

International History Olympiad
Sample Questions – History of Science Bee

Varsity / Junior Varsity Samples

This man discovered the twenty-seven pyramids which comprise the renal medulla, and he was made a member of the Royal Society, despite not being British, for his treatise on silkworms. He advocated experimental anatomy in his *Dialogues Against the Peripatetics and Galenists* and discovered the process of blood clotting. This early microscope user discovered the system which moves wastes in the form of nitrogenous solids out from the alimentary canal of arthropods. For the point, name this discoverer of capillaries and an insect "tubule" system.

ANSWER: Marcello **Malpighi**

In 1798, William Herschel discovered the Fireworks Galaxy here. This constellation's 61 star was the subject of 1838 observations by Friedrich Wilhelm Bessel which resulted in the first accurate measurement of a star's parallax. Arab astronomers gave a word for "tail" to a star in this constellation, which is the magpie bridge in Chinese myth. This constellation was the subject of a 1975 bet between Kip Thorne and Stephen Hawking. For the point, name this constellation whose X-1 object is a likely black hole, and which forms a "swan."

ANSWER: **Cygnus**

This man was rushed onto the *Carpathia* to interview Harold Bride when the *Titanic* survivors reached New York. He spent the last seven years of his life as the Royal Academy's representative to the Grand Council of Fascism. As a result of his 1897 Salisbury Plain experiments, this scientist discovered a law in which the square root of the desired signaling distance is given by the height of a transmitting antenna over a constant. In 1901, he received the single Morse code letter "S" at St. John's, Newfoundland, marking the first trans-Atlantic telegraphy message. For the point, name this Italian pioneer of radio transmission.

ANSWER: Guglielmo **Marconi**

This man was the subject of the *New York Times* editorial "A Severe Strain on Credulity," which claimed that his devices would never work due to a misunderstanding of Newton's third law. In 1926, he successfully launched the *Nell* into a cabbage field, demonstrating the viability of liquid propellants. This author of *A Method of Reaching Extreme Altitudes* was indirectly apologized to in 1969's "A Correction" following the *Apollo 11* launch. For the point, name this American who demonstrated the first practical rocket.

ANSWER: Robert Hutchings **Goddard**

This theory was formulated after the observation of neutral currents at Gargamelle in 1973, and finalized after the UA1 and UA2 experiments of 1983, which caused the discovery of the W and Z bosons. This theory's renormalizability was proven in 1999, winning a Nobel Prize for Martinus Veltman and Gerardus 't Hooft. Abdus Salam, Sheldon Glashow and Steven Weinberg won a Nobel Prize for this theory. For the point, name this theory which first unified two fundamental forces.

ANSWER: **electroweak** theory

Middle School / Junior Varsity Samples

This man rediscovered the fact that the product of two sums of two squares is a sum of two squares, an identity now named for him and Brahmagupta, in his *Book of Squares*. This man used the term "method of the Indians" to explain the new system of Arabic numerals. His travels to North Africa in the early thirteenth century caused him to think of a new method for solving a problem about the reproduction of rabbits. For the point, name this Italian, whose "Book of the Abacus" or *Liber Abaci* introduced a sequence of numbers beginning 1, 1, 2, 3, 5.

ANSWER: **Fibonacci** [or **Leonardo Pisano**; or **Leonard of Pisa**; prompt on partial answer]

A mission to this planet was the goal of the planned first student-built spacecraft to escape Earth's orbit, *Shin'en*, which was lost on takeoff. Ninety-eight percent of this planet's surface was radar-imaged in the early 1990s by *Magellan*. This extraterrestrial planet was the first to be probed when *Mariner 2* flew by it in 1962. This planet was the target of a program which launched sixteen probes from the USSR from 1961 to 1983. For the point, name this planet which is studied for its heavy greenhouse effect.

ANSWER: **Venus**

Ferdinand Carré in 1873 and Karl von Linde in 1876 each had the idea to replace the methyl ether used in early versions of these devices with ammonia. Thomas Midgely originally developed freon for use in these devices. Leo Szilard and Albert Einstein designed a solid-state version of this device in 1926. For the point, name these devices manufactured by Electrolux, Whirlpool, and Kenmore, whose development has improved food preservation.

ANSWER: **refrigerators**