

5D Thinking on the Human Brain

First Dimension: Scientific Understanding

Your brain is the most complicated organ of your body. It is located in your head inside the protective skull.

The brain looks like a giant walnut. It is a jelly-like clump of protein and fat that weighs about as much as a large grapefruit in adulthood, about 1.4 kg. It is made up of about 86 billion nerve cells (also called **neurons**) that are interconnected in a vast network. This network of interconnected neurons is connected with the management of all the processes in your body such as movement, breathing, digestion, sleeping and speaking. Yes, you don't 'use' your brain only when you are thinking, but also when seeing, smelling, and even feeling. Did you know that your brain is 'plastic' meaning that it can develop with effort and practice?

Your brain is made up of three parts: the **cerebrum (forebrain)**, **cerebellum (hindbrain)**, and the **brain stem**, which is also known as the medulla.

The **cerebrum** is the largest part of the brain. Your senses, memories, imagination, temperature regulation, and speaking, as well as eating, drinking, understanding and movement are all processed in this part. When you are thinking, solving math problems, or drawing pictures, you are using your cerebrum. It is also a crucial place for your sleep regulation. If the cerebrum is damaged, your sleep is interrupted. The cerebrum is divided into two halves, called the left and right hemispheres.

The **right hemisphere** operates in connection with the left side of your body, and it is associated with abstract things such as colors and shapes. Whereas the **left hemisphere** operates in connection with the right side of the body, and it is associated with things like math and speech. The **cerebral cortex** is the outer part of the cerebrum.

The **cerebellum** or 'little brain' is located right behind the cerebrum. It is designed to coordinate balance, movement and coordination of muscles during activities such as cycling without falling, or standing up, walking, and moving around while keeping your balance.

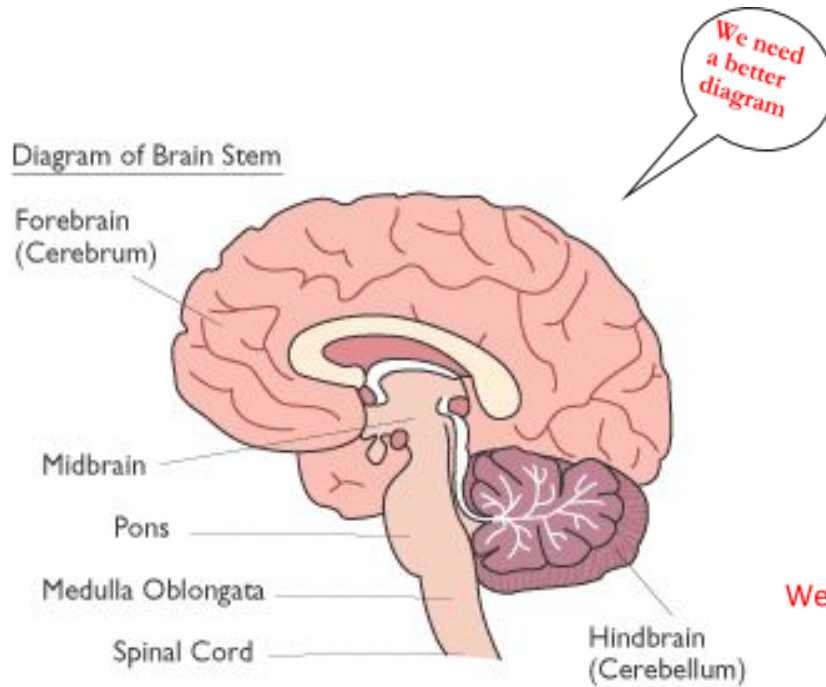
The **brainstem** or medulla is comprised of the **midbrain, the pons** and the **medulla oblongata**. Your involuntary muscles, the ones that work automatically like the muscles in your heart and stomach, are controlled through the brainstem; for example, your heart pumping more blood when you are running, or your stomach starting to digest when you eat food. The **brainstem** serves as a pathway between the **cerebrum** and the **cerebellum**.

Look at the diagram below. Can you spot the **pons**? The pons is the message center of the brain. These millions of messages from the upper to the lower parts of the brain are connected and sorted out in the pons. It is also an important center related to our sleep and dreaming.

In order to remain alive, your body needs many functions like breathing, digestion, blood circulation, and the beating of your heart. These unconscious tasks are regulated through the **medulla oblongata**, which is located at the base of the brain, right above your spinal cord. Can you imagine what would happen if the brain stopped working? Many vital functions essential for our life would be affected. Thankfully, our brain is always working, even in sleep.

Another interesting fact about the brain is that it takes only about 2% of dehydration to affect your thinking and memory skills. That is why it is so important to drink enough water!

If oxygen doesn't reach the brain for any reason, brain cells will die, leading to brain damage. It takes only about three to five minutes of oxygen deprivation for brain damage to occur.



Incredible Fact

Did you know that your brain can hold one **petabyte** of data- almost as much data as the entire WorldWide Web?

We can have also diagrams of each part of the brain!

Think for a moment. How is your brain capable of performing such incredible tasks? After all, the brain is nothing but tiny cells made out of what you eat and drink. How can they perform such amazing tasks? Does the brain have some superpowers? Before exploring the answer to such questions, let us first reflect on a man-made invention, the processor (or Central Processing Unit) of a computer that attempts to mimic the brain.

Second Dimension: Comparison and Comprehension

You have now learned that all body functions such as senses, memory and understanding, sleeping, eating and dreaming are controlled through the brain. The brain is designed as the control center of your body.

In a similar way, the processor of a computer coordinates a computer's functions by sending and receiving signals to a computer's various components.



Reflect on the differences between the control center of our body, i.e. the brain, and the control center of a computer, i.e. the processor or Central Processing Unit (CPU). Remember, that although modern computers can be highly sophisticated and efficient, they cannot compete with the amazing performance of our brains.

Let us first understand how the CPU works. The CPU manages and processes every single operation you complete using your computer. The speed at which your CPU can complete mathematical operations is linked to the performance of your computer.

If we were to compare the processing speed of a human brain with that of an advanced computer processor, the human brain would prove to be exceedingly superior. A few years ago, scientists attempted to simulate the processing power of a human brain by allowing 82,000 processors to run on one of the world's fastest supercomputers. The result? Only one minute of human brain activity. In other words, it takes 82,000 processors to mimic only one minute activity of the human brain.



The brain works in very efficient way in terms of using energy for the high processing power. Indeed, in terms of power generation, our brain generates only enough power to light a dim light bulb; yet that is sufficient for it to complete a remarkably diverse range of tasks that supercomputers, which consume enormous electricity, are simply incapable of achieving. In short, even the most sophisticated computer is not remotely a match to the human brain. Even interconnected networks of one thousand computers could not compete with the human brain. Indeed, we are far away from having a full understanding of the brain despite the works of thousands of scientists. What does this tell us? This makes us realize that there must be a power greater than the combined efforts of the entire human race behind the magnificent functioning of our brains.

Third Dimension: Critical Thinking

Let us reflect on the existence of computer processors. How did they come to be? Even if you knew nothing about their history, you could still tell that they were the product of intelligent people with knowledge of various sciences. Think about it, could an ignorant person with no education possibly make computer processors? Clearly, no. The odds of a computer processor being made by someone without deep and sophisticated knowledge and ability related to the subject are nil.

Now think about the much more amazing 'processor' of your body, i.e. your brain. Using your brain, think about the eight billion human 'processors' around the world. Think about the incredibly intricate and elaborate mechanisms of your miraculous brain and its coordinated circuitry that allows you to process information received by your senses from external environment, without making any effort.

Do you think it is possible for the constituents of the brain to come together and create the brain out of thin air? Is it possible that the brain just happened to emerge through the haphazard bonding of atoms and molecules?

Can all the scientists in the world collectively build a brain when they cannot even make a computer processor that is anything close to the brain? We do not have to be geniuses to answer these questions. Even if they were given an intact brain that had ceased working after the death of a person, they cannot restore it to life. However, it is the fact our brain cells are being built out of basic ingredients such as food and drink.

Let's compare computer processors to the human brain, which is an infinitely more incredible creation. We know that it is not possible to produce processors without who possess great knowledge, will and power. In the same way, it is also not possible to create a human brain without an Originator Who possesses will, knowledge, wisdom and power. Indeed, the creation of the human brain is a marvel of knowledge, power, beauty and wisdom. We also recognize, appreciate and reward inventors of important and useful inventions such as processors. How

about the Originator and Maker of the brain? The brain is a very precious gift because it is linked to so many of our bodily functions as we have learned. As a result, if the brain is injured and brain tissue is damaged, many serious things can happen like memory loss, limited function of arms or legs, or loss of vision, etc. Doesn't this precious gift of the brain deserve much appreciation? Doesn't its Maker and Sustainer in life and health deserve much gratitude? The least thing we can do is to acknowledge His generosity, wisdom, knowledge and power and praise Him.

As you reflect on the brain, you will hopefully start realizing that there are things that we can feel and understand even though they cannot be seen with the eyes. For instance, we can understand that the miraculous way the human brain function points to a hidden reality, which is open for us to discover.

Fourth Dimension: Finding and Reflecting on the Hidden Reality

The fact that the control of our bodies is connected to our complex brain in very intricate and ingenious ways is clear evidence for much ingenuity, knowledge, and purpose. It can neither be the result of 'chance,' nor it can happen just 'like that' on its own. Then how did it happen? What is the Hidden Hand behind the carefully interconnected and organized activities in our brain?

It is important to remember that the CPU is just a platform. In order to do the actual work of computing you need electrical power. Likewise, the brain is just a platform through which the Hidden Power does the actual works of the brain. Just as a CPU is necessary but not sufficient to get computing jobs done, it is also necessary to have a healthy brain but not sufficient for all the remarkable activities related to the brain to happen. If there is no life for example, nothing would work. We also need to breath and drink and eat for the brain to work. Obviously, the amazing works of the brain cannot be attributed to its ignorant and blind cells and molecules, or the unconscious atoms found in molecules. How could the brain cells that are made of nutrients ingredients be possibly be responsible for the astonishing activities associated with the brain? These activities can only be the work of someone with vast knowledge and wisdom, and the power to control your brain and your body and their multitude connections with the rest of the world.

Recall- the brain is comprised of a coordinated network of nerve cells that connect seamlessly to every part of our body via the spinal cord. It is designed to manage, process and regulate all of our bodily functions. This organ needs to be intact for you to be *self-aware*; this is your awareness, which enables you to acknowledge that you are a living, breathing, feeling human being. Without awareness, you would not be able to comprehend the physical manifestation of your soul. It is essentially the door to the experience of this world and everything in it. What is important to keep in mind, is that as the eye is required for seeing but it is not the eye that sees, the brain also is required for being aware, yet it is not the unconscious, ignorant and blind brain that thinks, or understands, or feels, or senses.

Another very important fact is that your brain does not work in isolation. It is connected not only to your internal environment, but to your external one as well. The brain, like all living organisms, needs oxygen, water and nutrients, i.e. food. Oxygen is produced by plants and preserved by gravity and the atmosphere. Food is produced by plants and animals using stored energy from the Sun. Water is provided through a well-established water supply system (known as water cycle). Thus, the human brain is connected to plants, animals, to oceans, to air and the atmosphere and the Sun. Actually, if we further reflect on its connections, we will realize that the brain is connected to the entire universe.

As shown in the third dimension, the perfect creation of the brain within the human body, and within the world could not have happened by chance; neither could it be attributed to material causes or nature. The brain is evidence of both knowledge and wisdom, abstract concepts that we could not comprehend without its existence. If someone had some supernatural knowledge and power and could make a human brain, without wisdom, he could not possibly integrate it into the system where it exists. It is a mark of wisdom that the brain exists and interacts in perfect order and harmony with its surroundings.

Clearly, the brain, which is purposely connected to the entire universe, can only be the work of One who has the knowledge, wisdom and power to control the whole cosmos; One who has the will to create perfection in every living thing. The brain and its astonishing functions indicate that they can only be the work of the One who makes millions of specialized nerve cells come together in perfect unity to create orderly connections that relay millions of messages back and forth from the brain to the body. This can only be the work of the One who has made it possible for unconscious and ignorant cells to have intricate built-in plans and specifications that allow them to be the platforms for the miraculous works of His Power.

Now let us reflect for a moment: Suppose that your brain suddenly stopped functioning but you were still living because you were given a chance to run your brain like you would use your computer. How would you do it?

Imagine the thousands and millions of messages sent from all over your body that would need an instant reply from your brain so that your body would be able to walk or run? Now again, suppose that you were actually able to reply to all of those messages at the same speed as the original speed of your brain. Would you be able to do anything else other than trying to run your brain? How do you think life would be for you? Our inability and powerlessness to run our brain tells us that there is a hidden message behind this wonderful organ. The message is plain to those who think: it tells us that all these activities are the work of an All-Powerful and Wise Creator who knows how to run all kinds of brains. But how do we find this hidden message? Who is the Maker of our brain? What can we know about the Maker? It seems like He speaks through His actions. Actually, actions speak louder than words. Why did He grant us a brain?

Remember that our brains are a portal through which we can experience life. Our brain is like a tool that we can use to reflect on the miracles given/gifted to us by our Maker. The brain is a physical center or like a window for our soul.

As we discussed above, it is clear that the Maker of our brain has the wisdom, knowledge, as well as the ability and power to make it. Obviously, it is way beyond our knowledge and power to create our own brain and to also control it. We can use our brain to perform advanced tasks, but we have no control over its functions. We have to work hard just to try to understand our brain and how it works; and there are still so many things that we don't know about our brain. The Maker of the brain must have infinite knowledge and power in order to create the living brain and its activities, that are directly or indirectly connected to the entire universe. The Maker must be aware of everything that we experience using our brains. The Maker of the brain must know our needs for thinking, reasoning and logic; our needs for seeing, smelling, feeling; our needs for eating, drinking, and walking, etc. So, in order to fulfill all these needs, He grants us this priceless miraculous organ. He must be very generous to give us such a precious gift readily, at no charge. And we are totally dependent on His creating and as a result we are deeply grateful to Him. It's not like He is forced to make such a perfect brain and give it to us. He has

infinite power; He controls all beings and all things. So, we can understand that since there is no power above His infinite power, the Maker of the brain, willingly makes the brain and maintains its activities. He creates living beings with brains purely out of His mercy, just as He creates all the things those beings need for their life. He must be very wise because He uses a sophisticated system to allow us to experience our internal and external worlds so smoothly, with so much ease that we can easily take them for granted unless we pause and reflect. He knows our innate needs for a brain. He knows how to make amazing brains. And He is the One directly controlling our body through the brain. Clearly, our brain is evidence that our Maker is All-Seeing, All-Knowing, All-Powerful, All-Wise, Most-Merciful, Most Loving, Most Caring, and Most-Kind. This then must be some of the hidden messages contained within the wonders of the brain's vital activities. The brain and its activities speak of their Maker and make Him know to us by glorifying Him with His beautiful attributes. That is why, as we study the brain, we shall learn more about its Maker.

Fifth Dimension: Understanding and Responding with Better Character

Reflect for a moment on the value of your brain.

Think about what constitutes a healthy brain. What does a healthy brain mean to you?

Think of a newborn baby girl who is born with a healthy, well-developed brain. She can use her brain to coordinate her movements effectively, to yawn, cry when she is hungry, cold or wet, to open and close her eyes, curl her little fingers around her father or mother's finger. She does this instinctively, i.e. without conscious thought, and easily and flawlessly. This is how she was born. She opens her eyes and blinks when an object suddenly appears in her field of vision. Her brain processes all the information it receives through her senses from her external and internal environment and regulates her body functions according to her needs. How does her brain know what her optimal body temperature is? How does her brain keep her body temperature at 37 degrees Celsius, by coordinating the processes of sweating and shivering depending on the temperature of her surroundings? How does the brain send a distress signal, via a baby's shrill cry, when the baby is in pain? How can the brain understand the signal sent by the distressed body organ and alert the baby's mother that something is wrong? The unconscious and blind brain does not know and cannot know. However, it shows us that its Maker, who is our Maker, knows.

Our Maker creates our brain as a miraculous, perfect platform through which He controls our body. The brain is also a great platform to establish connections with the brains of other beings through communication by means of various senses.

What would happen if your brain was damaged in a car accident? Imagine how your life would be like if you lost the part of your brain that is responsible for processing signals and coordinating your responses to these signals. What if you were born without the ability to process the information you receive through your senses effectively? What could you do about it? A healthy brain is essential for us to be able to navigate our way in the world.

Indeed, the human species would be extinct if people were unable to complete the most basic of tasks, which proceed through their brains, or if they were unable to process the information in their environment effectively to keep them safe, secure and well fed.

Where did you buy your brain? How much did you pay for it? Actually, you would not even be aware that you were missing a brain if you didn't have one, because it is your brain that is designed to make you aware of its existence. Of course, brains are not available for sale. Even if all the scientists in the world pooled their resources and knowledge together, they would not be able to create the human brain in its glorious perfection. For the time being, they cannot even repair an existing brain if it is damaged. If they eventually succeed in making one, it would surely cost a fortune to buy. If it were possible to transplant the brain, you would not sell your brain for billions of dollars. What would you do with billions if you did not have a brain? You cannot even live without a brain. Even people who live in a vegetative state have some brainstem function for them to breath. When the brain stopped functioning all together, it means the person died. You have received your brain as a gift before starting your journey on the Planet Earth on your birth. The One who has created you has given you a healthy brain to experience the wonders of the world. Each one of us has been given a unique brain. Indeed, no two brains in the world are identical. This means that your brain has been especially made for you by the Most-Generous and the Most-Merciful.

Now that you have learnt the value of your brain, don't you want to know for what purpose our Maker gave us the brain? Actually, what our Maker who takes care of our needs by giving such a wonderful brain-wants in return for these valuable organs and goods, are three things: one is remembrance, another is gratitude and the third is reflection.

- ❖ **Remembrance** is understanding that there is a Creator of the brain;
- ❖ **Gratitude** is appreciating our brain and other blessings and being thankful to the Creator for giving us such good blessings;
- ❖ **Reflection** is reflecting on this miraculous organ as a gift of our Creator's mercy and acknowledging it as a priceless wonder of art.

When we practice remembrance, gratitude, and reflection, we will be able to use our beautiful brain in accordance with the beautiful and lasting purposes. Only then, will we be able to fulfill the purpose of our creation with such a wonderful brain. Otherwise, the value of the brain diminishes greatly and it ends with death. In order to appreciate the value of our brains, we must always reflect on why we were blessed with one.

What should we do in response to this extremely valuable gift? How should we respond to the Gift Giver? How can we express our appreciation?

Just as we pay the price to purchase high speed computers and other electronic devices, we need to pay our dues to the One who has created our external and internal worlds in conjunction with our brain and senses so that we may experience life in all of its glory. We need to pay our dues to the One who gives life and take cares of our most vital needs so generously. He does not need anything from us. Everything belongs to Him. He wants appreciation through our good words and actions. For example, He wants us to remember that our very existence is dependent on having a functioning, healthy brain. He wants us to remember that he is the One who blesses us with a healthy brain and allows it to work in incredible ways. He wants us to appreciate the gifts given to us, not because He needs our appreciation, but because we need it. Yes, we need to appreciate our brain in order to use in the best, most optimal way so that it benefits us and others in this world and in the next.

In short, the Bestower of the brain wants us to be mindful of Him when using our brain. He wants us to use it for performing good actions. He wants us to avoid using it to do evil. He wants us to know that He sees everything we choose to do with our brain. He is aware of every thought, intention and action. Thus, we should feel great appreciation every day when we wake up for having such a healthy human brain that permits us to enjoy our beautiful life. We should use our brain to become a better person. We should use our brain and wonder about the Maker of the universe?

When we read the meaningful messages in the book of the universe, we shall keep in mind that our brain is processing what we read. We shall acknowledge the Maker who has given us own miraculous custom-made processor. We should use our brain to strive towards excellence. We should not let our brain wither away by

numbing it with excessive indulgences or wasting our time on meaningless activities. If we use our brain in the way its True Owner has prescribed to be a better human being, we can expect that He will grant us this precious gift once again after this earthly life to enjoy the splendid bounties of eternal paradise. What a great reward!

Test Your Knowledge

I. Understanding Science Terms

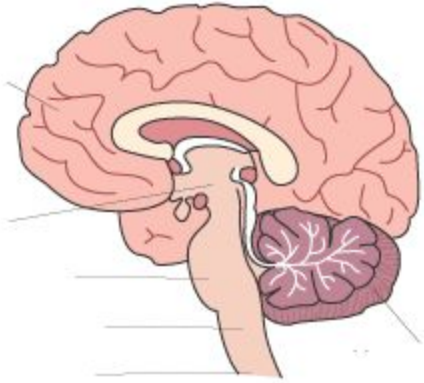
Complete the following sentences with a word or words from the Science Terms that will make the sentence correct.

Cerebrum Cerebellum Medulla Oblongata Pons Midbrain Hemispheres

1. The _____ appears to manage unconscious processes like heart rate, blood pressure and breathing.
2. The brain is divided into two _____.
3. The _____ is the message center of the brain.
4. The _____ is a pathway between the cerebrum and the cerebellum.
5. The _____ appears to manage movement.
6. The _____ appears to manage balance and coordination.

Label the following diagram:

Diagram of Brain Stem



II. Checking Facts

Determine whether each of the following is true or false.

1. The brain emerged by accident through the random coming together of atoms and molecules.
2. You can hold your breath up to ten minutes without harming your brain.
3. It is not the brain, but the Hidden Force that controls the body through the brain.
4. Reasoning is necessary for us to survive.
5. The brain has no connection with the sun.
6. The brain resembles not only one computer, but thousands of connected computers.

III. Understanding Concepts

Write a short answer for each question or statement.

1. Which part of the brain do you use when running a marathon?

2. Which part of the brain appears to control your breathing?

3. List two things which make your brain better than any computer.

4. How do you know that there is a Hidden Hand behind the well-connected and organized activities in your body?

5. List two hidden messages in the brain from its Maker.


6. Why is it an offense to deny the Maker of the brain?

IV. Applying Concepts

Write a paragraph to answer each question.

1. How is the memory stored by our brain different from that stored by a computer?

2. Describe how your daily life would be different if your brain could not control its response to pain.

-  3. Why do you think nature or material causes such as molecules and cells could not create the brain and its activities?

4. The One who creates the brain has to be the Creator of the universe. Why?

5. Why do you think the brain is an extremely valuable gift? Describe two things which make you appreciate the value of this gift.

- ☆☆ 6. How can you show your gratitude to the One who granted you the gift of thinking, memory and logic?

V. Think-Thank Game

In this “think-thank” game, we want you to think about the brain and give thanks to its Maker. We also call it the “play to praise” game. The goal of this game is to think of at least five things about the brain that you are thankful for.

Number of players:

At least two.

Directions:

Player 1 repeats an *appreciation phrase* loudly and quickly. **Player 2** responds, without pausing, with *something to be thankful for*. This is repeated **five** times.

To win:

Player 2 needs to respond five times (without pausing) with different things about the brain to be thankful for in order to win the game.

Here is an example of two rounds of this game:

1. Player 1 repeats the appreciation phrase loudly and quickly. For example: "Thanks to the Maker of the *brain!*"
2. Player 2 responds, without pausing, with something about the brain to be thankful for. For example: "For making our brain faster than any computer!"
3. Player 1 repeats the appreciation phrase *again* loudly and quickly. For example: "Thanks to the Maker of the brain!"

4. Player 2 responds, without pausing, with another thing about the brain to be thankful for. For example:
"For protecting our brain in a strong case!"

This should be continued for another three rounds until Player 2 wins or loses.