

7. Short News

1. James Watson

Key Details

Who - Nobel Laureate and co-discoverer of the DNA double helix.

Context - He passed away at the age of 97.

Recognition - Won the 1962 Nobel Prize in Physiology or Medicine, sharing it with Francis Crick and Maurice Wilkins.

Life and Career

Early Life - Born in Chicago in 1928, he studied at the University of Chicago.

Discovery - In 1953, while at the University of Cambridge, he and Francis Crick co-discovered the double-helix structure of DNA.

Key Contribution - Their work was based on Rosalind Franklin's X-ray diffraction images.

Career - He taught at Harvard University and later directed the Cold Spring Harbor Laboratory, transforming it into a leading global center for genetic research.

About the DNA Structure

Shape - DNA has a double helix structure, which looks like a twisted ladder.

Backbone - The "sides" of the ladder are made of a sugar-phosphate backbone.

Rungs - The "rungs" of the ladder are pairs of nitrogenous bases.

Base Pairing - The two strands are complementary - Adenine (A) always pairs with Thymine (T). Cytosine (C) always pairs with Guanine (G).

Bonds - These base pairs are held together by hydrogen bonds.

Genetic Code - The specific order (sequence) of these bases forms the genetic code.

2. Kazakhstan Joins Abraham Accords

The Abraham Accords

Context - Kazakhstan is the first C5 Central Asian nation to join the Accords.

What they are - A U.S.-brokered initiative to normalize relations between Israel and Arab or Muslim-majority nations.

Goal - To promote peace and regional stability in West Asia.

Origin - Launched in 2020.

Original Parties - The United Arab Emirates (UAE), Bahrain, Sudan, and Morocco.

The C5 Central Asian Nations

Who they are - Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.

History - They are all former Soviet republics.

Location - Strategically located between Russia, China, and South Asia.

Importance - They are vital for regional connectivity, energy trade, and geopolitical balance.

About Kazakhstan

Location - A transcontinental country at the junction of Central Asia and Eastern Europe. Its capital is Astana.

Borders - Russia (north/west), China (east), and Kyrgyzstan, Uzbekistan, and Turkmenistan (south).

Topography - Extends from the Caspian Sea to the Altai Mountains. Features the Kazakh Steppe, the world's largest dry steppe. The east and southeast are mountainous (Altai and Tian Shan ranges). Khan Tengri (6,995 m) is its highest point.

Key Waters - Includes the Ishim, Irtysh, and Syr Darya rivers, as well as parts of the Caspian Sea and Aral Sea.

Natural Resources - Rich in oil, natural gas, uranium, coal, iron, and copper. Considered the economic powerhouse of Central Asia. It is the world's largest uranium producer (nearly 40% of global supply).

3. Cloned Dog

Cloning

Context – Tom Brady's dog, Junie, is a clone of his late pet, Lua, sparking ethical debate.

Definition – A biotechnological process for creating genetically identical copies of an organism.

History –

1996 – Dolly the sheep was the first mammal cloned.

2005 – Snuppy, the first dog, was cloned by South Korean researchers.

How Cloning Works

1. **Extract Nucleus** – The nucleus (containing genetic material) is extracted from a mature cell of the animal to be cloned.
2. **Enucleated Egg** – This nucleus is inserted into an enucleated egg cell (an egg cell with its own nucleus removed).
3. **Form Embryo** – The cell is stimulated to divide and form an embryo.
4. **Implant** – The embryo is implanted into a surrogate mother for development.

Applications of Cloning

Conservation – Can help preserve endangered species (e.g., black-footed ferret).

De-extinction – Used in attempts to recreate extinct species (e.g., dire wolves).

Pet Cloning – Offers owners a way to replicate pets, but it has a low success rate (only 2% of attempts produce viable offspring).

Ethical Concerns

Commodification – Critics argue that cloning treats life as a product.

Animal Suffering – The process can cause many failed pregnancies and suffering for the animals involved.

Homeless-Animal Crisis – Animal rights groups (like PETA) state that cloning worsens the pet overpopulation problem and urge adoption instead.

"Self-Deception" – Clones share DNA but do not share the memories or personality of the original pet.