said to come "out of the blue" or "suddenly, it just struck me". Of all the many abilities of the mind, this is one of the most often used. Just knowing what to do is often an automatic process that occurs without much conscious figuring. Those with stronger intuition make less mistakes and can seem luckier, wiser, or more mature!

## General Knowledge

Knowledge that is casually picked up and remembered can indicate intelligence, because persons with higher intelligence will exhibit greater retention of those pieces of information that are encountered less often. Higher intelligence allows a person to have a deeper appreciation of the connectivity of facts that may seem unrelated to others of lesser intelligence. Therefore, remembering such facts becomes easier for them.

## Vocabulary

Knowing the meaning of words is an ability that directly increases along with the increase of general intelligence. The meaning of a word is more easily remembered with higher intelligence. It takes more intelligence to understand and correctly use words based upon the subtle differences between words with similar meanings and to comprehend difficult concepts that are sometimes symbolised by a single word.

## Short Term Memory

The ability to remember things for a short period of time allows the mind to check back and retrieve facts needed to complete a problem solving operation. This

ability becomes more critical when problems have many aspects that need consideration and/or need to be solved mentally. This ability strongly determines how efficiently one handles the many aspects of normal life. If your short-term memory ability is strong, you are much less likely to seem inattentive or "slow to get it" to others.

## Spelling

The ability to spell can indicate general intelligence. Remembering a set sequence of letters indicates the mind's ability to retrieve remembered facts. Learning how to spell and use the words of a language is almost a complete IQ test in itself. Although poor spellers with high IQ scores can be found, it is rare. In general, everything else being equal, the better spellers have higher IQ scores.

## Geometric Ability

How well one can comprehend geometric relationships of lines, sides, planes, angles and topological properties strongly determines one's ability to make sense of visual information. The strength of one's geometric ability can strongly determine how quickly knowledge can be absorbed if it is presented visually.

## Computational Speed

If you can correctly solve a variety of problems faster than another person, you may be demonstrating a more orderly internal arrangement of your mind's problem solving methods. While speed cannot be the sole factor in determining overall superiority in one's mental operations, in general, faster computational speed will often indicate that a problem's comprehension was more complete. With everything else being equal, a person with faster computational speed than another person will be better at tasks that require the synthesis of many bits of information.

## STRESS MANAGEMENT

**What is Stress?** : Stress is simply the body's nonspecific response to any demand made on it. Stress is not by definition synonymous with nervous tension or anxiety. Stress provides the means to express talents and energies and pursue happiness; it can also cause exhaustion and illness, either physical or psychological; heart attacks and accidents. The important thing to remember about stress is that certain forms are normal and essential.

As the body responds to various forms of physical or psychological stress, certain predictable changes occur. These include increased heart rate, blood pressure (systolic and diastolic), and secretions of stimulatory hormones. These responses to stress will occur whether the stress is positive or negative in nature. In lay terms, it is known as the "fight or flight" mechanism. Continual exposure lowers the body's ability to cope with additional forms of psychological or physiological stress.

The results of continuing stress may cause disruption in one or more of the following areas of health: physical, emotional, spiritual and/or social.

### Recognizing Stress

The following are indicators that you may be experiencing

- General irritability • Elevated heart rate • Increased blood pressure • Trembling
- Increased accident proneness • Insomnia • Pain in neck and/or lower back
- Floating anxiety-anxious feeling for no specific reason • Headache • Indigestion

Stress is a process that builds. It's more effective to intervene early in the process rather than later. Try to become aware of the signs that suggest the process has begun.

### Stress Management Strategies

The following are tips on how to maintain a healthier life-style and to prepare you to cope with the stress of everyday living.

1. Structure each day to include a minimum of 20 minutes of aerobic exercise.
2. Eat well balanced meals, more whole grains, nuts, fruits and vegetables. Substitute fruits for deserts.
3. Reduce refined sugars. Excess sugars cause frequent fluctuation in blood glucose levels, adding stress to the body's physiological functioning.
4. Go for a walk.
5. Avoid caffeine. The substance may aggravate anxiety, insomnia, nervousness and trembling.
6. Spend time each day with at least one relaxation technique - imagery, daydreaming, prayer, yoga or meditation.
7. Take a warm bath or shower.
8. Get in touch! Hug someone, hold hands, or stroke a pet. Physical contact is a great way to relieve stress.

## 25 HOURS A DAY

Imagine that there is a Bank that credits your account each morning with Rs.86,400/- it carries over no balance from day to day. Each evening it deletes whatever part of the balance you failed to use during the day. What would you do? Draw out every paisa, of course!

Each of us has such a Bank. Its name is Time. Every morning it credits you with 86,400 seconds. Every night it writes off whatever of this you have failed to invest with good purpose. It carries over no balance. It allows no overdraft. Each day it opens a new account for you. Each night it burns the remains of the day.

If you fail to use the day's deposits, the loss is yours. There is no going back. There is no drawing against the 'tomorrow'. You must live in the present on today's deposits.

Yesterday is history. Tomorrow is mystery. Today is a gift. That is why it is called the 'Present'! The clock is running. Make the most out of today.

To realise the value of One Year, ask a student who has failed a grade.

To realise the value of One Month, ask a mother who has given birth to a premature baby.

To realise the value of One Week, ask the editor of a weekly magazine.

To realise the value of One Hour, ask the teacher who is taking a class.

To realise the value of One Minute, ask a person who has missed the train.

To realise the value of One Second, ask the person who has just avoided an accident.

To realise the value of One Millisecond ask a person who has won a silver medal in Olympics.

To help us all gain an extra-hour everyday; a clock manufacturer in Dallas has created a watch measuring each minute at 57.6 seconds. The 2.4 seconds borrowed from each minute add up to 60 minutes (or one hour) at the end of each day!

However, you can accomplish the same thing, by simple managing time more efficiently!

## YOUR 12 POINT PLAN FOR PERSONAL SUCCESS

No one becomes successful by accident. Success requires making a plan and sticking to it. It is simple, but does require commitment; it is not hard to do, but does require hard work. The good news is that once you begin, the results start coming almost instantly. The miracle of successful living is that the smallest step towards success attracts more success! Here is a very brief outline of the key points that will help you achieve the highest levels of success.

**1. Look into the nearest mirror** - the person staring back at you is the only person responsible for your success. Smile! No one else is the cause of your success or to blame for your shortcomings. Successful people take full responsibility for their actions.

**2. Smile back at your reflection.** Successful people are cheerful, optimistic, and forward thinking. If you think you don't have anything to smile about, smile anyway. Positive thoughts drive out negative thoughts. It's hard to have a negative thought while you are smiling!

**3. Positive self-esteem** is the foundation for success. Feel good about yourself and your abilities, achievements and potential. Don't dwell on your mistakes. Remind and praise yourself on your past accomplishments. Congratulate yourself for taking positive steps toward a more successful future.

**4. Believe in yourself.** You are here for a purpose. God doesn't make extras just to fill in the scenery. Find your mission and begin working to fulfill it.

**5. Desire to be a success.** Decide right now that you will be successful. Commit to being successful.

**6. Associate with successful people.** Do what they do. When faced with choices, make the choice a successful person would make.

Blow your bonus check on a gambling trip or invest it?

**7. Avoid unsuccessful people.** Do not under any circumstances associate with negative people. Negative people are toxic; they destroy, they do not build. They are vampires that can live only by draining the life from others. The odds are greater that they

will pull you down faster than you can lift them up. You can choose to stay away from all the negative people in your life. Avoid all the whiners, complainers, blamers and thumbsuckers.

**8. Do what you are best at** and what you get the most satisfaction from. There is no reason to stay stuck doing things that are frustrating, boring, unhealthy, unproductive, demeaning or unfulfilling.

**9. Write down a vision** of how you want to live your life. Be specific. Where you want to live, what kind of carpet, who your friends are, the pony's name, what the new church rec hall you donated looks like, etc. Make a Future Scrapbook; paste in pictures, drawings, essays, clippings. Make up news headlines about your achievements. Every day visualize yourself as you would like to be - and then act that way!

**10. Write down your biggest goal**, the one you most want to fulfill. Write it in the present tense, "I am...", "I have...", "I contribute...". Success is the result of a personal decision, so start your goal with "I". Read your goal aloud every morning and night. Tell people your goal. Make a plan to achieve your goal and stick to it.

**11. Study the science of success.** Read books, listen to tapes, watch videos and positive TV programming. Talk to successful people and ask them how they became successful. Fill your mind with positive thoughts and give yourself positive self-affirmations.

**12. Every day do something** that brings you closer to your goal. Never give up. You can only fail if you quit trying. Keep on keeping on and you will succeed. Achieving success requires following a system. Begin today by putting these 12 points into daily practice.

Everybody experiences fear of failure, uncertainty, insecurity, low self-esteem, indecision, depression, nervousness and embarrassment. Successful people master these temporary conditions by taking positive action, by sticking to their plan, by maintaining their vision of the future, by learning from setbacks and by rededicating themselves to the pursuit of their mission. By following these simple steps you will become successful and achieve all that you desire

## HOW LEADERS SOLVE PROBLEMS

When faced with a difficult problem, how do you react? How you face problems is one of the critical factors that helps determine how successful you will be in life. Its also one of the key qualities of a leader! Leaders solve problems- followers go to leaders to get their problems solved.

The first thing to do when faced with a problem is assume there is an answer out there- it just needs to be found. Worrying about it gets you nowhere, working towards the answer will get you everywhere. This is a state of mind, and a whole topic of discussion in itself, but just recognize YOU control your attitude about any given situation. Leaders control their attitude and focus on results.

The next thing is to collect all the facts about the problem- many problems are not as big as they seem at first, once everything is known. Also, facts will help you find a better solution, faster. Knowing this is the next step can remove the emotion out of the situation- if someone comes to you with problem, simply begin asking questions and gather the facts. Sometimes you have dig to get to the real problem! How do you dig? Keep asking questions. Leaders are good at asking the right questions- and listening.

Then decide- is it really a problem that needs solving? How bad is the problem? What is the worst that could happen if it is ignored? This helps put things in perspective, and often everyone will realize the problem is not as worrisome as they think. Leaders keep things in perspective of what they really are.

If the problem does need solving, consider what actions you might personally do that could resolve the problem. Brainstorm and write them down.

If the problem came from someone else, consider what THEY can do to solve it.

Its usually better to teach someone how to solve their own problem than do it for them. Leaders show you how to do it, not do it for you.

Consider what research you might do to solve the problem- searching the internet, asking other people, reading books. Don't make the mistake of thinking you are all-knowing and that your first instinct for an answer is necessarily the best. Bounce your ideas off other people, even if you think they know less on the subject. Sometimes the more you know, the more you can overlook the obvious. Leaders know how to get the information that is out there.

Next, be decisive, pick a solution, and implement it. Sometimes, a quick fix solution is needed followed by a long-term fix. Either way, once you decide a problem needs a solution, follow through with it. By the same token, know when a solution is outside of your control, and is time to just let it drop and move forward. Leaders follow through with things they take on.

Finally, test and monitor any solutions you implement- don't just assume you're done. Despite your best intentions, any solution may fail- it may even make things worse. Be sure its possible to undo whatever solution you implemented, and without being ashamed. A leader is not ashamed to make mistakes- without mistakes, no progress would ever be made!

### "Quotations"

Education is an ornament in prosperity and a refuge in adversity.

– Aristotle

To be conscious that you are ignorant is a great step to knowledge

– Anon

Sixty years ago, I knew everything; now I know nothing. Education is a progressive discovery of our own ignorance.

– Will Durant

Do the thing you fear, and fear will disappear.

– Anon

## HOW TO TELL A WINNER FROM A LOSER?

### WINNER

A winner says, "Let us find out".

When a winner makes a mistake, he says, "I was wrong".

The winner says, "Let me do it for you".

A winner goes through a problem

A winner makes commitments.

A winner says, "I am good, but not as good as I ought to be"

The winner always has a programme.

A winner says, "There ought to be a better way to do it".

The winner says, "It may be difficult.

### LOSER

A loser says, "Nobody knows".

When a loser makes a mistake he says, "It was not my fault".

The loser says, "That is not my job".

A loser goes around it; and never gets past it.

A loser makes promises.

A loser says, "I am not bad as a lot of other people".

The loser always has an excuse.

A loser says, "That is the way it is always been done here".

A loser says, "It may be possible, but it is too difficult.

### LEADER AND BOSS!

The Boss drives the people; the Leader coaches them!

The Boss depends on Authority; the Leader, on Goodwill!

The Boss says, "I"; the leader, "We".

The Boss fixes the blame for the breakdown; the Leader fixes the breakdown!

The Boss knows how it is done; the Leader shows how!

The Boss says, "Go"; the Leader, "Let's go!"

*-Harry Gordon Selfridge*

## SOUND HEALTH

Are you taking all necessary steps to keep good health? Fortunately, it is in our hands! So, you want a few tips? Here they are:

Always do abdominal deep breathing: When you breath in, your stomach should bulge out and when you breath out it should shrink! The opposite of this is hollow, shallow breathing, the root cause of illhealth! If you still breath the second way, correct it in this way: lie down flat on bed, exhale fully, press the stomach with hands and hold it for a while. Slowly release while inhaling and repeat it for 5 minutes. In a week's time, you will be into abdominal breathing automatically! Supplement it with deep breathing. Be aware of your breathing process. This is the top secret of sound health!

The wonder tip to overcome tension is 'moulting'! Take deep breathe through the nose, release it deeply with a slight sound ('sigh') through the mouth. Repeat this nose-to mouth breathing 6-10 times and then alternate it through nose-to-nose for 6-10 times. If you continue this cycle for 5 minutes, your whole tension is gone! You can do this during any work except while eating and drinking.

Early in the morning, take 3-5 glasses of lukewarm water on empty stomach. This helps good bowel movement! Your food habits control your health. Take vegetarian foods as often as possible. It keeps your body lighter! Do psychic-healing, making positive affirmations, such as, I am healthy, energetic, pleasant and peaceful. Keep laughing heartily with no holdups.

Above all, do what you like and like what you do! It helps you work with excellence, which leads to satisfaction. This, in turn, brings happiness and it is happiness that keeps you healthy! Wish you a sound health!

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## HOW TO OVERCOME HOLLOW BREATHING?

One striking technique to overcome shallow hollow breathing is through deep abdominal breathing to get instant energy and relaxation. Abdominal breathing is bulge out the stomach when air is taken in (inspiration) so that the diaphragm goes down into the abdominal cavity leaving more space in the lungs for air to get in.

To get instant energy, one has to inhale deeply and hold the breath as long as one is comfortable and exhale out slowly.

During deep inspiration, lungs are expanded fully and so, more amount of oxygen enters the lungs. When you hold your breath, you are allowing sufficient time for the exchange of gases between blood and air in the lungs. Therefore, more oxygen enters blood and more carbon dioxide (CO<sub>2</sub>) is given out from the blood to the lungs, when exhaled slowly, all the CO<sub>2</sub> in the lungs is expelled. When sufficient oxygen is present in the blood, the body utilises it to burn the food completely and

### "Quotations"

Good luck is with the man who doesn't include it in his plan. - Anon

All have wishes; many have dreams

Some have ideas; few have plans. - William Arthur Word

Nothing is particularly hard, if you divide it in small jobs. -Henry Ford

The Winner never quits and the quitter never wins. - Anon

Knowledge is the only instrument of production that is not subject to diminishing returns. - Anon

Give a man a fish, he is fed for a day. Teach a man to fish, he is fed for all his life. -Anon

## IMPOSSIBLE?

"If fifty million people say a foolish thing, it is still a foolish thing", said Bertrand Russell. Not surprisingly, therefore, everything in this world was achieved by people who believed in themselves, rather than in what was commonly believed.

In 1490, the Royal Committee of Spain categorically said that a voyage to Asia was impossible because the western ocean was infinite and unavailable. The committee also said that so many centuries after creation, it was unlikely that any one could find any new lands that were hitherto unknown. Just within a year from then, Christopher Columbus conquered the western sea and his journey is part of the history now!

In 1825, London's Quarterly Review authoritatively stated that it is palpably absurd to think of any locomotive travelling twice as fast as a stagecoach. Almost immediately thereafter, R. L. Stevenson revolutionized the concept of locomotion with the advent of the steam locomotives!

In 1903, The New York Times commented that scientists should not waste their time and money in airship experiments, since flying is an impossible act for mankind. Exactly one week later, the Wright Brothers made the first successful flight at Kitty Hawk, USA!

In 1948, the Science Digest with conviction stated that landing and moving around on moon poses so many serious problems that it may take more than 200 years for science to achieve the feat. Exactly 21 years later, Neil Armstrong set his foot on the moon!

Truly, the lives of all these great men remind us that achieving begins with believing in ourselves. Come; let us memorize these magic words which have the potential to transform this world. "We can, if we think we can!"

## THE LATERAL THINKING PUZZLES

Lateral Thinking is thinking with a difference. You need to think unconventionally if you want to understand the hows, the whys and the wherefores of these puzzles. You have to think in ways that are different to your usual ways of thinking to win prizes here!! There could be a lot of different explanations for what happened. Submit your interpretation for each of the following situations.

Lateral thinking puzzles are often strange situations which require an explanation. They are solved through a dialogue between the quizmaster who sets the puzzle and the solver or solvers who try to figure out the answer. The puzzles as stated generally do not contain sufficient information for the solver to uncover the solution. So a key part of the process is the asking of questions. The questions can receive one of only three possible answers - yes, no or irrelevant.

When one line of enquiry reaches an end then another approach is needed, often from a completely new direction. This is where the lateral thinking comes in.

Some people find it frustrating that for any puzzle it is possible to construct various answers which fit the initial statement of the puzzle. However, for a good lateral thinking puzzle, the proper answer will be the best in the sense of the most apt and satisfying. When you hear the right answer to a good puzzle of this type you should want to kick yourself for not working it out!

This kind of puzzle teaches you to check your assumptions about any situation. You need to be open-minded, flexible and creative in your questioning and able to put lots of different clues and pieces of information together. Once you reach a viable solution you keep going in order to refine it or replace it with a better solution. This is lateral thinking!

### 1. The man in the Elevator:

A man lives on the tenth floor of a building. Every day he takes the elevator to go down to the ground floor to go to work or to go shopping. When he returns he takes the elevator to the seventh floor and walks up the stairs to reach his apartment on the tenth floor. He hates walking so why does he do it?

This is probably the best known and most celebrated of all lateral thinking puzzles. It is a true classic. Although there are many possible solutions which fit the initial conditions, only the canonical answer is truly satisfying.

### 2. The Man in the Bar

A man walks into a bar and asks the barman for a glass of water. The barman pulls out a gun and points it at the man. The man says 'Thank you' and walks out.

This puzzle has claims to be the best of the genre. It is simple in its statement, absolutely baffling and yet with a completely satisfying solution. Most people struggle very hard to solve this one yet they like the answer when they hear it or have the satisfaction of figuring it out.

### 3. Death in a Field

A man is lying dead in a field. Next to him there is an unopened package. There is no other creature in the field. How did he die? Solution

### 4. Trouble with Sons

A woman had two sons who were born on the same hour of the same day of the same year. But they were not twins. How could this be so?

### 5. The Arm of the Postal Service

One day a man received a parcel in the post. Carefully packed inside was a human arm. He examined it, repacked it and then sent it on to another man. The second man also carefully examined the arm before taking it to the woods and burying it. Why did they do this?

This one probably has more variations than any other. A great one to puzzle out. It requires plenty of good questions.

### 6. Manhole Covers

Why is it better to have round manhole covers than square ones?

This is logical rather than lateral, but it is a good puzzle which can be solved by lateral thinking techniques. It is supposedly used by a very well-known software company as an interview question for prospective employees.



## 7. The Deadly Dish

Two men went into a restaurant. They both ordered the same dish from the menu. After they tasted it, one of the men went outside the restaurant and shot himself. Why?

## 8. The Realization

A man was walking downstairs in a building when he suddenly realized that his wife had just died. How?

## 9. Subtraction

How many times can you subtract the number 2 from the number 22?

## 10. Mothers and Daughters

One day, two mothers and two daughters went shopping for shoes. Their shopping spree was successful - each bought a pair of shoes, and all together, they had three pairs. How is this possible?

## FOOT PRINTS OF GOD...

One night a man had a dream. He dreamed that he was walking along the beach with God. Across the sky flashed the scenes from his life. For each scene he noticed two sets of footprints in the sand; one belonging to him, and the other of the Lord.

When the last scene of his life flashed before him, he looked back at the footprints in the sand. He noticed that many times along the path of his life there was only one set of footprints. He also noticed that it happened at the very lowest and saddest times in his life.

This really bothered him and he questioned the Lord about it. "God, you said that once I decided to follow you, you'd walk with me all the way, but I have noticed that during the most troublesome times in my life, there is only one set footprints. I don't understand why, when I needed you most, you would leave me!"

The Lord replied, "My precious child, I love you and I would never leave you during your times of trial and suffering. When you see only one set of footprints, it was when I carried you!"

## THE LATERAL THINKING PUZZLES – SOLUTIONS

**1. The man is (of course) a dwarf.** Variants of this puzzle include the clue that on rainy days he goes up in the elevator to the tenth floor (he uses his umbrella!)

**2. The man had hiccups.** The barman recognized this from his speech and drew the gun in order to give him a shock. It worked and cured the hiccups - so the man no longer needed the water.

This is a simple puzzle to state but a difficult one to solve. It is a perfect example of a seemingly irrational and incongruous situation having a simple and complete explanation. Amazingly this classic puzzle seems to work in different cultures and languages.

**3. The man had jumped** from a plane but his parachute had failed to open. It is the unopened package.

This is sometimes given with the following rather elegant clue - as he approached the centre of the field he knew he was going to die. This is another of the top classics which is right up there with 'The Man in the Bar'. If the solver is thinking along the wrong lines (i.e. in the two dimensions of the ground) then the lateral jump to the third dimension can be tough to make.

**4. They were two of a set of triplets (or quadruplets etc.)**

This simple little puzzle stumps many people. They try outlandish solutions involving test-tube babies or surrogate mothers. Why does the brain search for complex solutions when there is a much simpler one available?

**5. The three men had been stranded** on a desert island. Desperate for food, they had agreed to amputate their left arms in order to eat them. They swore an oath that each would have his left arm cut off. One of them was a doctor and he cut the arms off his two companions. They were then rescued. But his oath was still binding so he later had

to have his arm amputated and sent to his colleagues.

This is often told with a further twist whereby a doctor pays a tramp a large sum in order to amputate the tramp's arm which the doctor then sends to another man who inspects it etc. This variation can make for a long night of questioning!

**6. A square manhole** cover can be turned and dropped down the diagonal of the manhole. A round manhole cannot be dropped down the manhole. So for safety and practicality, all manhole covers should be round.

**7. The dish that the two men** ordered was albatross. They had been stranded many years earlier on a desert island. When the man tasted albatross he realized that he had never tasted it before. This meant that the meat he had been given on the island was not albatross as he had been told. He correctly deduced that he had eaten the flesh of his son who had died when they first reached the island.

This has something in common with No. 9 above but is in my opinion even better. It is fiendishly difficult to figure out from a standing start. A beautiful aspect of this problem is the subtle fact that he shot himself because he did not recognise the taste of the dish!

**8. The man had visited his wife** in hospital. She was on a life-support machine. As he was walking down the stairs all the lights went out. There had been a power cut and the emergency back-up systems had failed. He knew that she had died.

**9. Once.** After you subtract 2 from 22, you subtract 2 from 20, from 18, and so on.

**10. Only three people went shopping:** a grandmother, a mother, and a daughter - but remember that the mother was the grandmother's daughter

## NUMBER & MATH PLAY

### 1. Average Speed

Louise runs the first half of a race at 5 miles per hour. Then she picks up her pace and runs the last half of the race at 10 miles per hour. What is her average speed on the course?

### 2. On the Road :

What is the smallest number of cars that can be driven in this formation: two cars in front of a car, two cars in back of a car, and a car between two cars ?

### 3. Cost of War

Here's a variation on a famous puzzle by Lewis Carroll, who wrote Alice's Adventures in Wonderland.

A group of 100 soldiers suffered the following injuries in a battle: 70 soldiers lost an eye, 75 lost an ear, 85 lost a leg, and 80 lost an arm. What is the minimum number of soldiers who must have lost all 4?

### 4. How Many Days?

Froggie fell in a 10-foot well. He cannot hop out. He has to climb out. He climbs three feet a day, but during the night, while resting, he slips back two feet. At this rate, how many days will it take Froggie to climb out of the well?

### 5. Six Daughters

Mr. Seibold has 6 daughters. Each daughter is 4 years older than her next younger sister. The oldest daughter is 3 times as old than her youngest sister. How old is each of the daughters?

## NUMBER & MATH PLAY – SOLUTIONS

1. The answer is not 7.5 miles per hour. Assume the course is 20 miles long. Louise needs 2 hours to run the first 10 miles (the first half of the course) and 1 hour to run the last 10 miles (the last half), meaning she needs 3 hours to run the total of 20 miles. Therefore, her average speed is 6.7 (or  $6\frac{2}{3}$ ) miles per hour.
2. One car in front, one in the middle, and one behind.
3. Add up all the injuries, and you find that 100 soldiers suffered a total of 310 injuries. That total means that, at a minimum, 100 soldiers lost 3 body parts, and 10 (the remainder when dividing 310 by 100) must have lost all 4 body parts. (In reality, as many as 70 may have lost all 4 body parts.)
4. By climbing up three feet and slipping down two feet, after seven days it will be at a height of seven feet. On the eighth day it will climb three more feet and get out. So, the answer is eight days.
5. From youngest to oldest, the 6 daughters are 10, 14, 18, 22, 26, and 30.

## SCIENCE PUZZLES

### THE BIRD CAGE

There is a well known, probably apocryphal story; A truck full of live poultry is stopped before a bridge on a country road. Its driver, beating the side of the truck with a stick, is asked what he is doing and he explains that his load is too heavy for the bridge so he is making the birds fly to lighten his load before proceeding.

This suggests the following puzzle. A cage with a bird in it, perched on a swing, weights four pounds. Is the weight of the cage less if the bird is flying about the cage instead of sitting on the swing? Ignoring the fact that if left in an airtight box for long the bird would die, would the answer be different if an airtight box were substituted for the cage?

### COOL OFF

Your air conditioner breaks down on the hottest day of the summer, leaving you sweltering in your one-room apartment. In order to get some relief; you leave your refrigerator door open. Will you cool the room that way?

### THE HELICOPTER

We are all more or less familiar with this heavier-than-air, aircraft, which has one or more power-driven horizontal propellers that enable the craft to take off and land vertically, move in any direction, or hover stationary in the air. However, you may not have noticed the small rotor at the helicopter's tail. Is it important? What do you suppose is its purpose?

### SAND ON THE BEACH

Walk along a beach at low tide when the sand is firm and wet. At each step the sand immediately around your foot dries out and turns white. Why? The popular answer, that your weight "squeezes the water out," is incorrect: sand does not behave like a sponge. So what does cause the whitening?

### THE BIRD CAGE

If the bird is in a completely airtight box, the weight of the box and the bird will be the same whether the bird is flying or perching. If the bird is flying, its weight is borne by the air pressure on its wings; but this pressure is then transmitted by the air to the floor of the box. If the bird is flying in an open cage, part of the increase in pressure on the air is transmitted to the floor of the cage, but part is transmitted to the atmosphere outside the cage. Hence the cage with the bird will be lighter if the bird is flying.

### COOL OFF

You might cool off temporarily, but the net effect of leaving the refrigerator door open will be to make the room hotter. The refrigerator's cooling system will activate in an attempt to cool the refrigerator air again, and more heat will be released by the motor than can be absorbed by the released cool air, so the apartment will become even hotter.

### THE HELICOPTER

Every revolving body develops force acting perpendicular to the axis of revolution. This moment of force is referred as torque, and would cause the helicopter to rotate out of control. The tail rotor is designed to counteract the torque.

In large helicopters with rotors, the torque is avoided by having the rotors rotate in opposite directions.

### SAND ON THE BEACH

Before you step on it, the sand is packed as tightly as it can be under natural conditions. Your weight disturbs the sand, making the grains less efficiently packed. The sand is forced to occupy more volume and rises above the water level, becoming dry and white. The water rises more slowly, by capillary action, so it takes a few seconds or more before the sand gets wet and dark again.

In this chapter logical thinking is the key to solve the tantalising different puzzles in this chapter. There are good puzzles to test your power of logic and your sense of humour.

1. There are six apples in a basket and six girls in the room. Each girl took one apple, yet one apple remained in the basket. How come?
2. The 22nd and 24th presidents of the United States had the same mother and the same father, but were not brothers. How could this be so?
3. A man who was not wearing a parachute jumped out of a plane. He landed on hard ground yet he was unhurt. Why?
4. Kiran was 20 years old in 1980 but only 15 years old in 1985. How come?
5. At the end of a long hard boxing match one boxer was knocked out by the other. The judges agreed it was a completely proper victory. Yet during the course of the match no man threw a punch. What happened?
6. A man woke up one morning to find that one of the wheel of his car had a completely flat tyre. Despite this he set off in his car and drove 100 miles to visit a customer. Then drove 100 miles Home. He did not repair or inflate the flat tyre. How did he manage to make the journey.
7. How many times can you take 3 from 25?
8. A girl was Eight years old on her first birthday. How could that be?
9. Some months have 30 days and some have 31 days. How many have 28 days?

## Solutions

1. The first five girls each took an apple. The sixth girl took the basket as well as the apple in it. So an apple is in the basket.
2. They were the same man. Grover Cleveland (1837-1908) served two terms as president of the United States, but the terms were not consecutive. He was president from 1885 to 1889 and from 1893 to 1897.
3. The plane was parked on the runway.
4. Kiran was born in the year 2000 B.C. So in 1985 B.C. he was 15 and in 1980 B.C. he was 20.
5. No man threw a punch because the boxing match was between two women boxers.
6. The flat tyre was on the man's spare wheel he kept in the car truck. The four wheels he drove on all had properly inflated tyres.
7. Once
8. She was born on February 29, 1896, The year 1900 was not a leap year only centuries divisible by 400 are leap years). So the next February 29 fell in 1904 when she was eight. She was twelve on her second birthday.
9. All 12 of them. (Every month has 28 days.)

## 2. YOU ARE SPECIAL !

In a classroom of 50, the speaker asked, "Who would like this hundred rupee note?" Hands started going up. He said, "I am going to give this to one of you but first, let me do this." He proceeded to crumple the note.

He then asked, "Who still wants it?" Still the hands were up in the air. 'Well', he replied, "What if I do this?" And he dropped it on the 'ground and started to grind it into the floor with his shoe. He picked it up, now all crumpled and dirty. "Now who still wants it?" Still the hands went into the air.

"My friends you have all learned a very valuable lesson. No matter what I did to the money. You still wanted it because it did not decrease in value. It was still worth a full hundred. Many times in our lives, we are dropped, crumpled and ground into the dirt by the decisions we make, and the circumstances that come our way."

"Do you know you are unique? Taking into consideration the past hundred years and in the future century, no one had or will have your fingerprints, your lip prints, your ear or toe prints. Your DNA is unique. Doctors have shown that the composition of your blood is peculiar to you. You are, in fact, a special individual with a capacity to achieve great things."

"Do you remember at school, for example, thinking: 'how can I do that' whenever you were instructed to use a new skill? Yet each time, after pushing yourself, you 'discovered' you had the ability – you even enjoyed it. Once accomplished you never forgot how to ride a bicycle, you had the ability. But you had to really draw on yourself as a child to overcome the inevitable falls. The secret is that this potential must be called upon. Those who give up, fail in their lives. This is known as 'mind limitation.'"

"We feel we are worthless. But no matter what has happened, or what will happen you will never lose your value. You are special. Don't ever forget it!"

Now, let's go to another scene which must be familiar to most of the students:

01. Why can't you be good for a change?
02. Why are you so selfish?
03. Why do you have to fight with everybody?
04. Why can't you be like other children?
05. Why must you interrupt everybody?
06. Why can't you keep your mouth shut once in a while?
07. Why are you so slow?
08. Why do you always rush?
09. Why must you be such a pest?
10. Why are you so disorganized?
11. Why are you such a busy body?
12. Why do you forget everything I tell you?
13. Why are you so stupid?

It is said 12,000 such negative suggestions and rebukes are confronted by a child in a span of 15 years. This greatly affects the self-esteem, learning and other skills, thus hampering academic performance, in most of the cases.

Just remember, as the currency does not diminish in value despite being crumpled, stamped and thrown about, the human value never changes adversely despite several such shabby treatments.

Students should learn to overcome this problem, to become a winner!

Blame and guilt are cry baby words; let us get them out of our talk about education. Let us use the word 'responsible' and 'commitment'.