

**Here are ten events in science that have occurred since Roger's birth.  
Can you match the events to the corresponding years?**

A supernova appears in the Large Magellanic Cloud.

**1951**

Fred Vine and Drum Matthews publish a paper describing how magnetic stripes are symmetrical around mid-ocean ridges.

**1957**

Norman Geschwind and Walter Levitsky demonstrate that there are anatomical differences between male and female brains.

**1963**

On his way home from a boat race, oceanographer Charles Moore stumbles upon an enormous repository of plastic waste in the middle of the North Pacific Ocean, collected by currents. This would become known as the Great Pacific Garbage Patch.

**1968**

Ötzi the Iceman, the well-preserved remains of a 5300 year old man, is discovered in a European glacier by tourists Helmut and Erika Simon.

**1975**

The European Space Agency is established.

**1981**

The International Union of Geological Sciences officially adds the Ediacaran period to the Earth's geologic timescale.

**1987**

The Scanning Tunnelling Microscope is invented by Gerd Binnig and Heinrich Rohrer.

**1991**

The Soviet Union launches the first satellite.

**1997**

Transduction, the process by which a virus transfers DNA from one bacterium to another, is discovered by Norton Zinder and Joshua Lederberg.

**2004**

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David Noble discovers the Wollemi Pine.

**1950**

Jan Hendrik Oort proposes that comets originate in a vast reservoir of bodies orbiting far beyond the planets, independently reviving an idea first suggested by Ernst Opik in 1932. This reservoir would become known as the Oort Cloud.

**1956**

Jo Hin Tjio and Albert Levan report that the human genome has 46 chromosomes (23 pairs), not 48 as previously believed.

**1962**

Johannes Bednorz and Karl Müller discover the first high-temperature superconductor.

**1969**

Louis and Walter Alvarez report a high concentration of iridium in a layer of clay, and tie that observation to the theory that the dinosaurs were wiped out by an asteroid.

**1974**

Markus Arndt and colleagues publish the results of an experiment in which an interference pattern is generated from buckminsterfullerene molecules, confirming that wave-particle duality applies to objects of that size.

**1980**

Probably the most famous fossil of a human ancestor, nicknamed Lucy, is discovered in Ethiopia by a team lead by Donald Johanson.

**1986**

Rachel Louise Carson publishes "Silent Spring", drawing attention to the dangers of pesticides.

**1994**

The Huygens Probe lands on the surface of Saturn's moon Titan.

**1999**

Using radio telescopes, Lewis Snyder and colleagues discover formaldehyde molecules in interstellar space. This was the first such organic (carbon-based) molecule found.

**2005**

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Donald Glaser invents the bubble chamber, a device for detecting the trails of charged particles that improves upon the earlier cloud chambers.	<b>1952</b>
IBM scientists publish a classic image, created with a scanning tunnelling microscope, that shows concentric standing waves of electrons bounded by a ring of iron atoms.	<b>1959</b>
Keith Kvenvolden reports that amino acids found in a meteorite must be extraterrestrial, because they contain the acids known on Earth and their mirror image counterparts in roughly equal proportions.	<b>1965</b>
Noam Chomsky writes "Aspects of the Theory of Syntax", proposing the controversial notion of Universal Grammar.	<b>1970</b>
Richard Dawkins publishes "The Selfish Gene", and coins the term "meme" for replicated units of culture.	<b>1976</b>
Scientists isolate HIV, the virus that causes AIDS.	<b>1983</b>
The far side of the moon is photographed by Luna 3, a Soviet spacecraft.	<b>1988</b>
The International Astronomical Union officially reduces the number of known planets in the solar system to eight.	<b>1993</b>
The Powerhouse Museum in Sydney, the Questacon National Science and Technology Centre in Canberra, and the SciTech Discovery Centre in Perth, are opened.	<b>2000</b>
Toshiyuki Nakagaki publishes the results of an experiment in which slime mould "solves" a maze after food has been placed at both ends by first filling the entire maze and then shrinking back to fill only the shortest route between the two food sources.	<b>2006</b>

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2600 metres below the surface of the Pacific Ocean, Jack Corliss observes thermal vents inhabited by many previously unknown forms of life. This would lead to a new theory for the origin of life on Earth.	<b>1954</b>
Astronomers announce the detection of water vapour in the atmosphere of a planet orbiting another star.	<b>1958</b>
Dolly the Sheep, the first mammal to be successfully cloned from an adult cell, is born.	<b>1964</b>
Eugene Parker coins the term "solar wind" and provides the first comprehensive explanation of how it is generated, building on earlier theories that a stream of particles from the sun must exist.	<b>1972</b>
José Sanz and colleagues report the discovery of a 115-million-year-old fossil of four partially digested birds, possibly regurgitated by a dinosaur. It provides the earliest known record of birds being eaten by some other creature.	<b>1977</b>
Murray Gell-Mann proposes that protons and neutrons are made of particles he calls quarks. In the same year, the existence of the Higgs Boson is proposed by Peter Higgs and other physicists.	<b>1982</b>
Retired dentist Barney Clark becomes the first person to receive an artificial device to permanently replace his entire heart. He lives for another 112 days.	<b>1989</b>
Stephen Jay Gould and Niles Eldredge publish the theory of punctuated equilibrium.	<b>1996</b>
The Australian Academy of Science is established, with Sir Mark Oliphant as its first president.	<b>2001</b>
The Voyager 2 spacecraft photographs Neptune.	<b>2007</b>

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Bryan Fry shows that the Komodo Dragon has its own venom, and doesn't rely upon bacteria in its saliva to kill its prey, as previously believed.	<b>1953</b>
Boneworms, marine worms that bore into the bones of dead whales, are discovered by researchers exploring the Monterey Canyon near California.	<b>1961</b>
Eleanor Rosch publishes the book "Cognition and Categorisation", containing early research in the field of prototype theory and basic level categories.	<b>1967</b>
James Watson and Francis Crick publish their paper on the double helix structure of DNA.	<b>1971</b>
Lynn Sagan (later Lynn Margulis) publishes microbiological evidence that mitochondria and other cell components were originally independent organisms.	<b>1978</b>
Martin Glaessner confirms that fossils found in the Ediacara Hills of South Australia are Precambrian in age.	<b>1985</b>
Michel Mayor and Didier Queloz announce the first discovery of a planet orbiting a main sequence star other than the sun.	<b>1990</b>
Richard Smalley and colleagues discover buckminsterfullerenes (also known as buckyballs), spherical molecules made of 60 carbon atoms.	<b>1995</b>
The Hubble Space Telescope is launched.	<b>2002</b>
The Mariner 9 spacecraft begins to map the surface of Mars from orbit, becoming the first spacecraft to orbit another planet.	<b>2009</b>

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Astronomers discover evidence that the expansion of the universe is accelerating.	<b>1955</b>
Helmut Prior and colleagues discover that European magpies can recognise themselves in a mirror, making them the first non-mammal to be recorded as doing so.	<b>1960</b>
Jane Goodall begins studying chimpanzees in Tanzania.	<b>1966</b>
On an Indonesian Island, Mike Morwood and colleagues discover a small hominid fossil that would become known as The Hobbit.	<b>1973</b>
Solomon Snyder and Candace Pert make what is widely credited as the first definitive discovery of specific opioid receptors in the brain.	<b>1979</b>
The first detection of an antimatter particle, an antiproton, by Emilio Segre and Owen Chamberlain.	<b>1984</b>
The Soviet space probe Venera 3 becomes the first spacecraft to crash on another planet.	<b>1992</b>
The term "Snowball Earth", pertaining to the theory that the Earth's surface has been mostly or entirely frozen during some periods of its history, is introduced in an article by Joseph Kirschvink.	<b>1998</b>
The Voyager 1 spacecraft makes the first observations of Jupiter's rings.	<b>2003</b>
The world's first "frozen embryo" baby, named Zoe, is born in Melbourne.	<b>2008</b>