

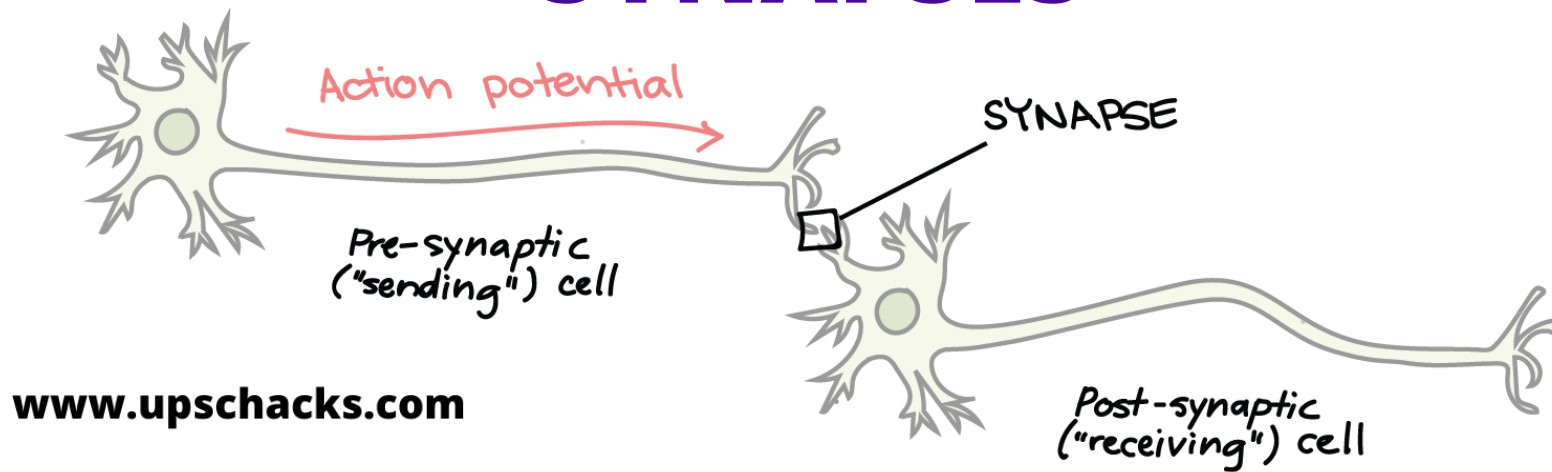
An aerial photograph of a winding asphalt road that curves through a dense, lush green forest. Several cars are visible on the road, including a white car, a blue car, and a white van. The road has white dashed lines for lane markings. The overall scene is vibrant and scenic.

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# DAILY NEWS DECODE

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# SYNAPSES



- Neurons, or nerve cells, in the brain connect by means of junctions known as synapses through which they transmit signals.
- Recent work by researchers at the National Centre of Biological Sciences, Bengaluru, has thrown light on what stimulates these synapses to form.

There are two types of synapses - chemical and electrical.

- In chemical synapses, there is a space of about 20 nanometres between two neurons, and the way they communicate is this: One neuron converts electrical signal into chemical signals and this chemical is released into the synaptic space and the receiving neuron converts the chemical signal back into an electrical signal.
- As far as the electrical synapse goes, this is not the way it operates. In these synapses, the two neurons have a physical connection and the conversion of electrical to chemical need not occur, and they communicate directly.

- **Electrical synapses are like a physical wire, communication is faster but they are also fewer in number.**
- **Zebrafish**
- **Researchers from TIFR-National Centre of Biological Sciences, Bengaluru, have chosen Zebrafish as a model organism to study this process.**
- **Zebrafish are transparent and neuron development in larval zebrafish can be observed from day to day by injecting a dye or by engineering the fish to express fluorescent proteins.**

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# Pravasi Bhartiya Divas 2022 : 09th January



- The Non-Resident Indian Day or also known as the Pravasi Bhartiya Divas is celebrated every year on 9th January every year.
- The aim of the event is to strengthen the engagement of the overseas Indian community with the Government of India and reconnect them with their roots.
- On the occasion of 2022 Pravasi Bhartiya Divas (PBD), Union Minister of State for External Affairs V. Muraleedharan will speak at a virtual youth PBD conference on the “role of Indian diaspora” in innovation and new technology.

- **On 9 January 1915, Mahatma Gandhi came to India from South Africa and became the greatest Pravasi who led India's Freedom Struggle and made India free from British or colonial rule.**
- **As a Non-Resident Indian or Pravasi, he is presented as a symbol of a change and development that could bring into India.**
- **According to the Indian Government, NRIs have global exposure in terms of business and development strategies around the world.**
- **If some opportunity is provided to them, they will contribute to the developmental process by infusing their ideas and experiences on their motherland i.e. India.**

# Who is Fatima Sheikh, the late Indian educator honoured by Google Doodle?



- Google Doodle on Sunday remembered late Indian educator and feminist icon Fatima Sheikh on her 191st birth anniversary.
- Born in 1831 in Pune, Sheikh is considered to be India's first Muslim woman teacher.
- Sheikh, alongside fellow pioneers and social reformers Jyotirao and Savitribai Phule, co-founded the Indigenous Library in 1848, one of the first schools for girls in the country.

# Turkmenistan plans to extinguish gas crater called 'Gateway to Hell'



- Turkmenistan plans to extinguish the fire in the Darwaza natural gas crater, often called the 'Gateway to Hell'.
- It is believed to have formed when a Soviet drilling operation went wrong in 1971, however, local geologists say the crater formed in the 1960s but lit in the 1980s.
- Turkmenistan President Gurbanguly Berdimuhamedov cited environmental and health reasons to extinguish it.