

Priyanka Chopra asks husband Nick, 'Can you get any louder' as he sings during her self-care session



Actress-producer Priyanka Chopra Jonas has expressed her chagrin with her husband Nick Jonas' loud singing. On Thursday, the actress took to the Stories section of her Instagram, and re-shared a video from Nick in which the two can be seen inside their living room. In the video, Nick can be seen singing the Jonas Brothers' song 'Backwards'. Priyanka was enjoying a relaxing afternoon at home in her calming UV mask as she flipped through the pages of a magazine sitting in the same room. She tried her best to ignore her husband's loud singing until it became impossible to not look at. She later stormed out of the room. She wrote on the video, "Can you get any louder?", a straightforward but playful comment on just how over-the-top he was being. It was a simple, candid slice of everyday life. Earlier, the actress had taken to her Instagram, and shared a bunch of pictures from her vacation in Africa. The pictures show the actress enjoying her holiday, gorging on some lip-smacking food, shedding the extra pounds in the gym, capturing the wildlife in her lens, sitting under the night sky, and enjoying some breathtaking views. The actress geo-tagged Africa in her location. She also shared an overhead shot of the Nile river in Africa. The River Nile, which runs through several countries in East and North Africa, is regarded as the longest river on Earth, running nearly 6,700 kilometers from its source in Lake Victoria to its mouth in the Mediterranean. Meanwhile, on the work front, Priyanka Chopra was last seen in the streaming movie 'Heads of State'. The film was an action comedy, and featured her alongside John Cena and Idris Elba. In the movie, she plays MI6 agent Noel Bisset, who follows global leaders trying to stop a major conspiracy. She will be next seen in 'The Bluff' in the role of a pirate. She also has the second season of 'Citadel' in the pipeline.

The orientation of organisms in the direction of light or source of light is called phototropism. It is a phenomenon shown by plants, as they can only prepare food in the presence of light. Photo in the word phototropism means light and tropism stands for turning. Thus, phototropism is bending of the plant body towards the source of light. Light stimulates energy production in plants by the process of photosynthesis. Plants growing towards light are called positive phototropism while growing away from the source of light is termed as the phenomenon-negative phototropism. Plant cells contain water-soluble hormones known as auxins. These hormones respond to photosynthesis and stimulate the production of proteins and generate energy by photosynthesis for the plant. Almost all plants show photosynthesis for nutrition and energy. The stem and shoots of the plant body show positive phototropism by turning towards the sunlight, while roots show negative phototropism and turn away from the source of light. Roots show a phenomenon called geotropism which means growing towards the ground. Hence, roots are negatively phototropic and positively geotropic. **Discovery of Phototropism – Early**



**Experiments**  
**1. Charles Darwin's Experiment**  
Before the discovery of phototropism, Botanists had various other explanations for the bending of plants. Starting from wilting to bending of plants to reach fresh air, various theories were put forward by early scientists. However, Darwin conducted the first relevant experiment to prove the phenomenon of phototropism. In the year 1880, Charles Darwin along with his son experimented on canary grass and oat coleoptiles to research phototropism. Darwin recorded his observations in the book 'The Power of Movement in Plants'. He was the first to observe the bending of seedlings towards sunlight. At first, he covered the tips of the test plants that prevented it from photosynthesis. Simultaneously, when he covered the lower portion of these test plants, they turned

phototropic. Darwin concluded from this and several other experiments that the tip of the taste plants have a strong sense of light, due to which it bends towards its source, while the middle section activates protons. This decreases the pH in the cells. This entire act acidifies the cell wall, thus, activating an enzyme called expansions. These break down the cell wall making it less rigid.  
**2. Boysen Jensen's Experiment**  
Following Darwin's experiment with test plants- oat coleoptiles, Boysen Jensen in 1913 experimented on seedlings by cutting the tip-off and replacing it with a thin layer of gelatin between the tip and the cut stem. But this did not prevent the stem to curve towards the source of light. For the next step, he placed a small mica sheet below the tip of coleoptiles on the shaded side. This new addition of the mica sheet also did not prevent developing

a curvature. When Boysen Jensen placed the same mica sheet on the illuminated side however there was no curvature. From his experiment, he concluded that a flow of material substance which was later named auxins passes through gelatin and mica sheet. And that this substance was responsible for the curvature.  
**Mechanism of Phototropism:** The mechanism behind the phenomenon phototropism is as follows-  
1. Light at a wavelength of nearly 450nm may be blue or violet light illuminates the plant.  
2. The photoreceptor which is a protein found in the plant receives the light. The photoreceptors react to it and initiate a response.  
3. The group of blue light photoreceptor proteins is known as- Phototropins. They are the proteins that receive blue light during phototropism.  
4. Auxin moves to a darker, shade side in the stem in response to the exposure to light.  
5. Auxins stimulate the release of hydrogen ions in the shaded region of the stem. This causes a decrease in the pH level. This decrease in pH activates the enzymes' expansions.  
6. Activated expansins cause the cells to swell and forces the stem to bend towards the light.

- Who became the first Indian space tourist aboard Blue Origin's New Shepard spacecraft?  
a. Ed Dwight  
b. Gopi Thotakura  
c. Mason Angel  
d. Raja Chari
- What percentage increase in student enrollment under the Scheduled Caste (SC) category was reported from 2014 to 2022?  
a. 51%  
b. 65.2%  
c. 44%  
d. 42.3%
- Who passed away at the age of 88 and was a former chairman of ICICI Bank?  
a. N Vaghul  
b. K.V. Kamath  
c. Raghuram Rajan  
d. Chanda Kochhar
- Which bank led PSU banks in business growth during FY24?  
a. Bank of Maharashtra  
b. State Bank of India  
c. Bank of India  
d. Canara Bank
- In which country did Elon Musk launch the Starlink service?  
a. Malaysia  
b. Philippines  
c. Thailand  
d. Indonesia
- In which Indian state did the Federation Cup 2024 Athletics Meet take place?



- a. Karnataka  
b. Odisha  
c. Maharashtra  
d. Tamil Nadu
- In which event did Deepthi Jeevanji win the gold medal at the World Para Athletics Championships 2024?  
a. 100m  
b. 200m  
c. 400m  
d. 800m
  - When is the World Day for Cultural Diversity for Dialogue and Development celebrated?  
a. May 20  
b. May 21  
c. May 22  
d. May 23
  - Who received the first stamp commemorating 200 years of Indian Origin Tamils in Sri Lanka?  
a. Senthil Thondaman  
b. Raja Guru  
c. Krishnan  
d. Sri Sri Ravi Shankar
  - Who has been elected as the President of the Confederation of Indian Industry (CII) for the term 2024-25?

- a. Rajiv Memani  
b. R Mukundan  
c. R Dinesh  
d. Sanjiv Puri
- Which Indian state unveiled the "DRIMS" platform for Disaster Management?  
a. Bihar  
b. Assam  
c. Gujarat  
d. Kerala
  - When is National Anti-Terrorism Day celebrated in India?  
a. May 21  
b. June 15  
c. July 4  
d. August 10
  - Where was the significant bleaching event among sea anemones documented, marking the first observed instance of sea anemone bleaching in India?  
a. Kochi, Kerala  
b. Kavaratti Island  
c. Andaman and Nicobar Islands  
d. Agatti Island
  - When is International Tea Day celebrated in 2024?  
a. May 21  
b. May 22  
c. May 20  
d. May 23
  - In the 2024 WEF Travel & Tourism Development Index, what position did India achieve?  
a. 18th  
b. 26th  
c. 39th  
d. 54th

Answer

1. b, 2. c, 3. a, 4. a, 5. d, 6. b, 7. c, 8. b, 9. d, 10. d, 11. b, 12. a, 13. d, 14. a, 15. c.

## Pituitary Gland



The pituitary gland is a brain-based endocrine gland. It creates hormone-like substances which are chemical messengers that help organs communicate. The endocrine system includes the pituitary gland. By releasing hormones into your bloodstream, the pituitary gland aids in the control of your body's processes. These hormones go through your bloodstream to their intended destination. They usually cause the release of the second hormone in this situation. The target can be specialised endocrine glands or other types of body tissue, such as cell groups. Because it regulates several other hormone-releasing glands, the pituitary gland is sometimes referred to as the master gland. The pituitary gland regulates several glands, including the thyroid, ovaries, testicles (testes), and adrenal glands.  
**Pituitary Gland - Function and Disorders**  
**Function:** The thyroid gland, adrenal gland, ovaries, and testicles are all controlled by the master gland. While it controls these glands, it receives orders from its neighbour, the hypothalamus. The pituitary gland produces hormones that tell the glands how much hormone they should produce. The pituitary gland also manufactures hormones for

the body's organs like:  
• Oxytocin stimulates contractions in the uterus and mammary glands, which in turn aid in childbirth and milk production.  
• Vasopressin is an antidiuretic hormone that helps the kidneys function properly.  
• A beta-melanocyte-stimulating hormone is a hormone that causes the skin to darken.  
• Endorphins are neurotransmitters that help the brain and immune system reduce pain and control the immune system.  
• Hormones that promote muscle and bone growth.  
• Enkephalins are pain-blocking brain chemicals.  
Most hormones are released every one to three hours, following the body's circadian rhythm. Hormone production peaks throughout the day and declines at night.  
**Disorders:** Pituitary disorders are caused by the

pituitary gland being either excessively active or inactive. An isolated portion of the pituitary gland, known as a pituitary adenoma, frequently causes complications (if it is large it may be called pituitary macroadenoma). These tumours are normally benign and non-cancerous. Adenomas of the pituitary gland can create issues by:  
• Excess of one or more hormones is released.  
• Not producing hormones but pressing on normal pituitary tissue, causing the normal function to be disrupted; and/or  
• Putting pressure on surrounding structures, such as the eye's nerve, results in blurred vision or the loss of a portion of eyesight. The pituitary gland produces too much of one or more of its hormones in the following conditions: Acromegaly, Cushing's syndrome, Prolactinoma. The pituitary gland produces insufficient hormones in the following conditions:  
• When adult growth hormones are deficient.  
• Diabetes insipidus which is a kind of diabetes that affects the kidneys.  
• Hypopituitarism.  
• Tumours of the pituitary gland.  
• Hypothalamic tumours or injuries that have a knock-on impact on the pituitary gland.

Phylogeny can be defined as an evolutionary history of a species or group as there are about 100 million species living on earth today. The morphological and biochemical evidence suggests that all the organisms are genetically related. A situation where the genealogical relationships of the organisms can be represented in the form of an evolutionary tree, that is termed as a Phylogenetic tree. In this, the species or groups are organized in such a way that it helps to know how they evolved from the common ancestors. Phylogeny helps in the details of how the genes, genomes and species evolve. It is useful for fundamental and numerical applications.  
**Phylogenetic Trees:** The phylogenetic tree is also known as the cladogram. The species or the groups are found at the tips of the lines known as the tree branches. The evolution of species evolved from a common ancestor is exhibited by how the branches connect. The branch points represent the most recent common ancestor of all the groups descended from that common point. Some cladograms are blocky, while the others are diagonal. However, the orientation of the tree does not change the information. In a phylogenetic tree, if two species have the more common recent ancestor,



they are more related than those with a less recent common ancestor.  
**Applications of Phylogenetics:** Phylogenetics has the following applications:-  
**Classification:** With the help of phylogeny, the Linnaean classification of species is known. Based on the sequence data, more accurate descriptions of patterns of relatedness are available.  
**Forensics:** The DNA in case of a crime scene or paternity disputes is assessed by phylogeny.  
**Identification of the Origin of Pathogens:** Phylogenetic approaches can be used to know about a new pathogen outbreak. It helps to know the species the pathogen is related to and the source of its transmission.  
**Conservation:** Phylogeny helps the conservation biologists to make the correct decisions about which species they should try to prevent

extinction.  
**Computing and Bioinformatics:** The algorithms developed for phylogenetics are also used in software development in other fields.  
**Ontogeny and Phylogeny:** Ontogeny is the course of development of an individual organism. It begins at the time of fertilization and includes all the developmental events at the time of birth and thereafter. The ancestral characters are often preserved in the development of an organism. For eg., the chick and human embryos generally undergo a stage during their development wherein they have slits and arches in their neck similar to the gill slits and arches of a fish. This suggests that humans and chicks share a common ancestor with fish. These developmental characters can be used to create phylogenetic trees. It is believed that during

development, an organism progresses through each of the adult stages of evolutionary history. This states that "ontogeny recapitulates phylogeny". For instance, a chick goes through the following stages of evolutionary history during the development- a single cell, a multicellular invertebrate, fish, reptile, bird, and then forms the chick. However, the statement is controversial and cannot be proved in all the organisms. For some years, the organisms have evolved into more derivative forms. The new generations retain most of their ancestral features. It becomes easy for them to get adjusted in the environment they live in as these features get modified with additional novel traits.  
**Difference Between Ontogeny and Phylogeny:** The development of an organism is defined as Ontogeny while phylogeny refers to how the organisms have evolved. Let us take an example of a chicken, the ontogeny will explain the entire development cycle of the chicken right from the single cell. Now let's take an example of an ostrich and assume that it descended from the family of chickens, phylogeny will explain how the chicken evolved into an ostrich, i.e., it will explain the evolutionary process.

## Books and Authors

'The Ambuja Story: How a Group of Ordinary Men Created an Extraordinary Company' - **Narotam Sekhsaria**  
'1971: Charge of the Gorkhas and other stories' - Rachna Bisht Rawat  
**Vahana Masterclass** - Alfredo Covelli  
**India's 71-Year Test: The Journey to Triumph in Australia** - R. Kaushik  
**Right Under Our Nose** - R. Giridharan  
**Making of a General-A Himalayan Echo** - Lt. Gen. Kansom Himalay Singh  
**The Commonwealth of Cricket** - Ramachandra Guha  
**Manohar Parrikar-Off the Record** - Waman Subha Prabhu  
**The Little Book of Encouragement** - Dalai Lama  
**Beautiful Things' A Memoir** - Hunter Biden  
**By Many a Happy Accident: Recollections of a Life** - Former Vice President Mohammad Hamid Ansari  
**Platform Scale: For A Post-Pandemic World** - Sangeet Paul Choudary  
**Unfinished** - Priyanka Chopra Jonas  
**The Terrible, Horrible, Very Bad Good News** - Meghna Pant  
**ASOCA: A Sutra** - Irwin Allan Sealy  
**Maverick Messiah: A Political Biography of N T Rama Rao** - Ramesh Kandula  
**Rashtra Pratham - 82 Varshon Ki Swarnim Gatha** - Amit Shah  
**Stories I Must Tell: The**

**Journey of an Actor** - Kabir Bedi  
**Advantage India: The Story of Indian Tennis** - Anindya Dutta  
**Dynasty to Democracy: The Untold Story of Smriti Irani's Triumph** - Anant Vijay  
**Battle Ready for 21st Century** - Lt Gen AK Singh and Brig. Narendra Kumar  
**My Experiments with Silence** - Samir Soni  
**Names of the Women** - Jeet Thayil  
**Suparipalana** - Dr. Shailendra Joshi  
**Manohar Parrikar: Brilliant Mind, Simple Life** - Nitin Gokhale  
**Odisha Ithihaas** - Uttal Keshari Harekrushna Mahtab  
**The Braille edition of the book Exam Warriors** - PM Narendra Modi  
**Believe-What Life and Cricket Taught Me** - Suresh Raina  
**The Christmas Pig** - JK Rowling  
**Whereabouts** - Jhumpa Lahiri  
**The Living Mountain: A Fable for Our Times** - Amitav Ghosh  
**Climate Change Explained—For One and All** - Aakash Ranison  
**The Bench** - Meghan Markle  
**Elephant in the Womb** - Kalki Koechlin  
**Life in the Clock Tower Valley** - Shakoor Rather  
**Sikkim: A History of Intrigue and Alliance** - Preet Mohan Singh Malik  
**Nehrur, Tibet and China** - Avtar Singh Bhasin

## Forebrain overview, parts and functions



The brain is the center of the body. The main divisions of the brain include the forebrain, midbrain and hindbrain. The forebrain is further divided into two subdivisions they are telencephalon and diencephalon. The diencephalon includes the thalamus, hypothalamus, and pineal body. Let us learn about the forebrain parts and forebrain function below.  
**Forebrain Parts:** The forebrain (prosencephalon) is that the largest part of the brain, most of which is that the cerebrum. Other important forebrain structures include the thalamus, the hypothalamus, and the limbic system. The cerebrum is divided into two cerebral hemispheres connected by a mass of white matter known as the corpus callosum. Each hemisphere is split into four lobes; the frontal, parietal, occipital, and temporal lobes. The surface of every hemisphere is formed from gray matter referred to as the cerebral mantle and is folded to extend the area available within the skull. The cortex has roles within perception, memory, and every one higher thought processes. Inside the cortex is that the substantia alba, within which are a variety of nuclei (grey matter), referred to as the basal nuclei. The basal nuclei receive information from the cortex to manage skeletal movement and other higher motor functions. The thalamus functions to relay sensory informa-

tion to the cerebral mantle and therefore the hypothalamus, regulating visceral functions including temperature, reproductive functions, eating, sleeping, and therefore the display of emotion. The visceral brain describes a set of structures within the forebrain, including the amygdala and hippocampus, also referred to as the 'emotional brain'. It is important within the formation of memories and in making decisions and learning.  
**Forebrain Parts and Functions:**  
**Thalamus:** The thalamus has many functions including processing and relaying sensory information selectively to various parts of the cerebral cortex, translating signals to the cerebral cortex from lower centers including auditory, somatic, visceral, gustatory, and visual systems, and also regulating states of sleep and wakefulness. The thalamus plays a serious role

cortex is folded in mammals; more than two-thirds of the surface is within the grooves or "sulci". The cerebral cortex is connected to structures such as the thalamus and the basal ganglia, sending information to them along with different connections and receiving information from them via afferent connections. Most sensory information is routed to the cerebral mantle via the thalamus. The cortex is commonly described as comprising three parts; sensory, motor, and association areas.  
**Forebrain, Midbrain, and Hindbrain:** The forebrain, midbrain, and hindbrain structure the three major parts of the brain. The forebrain structures include the cerebrum, thalamus, hypothalamus, pituitary gland, limbic system, and olfactory bulb. The midbrain consists of various cranial nerve nuclei, tectum, tegmentum, colliculi, and crura Cerebri. The hindbrain known as the brainstem is made up of the medulla, pons, cranial nerves, and back part of the brain called the cerebellum.  
**Difference between Forebrain, Midbrain, and Hindbrain**  
The main difference that is found in the parts of the brain lies in the different functions that they perform: The hindbrain is responsible for the actions of breathing, heart, and blood vessel, swallowing, vomiting, and digestion. It acts as a screen for information that leaves or enters

the brain. Midbrain is a center for reflex responses to visual, touch, and auditory input.  
**Forebrain function:** The main function of the forebrain is: Intelligence, Will power, Memory, Voluntary actions, Consciousness and It also acts as a center for touch, smell, hearing, visual reception, and temperature reception. It is commonly known that the brain studies itself. This means that in animals including humans, the brain is a sophisticated organ that is capable of understanding the other sophisticated organ. In psychology, the study of the brain and nervous system are the most exciting discoveries. In the future, the research that is linked to neural activity, real-world attitudes, and behavior will help us to understand human psychology. This is all about the different parts of the forebrain and their functions. Focus on the respective functions of the forebrain and its differences with the other parts of the human brain.  
**FAQs on Forebrain**  
**1. What is the forebrain? What are the types of forebrain?**  
**2. What is the function of forebrain? What are the major lobes found in the forebrain?**  
**3. Are forebrain, Midbrain, and Hindbrain different?**  
**4. Briefly explain the parts of the brain.**